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NEAX® 2400 IMX

Feature Programming Manual
With Fusion Call Control Signaling (FCCS)

JUNE, 2000

NEC America, Inc.

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X	**–**	**Available**
—	**–**	**Not Applicable**
N	**–**	**Not Available**
E	**–**	**Enhanced or Changed**
→	**–**	**Feature carried over to next software series**

Index	Feature Description	Series 7300 Non-Network	Series 7300 FCCS	Series 7400 Non-Network	Series 7400 FCCS
A-1	Attendant Camp-On with Tone Indication	X	X	→	→
A-2	Attendant-Controlled Conference	X	X	→	→
A-3	Attendant Console	X	X	→	→
A-4	Attendant Keypad	X	—	→	—
A-5	Attendant Lockout	X	—	→	—
A-6	Attendant Loop Release	X	—	→	—
A-7	Attendant Override	X	X	→	→
A-8	Automatic Recall	X	—	→	—
A-8D	Automatic Recall - D^{term}	X	—	→	—
A-15	Announcement Service	X	X	→	→
A-16	Alternate Routing	X	X	→	→
A-17	Audible Indication Control	X	—	→	—
A-18	Account Code	X	X	→	→
A-19	Attendant Night Transfer	X	N	→	N
A-20	Authorization Code	X	X	→	→
A-21	Automatic Trunk Test	X	N	→	N
A-29	Authorization Code - Tie Line Incoming Routes	X	X	→	→
A-30	Automatic/Manual Intercom	X	N	→	N
A-52	Account Code - Attendant	X	X	→	→
A-53	All Zone Paging	X	X	→	→
A-59	Announcement Service - Attendant	X	X	→	→
A-60	Attendant-To-Attendant Calling	X	X	→	→
A-69	Automatic Idle Return	X	X	→	→
A-78	Automatic Number Identification (ANI)	X	N	→	N
A-82	Automated Attendant	X	X	→	→
A-98	Answer Hold - Attendant	X	X	→	→
A-99	Authorization Code Display Elimination	X	—	→	—

NEAX2400 IMX Business Features (Continued)

LEGEND		
X	–	Available
—	–	Not Applicable
N	–	Not Available
E	–	Enhanced or Changed
→	–	Feature carried over to next software series

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
A-105	Attendant Overflow	X	N	→	N
A-121	Add On Conference - 8 Party	X	X	→	→
A-125	Analog Caller ID (Class SM)	X	X	→	→
A-127	Analog Caller ID - Station	X	X	E	→
B-2	Busy Lamp Field - Flexible	X	N	E	X
B-3	Busy Verification	X	X	→	→
B-5D	Boss - Secretary Override - D^{term}	X	N	→	N
B-6	Brokerage - Hotline	X	X	→	→
B-8	Boss - Secretary - Message Waiting Lamp Control	X	N	→	N
B-11	Boss - Secretary Transfer	X	N	→	N
B-12	Brokerage Hotline - Outside	X	X	→	→
B-17	Blind Transfer To Attendant	X	X	→	→
B-18	Blind Transfer To Station	X	X	→	→
C-1	Call Back	X	X	→	→
C-1D	Call Back - D^{term}	X	X	→	→
C-2	Call Forwarding - Busy Line	X	X	→	→
C-2D	Call Forwarding - Busy Line - D^{term}	X	X	→	→
C-3	Call Forwarding - Don't Answer	X	X	→	→
C-3D	Call Forwarding - Don't Answer - D^{term}	X	X	→	→
C-5	Call Forwarding - All Calls	X	X	→	→
C-5D	Call Forwarding - All Calls - D^{term}	X	X	→	→
C-6	Call Hold	X	X	→	→
C-6D	Call Hold - D^{term}	X	X	→	→
C-7	Call Pickup - Group	X	X	→	→
C-7D	Call Pickup - Group - D^{term}	X	X	→	→

NEAX2400 IMX Business Features (Continued)

LEGEND		
X	–	**Available**
—	–	**Not Applicable**
N	–	**Not Available**
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Index	Feature Description	Series 7300 Non-Network	Series 7300 FCCS	Series 7400 Non-Network	Series 7400 FCCS
C-8	Call Processing Indication	X	X	→	→
C-9	Call Queueing	X	—	→	—
C-10	Call Transfer - Attendant	X	X	→	→
C-11	Call Transfer - All Calls	X	X	E	→
C-11D	Call Transfer - All Calls - D^{term}	X	X	E	→
C-12	Call Waiting - Terminating	X	X	→	→
C-13	Call Waiting Lamp	X	—	→	—
C-14	CCSA Access	X	—	→	—
C-15	Class Of Service - Individual	X	—	→	—
C-17	Consultation Hold - All Calls	X	X	→	→
C-17D	Consultation Hold - All Calls - D^{term}	X	X	→	→
C-20	Centralized Attendant Service (CAS)	X	N	→	N
C-21	Code Calling Access	X	—	→	—
C-22D	Called Station Status Display - D^{term}	X	X	→	→
C-24D	Calling Number Display - D^{term}	X	X	→	→
C-25	Call Forwarding-Intercept / Announcement	X	X	→	→
C-26	Call Forwarding - Override	X	—	→	—
C-27D	Call Waiting - Answer - D^{term}	X	X	→	→
C-28	Call Forwarding - All Calls - Outside	X	X	→	→
C-29	Call Park	X	N	→	X
C-30	Call Pickup - Direct	X	X	→	→
C-31	Call Waiting - Originating	X	X	→	→
C-33	Consecutive Dialing - Attendant	X	—	→	—
C-59	Called Number Display - Attendant	X	—	→	—
C-60	Call Forwarding - Busy Line - Outside	X	X	→	→
C-62	Consecutive Speed Calling - System	X	—	→	—
C-69	Call Forwarding - All Calls - Announcement	X	—	→	—

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LEGEND
X – **Available**
— – **Not Applicable**
N – **Not Available**
E – **Enhanced or Changed**
→ – **Feature carried over to next software series**

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
C-73	Call Back - Delayed	X	X	→	→
C-74	Call Forwarding - Don't Answer - Outside	X	X	→	→
C-75	Call Forwarding - Intercept / Announcement - Attendant	X	X	→	→
C-76	Call Waiting Lamp - UCD	X	X	→	→
C-81	Call Forwarding - I'm Here	X	X	→	→
C-109	Centrex Compatibility	X	—	→	—
C-133	Call Forwarding - Don't Answer To UCD Queue	X	X	→	→
C-146	Call Hold - Conference	X	N	→	X
C-150	Call Block	X	X	→	→
C-151	Call Return	X	X	→	→
C-154	Call Hold Pick Up	X	N	→	N
C-157	Calling Party Number - Name Assignment and Display	X	X	→	→
C-160	Call Trace	X	X	→	→
D-2	Dial Access To Attendant	X	X	→	→
D-3	Dictation Access	X	—	→	—
D-5	Digital Display - Station	X	X	→	→
D-6	Digital Display - Trunk	X	X	→	→
D-7	Direct-In Termination (DIT)	X	X	→	→
D-8	Direct Inward Dialing (DID)	X	X	→	→
D-9	Direct Outward Dialing (DOD)	X	X	→	→
D-10	Distinctive Ringing	X	—	→	—
D-11D	Do Not Disturb - D^{term}	X	—	→	—
D-13D	Dial Monitor - D^{term}	X	—	→	—
D-15	Day/Night Class of Service	X	X	→	→
D-16	Direct Digital Interface	X	—	→	—
D-31	Delay Announcement - UCD	X	X	→	→

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LEGEND	
X	– **Available**
—	– **Not Applicable**
N	– **Not Available**
E	– **Enhanced or Changed**
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Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
D-32D	Dual Hold - D^{term}	X	X	→	→
D-87	Dial Intercom	X	N	→	N
D-90D	Delayed Ringing - D^{term}	X	N	→	N
D-114	Delay Announcement - Attendant	X	X	→	→
D-149	Direct Station Selection (DSS) Console	X	N	→	N
D-153	Distinctive Ringing - Caller ID	X	X	→	→
D-156	Dual Station Call	X	X	→	→
E-1	Executive Right-of-Way	X	X	→	→
E-1D	Executive Right-of-Way - D^{term}	X	X	→	→
E-3D	Elapsed Time Display - D^{term}	X	—	→	—
E-4D	Exclusive Hold - D^{term}	X	—	→	—
E-11	Emergency Call	X	X	→	→
E-18	E911-ANI Unified Number Of Digits	X	X	→	→
E-26	Expanded Multiple Line Operation - D^{term}			X	X
F-1	Flexible Numbering of Stations	X	X	→	→
F-2	FX Access	X	N	→	N
F-3D	Flash Button - D^{term}	X	—	→	—
F-4D	Flash Entry - D^{term}	X	—	→	—
F-5D	Flexible Ringing Assignment - D^{term}	X	—	→	—
F-6	Faulty Trunk Report	X	—	→	—
F-7	Forced Account Code	X	—	→	—
F-17	Flexible Assignment of Function Buttons	X	—	→	—
F-31	Follow Phone	X	N	→	N
F-35	Flexible Routing - FCCS	—	X	—	→

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		Series 7300		Series 7400	
Index	**Feature Description**	**Non-Network**	**FCCS**	**Non-Network**	**FCCS**
F-36	FCCS Networking via IP			—	X
G-2	Group Calling	X	X	→	→
H-1	Hotline	X	X	→	→
H-2	House Phone	X	X	→	→
H-4D	Hands-free Answer Back - D^{term}	X	—	→	—
H-5D	Hands-free Dialing/Monitoring - D^{term}	X	—	→	—
H-9	Hotline - Outside	X	X	→	→
I-1	Immediate Ringing	X	—	→	—
I-2	Incoming Call Identification	X	—	→	—
I-3	Incoming Central Office Call to Tie-Line Connection	X	X	→	→
I-4	Individual Trunk Access	X	X	→	→
I-5	Inter-position Transfer	X	X	→	→
I-6	Individual Attendant Access	X	X	→	→
I-7D	I-Hold Indication - D^{term}	X	—	→	—
I-8D	I-Use Indication - D^{term}	X	—	→	—
I-9	Intercom Calling	X	N	→	N
I-10D	Intermediate Station Number Display - D^{term}	X	X	→	→
I-11	Inter-Office Off-Hook Queuing	X	X	→	→
I-20	Immediate Ringback Tone	X	—	→	—
I-21	Internal Zone Paging	X	N	E	N
L-1	Lamp Check	X	—	→	—
L-3	Line Lockout	X	—	→	—
L-5	Least Cost Routing - 3/6-Digit	X	X	E	→

LEGEND
- **X** – Available
- **—** – Not Applicable
- **N** – Not Available
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- **→** – Feature carried over to next software series

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- **X** – **Available**
- **—** – **Not Applicable**
- **N** – **Not Available**
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- **→** – **Feature carried over to next software series**

Index	Feature Description	Series 7300 Non-Network	Series 7300 FCCS	Series 7400 Non-Network	Series 7400 FCCS
L-6	Last Number Called - Single-Line Station	X	X	→	→
L-6D	Last Number Called - D^{term}	X	—	→	—
L-7D	Line Reconnect - Same Line - D^{term}	X	X	→	→
L-8D	Line Reconnect - Other Line - D^{term}	X	X	→	→
L-9D	Line Pre-selection - D^{term}	X	X	→	→
L-10	LCR - Time Of Day Routing	X	N	→	X
L-11	Line Load Control	X	—	→	—
L-20	Line Load Control - Automatic	X	—	→	—
L-21	Line Load Control - MAT	X	—	→	—
L-24	Listed Directory Number	X	—	→	—
L-28	LDN Night Connection	X	N	→	N
L-30	LDN Night Connection - Outside	X	X	→	→
M-1	Meet-Me Paging	X	N	→	N
M-2	Miscellaneous Trunk Access	X	—	→	—
M-3	Miscellaneous Trunk Restriction	X	—	→	X
M-4	Multiple Console Operation	X	—	→	—
M-7	Music On Hold	X	—	→	—
M-11	Meet-Me Paging - Attendant	X	N	→	N
M-15	Maintenance Printout	X	—	→	—
M-18	Maintenance Administration Terminal (MAT)	X	X	→	→
M-19	Message Reminder	X	X	→	→
M-19D	Message Reminder - D^{term}	X	X	→	→
M-20D	Multiple Line Operation - D^{term}	X	N	→	N
M-23	Message Waiting Lamp Setting - Attendant	X	X	→	→
M-24	Multiple Call Forwarding - Busy Line	X	X	→	→
M-25	Multiple Call Forwarding - Don't Answer	X	X	→	→

NEAX2400 IMX Business Features (Continued)

LEGEND					
X	–	**Available**			
—	–	**Not Applicable**			
N	–	**Not Available**			
E	–	**Enhanced or Changed**			
→	–	**Feature carried over to next software series**			

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
M-26	Message Center Interface	X	X	→	→
M-30	Message Waiting Lamp Setting - Station	X	X	→	→
M-44	Multiple Call Forwarding - All Calls	X	X	→	→
M-47	Manual Signaling	X	N	→	N
M-48	Multi Channel Recording - DAT	X	N	→	N
M-84	MF Signaling - DID	X	X	→	→
M-85D	Message Waiting Indication - D^{term}	X	X	→	→
M-101	MF ANI to SMDR	X	X	→	→
N-1	Night Connection - Fixed	X	N	→	X
N-2	Night Connection - Flexible	X	N	→	X
N-3	Non-delay Operation	X	X	→	→
N-7D	Non-exclusive Hold - D^{term}	X	—	→	—
N-8D	Non-square Line Assignment - D^{term}	X	—	→	—
N-17	Night Connection Outside - System	X	X	→	→
N-28	Name Display - System	X	X	→	→
O-1	On-line Maintenance	X	X	→	→
O-2	Outgoing Trunk Queuing	X	X	→	→
O-2D	Outgoing Trunk Queuing - D^{term}	X	X	→	→
O-6	Off-Hook Alarm	X	X	→	→
O-7	Off-Hook Queuing	X	X	→	→
O-13	Overflow - UCD	X	X	→	→
O-16	Outgoing Trunk Queuing - Attendant	X	X	→	→
O-21	Outgoing Trunk Busy Announcements	X	—	→	—
O-37D	Off-Hook Line Number Display - D^{term}	X	X	→	→

NEAX2400 IMX Business Features (Continued)

LEGEND		
X	–	**Available**
—	–	**Not Applicable**
N	–	**Not Available**
E	–	**Enhanced or Changed**
→	–	**Feature carried over to next software series**

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
P-1	Paging Access	X	X	→	→
P-2	Passing Dial Tone	X	X	→	→
P-3	Power Failure Transfer	X	—	→	—
P-4	Pushbutton Calling	X	—	→	—
P-5	Pushbutton Calling - Attendant Only	X	—	→	—
P-6	Pushbutton to Rotary Conversion	X	—	→	X
P-7	Peg Count	X	X	→	→
P-9	Priority Call	X	X	→	→
P-10	Paging Transfer	X	X	→	→
P-11	Periodic Time Indication Tone	X	—	→	—
P-13D	Prime Line Pickup - D^{term}	X	—	→	—
P-14D	Privacy - D^{term}	X	—	→	—
P-15D	Privacy On All Lines - D^{term}	X	—	→	—
P-18	Privacy Release	X	N	→	N
P-30	Priority Paging	X	N	→	N
P-57	Pad Lock	X	—	→	—
P-59	Personal Ringer	X	N	→	N
R-2	Remote Access to System	X	X	→	→
R-3	Reserve Power	X	—	→	—
R-4	Restriction from Outgoing Calls	X	—	→	X
R-5	Rotary Dial Calling	X	—	→	—
R-6	Route Advance	X	X	→	→
R-7	Remote Maintenance	X	X	→	→
R-16	Radio Paging	X	X	→	→
R-27	Route Restriction - Announcement	X	—	→	—
R-37	RS-464A PAD	X	—	→	—

NEAX2400 IMX Business Features (Continued)

LEGEND		
X	–	Available
—	–	Not Applicable
N	–	Not Available
E	–	Enhanced or Changed
→	–	Feature carried over to next software series

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
R-49	Ringer Mute	X	—	→	—
R-51	Route Name Display	X	X	→	→
S-1	Single-Digit Station Calling	X	X	→	→
S-2	Special Dial Tone	X	—	→	—
S-3	Speed Calling - System	X	X	→	→
S-3D	Speed Calling - System - D^{term}	X	X	→	→
S-4	Splitting	X	—	→	—
S-4D	Splitting - D^{term}	X	—	→	—
S-6	Station-Controlled Conference	X	—	→	—
S-7	Station Hunting - Circular	X	X	→	→
S-8	Station Hunting - Secretarial	X	X	→	→
S-9	Station Hunting - Terminal	X	X	→	→
S-10	Station Message Detail Recording (SMDR)	X	X	→	→
S-11	Station-to-Station Calling	X	X	→	→
S-12	Station-to-Station Calling - Operator Assistance	X	X	→	→
S-13	Step Call	X	X	→	→
S-15	Serial Call	X	X	→	→
S-19	Single-Digit Feature Code	X	—	→	—
S-21	Speed Calling - Station	X	X	E	→
S-23	Speed Calling - Group	X	X	E	→
S-24D	Save And Repeat - D^{term}	X	X	→	→
S-25D	Service Display - D^{term}	X	X	→	→
S-26D	Speed Calling - One Touch - D^{term}	X	X	→	→
S-27	Service Feature Peg Count	X	N	→	N
S-33	Software Line Appearance	X	N	→	N
S-61	Speed Calling Override - System	X	X	→	→

LEGEND
    X   –   **Available**
    —   –   **Not Applicable**
    N   –   **Not Available**
    E   –   **Enhanced or Changed**
    →   –   **Feature carried over to next software series**

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
S-62	Station 5db PAD	X	X	→	→
S-64	Serial Call - Loop Release	X	X	→	→
S-99	Split Call Forwarding	X	X	→	→
S-106	Slumber Time - Do Not Disturb	X	X	→	→
S-127	Serial Call - D^{term}	X	X	→	→
S-129	SMDR Output Expansion - ANI/CPN	X	X	→	→
T-1	Tandem Switching of TIE Trunks - 2/4-Wire	X	X	→	→
T-2	Three-Way Calling	X	X	→	→
T-2D	Three-Way Calling - D^{term}	X	X	→	→
T-3	TIE Line Access	X	X	→	→
T-5	TIE Line Connection With Pad Control	X	X	→	→
T-6	Toll Denial/Toll Diversion	X	—	→	X
T-7	Toll Restriction - 3/6-Digit	X	X	→	→
T-8	Trunk Answer from Any Station (TAS)	X	—	→	—
T-9	Trunk Group Busy Lamp	X	N	E	X
T-10	Trunk-to-Trunk Connection	X	X	→	X
T-12	Tenant Service	X	X	→	→
T-18D	Time Display - D^{term}	X	—	→	—
T-23	Trunk Line Appearance	X	N	→	N
T-28	Trunk-to-Trunk Third-Party Cancellation	X	X	→	→
T-62	Timed Reminder	X	—	→	—
T-63	Tone Block	X	X	→	→
U-1	Uniform Call Distribution (UCD)	X	X	→	→
U-3	Universal Sender	X	—	→	—

NEAX2400 IMX Business Features (Continued)

LEGEND					
X – Available					
— – Not Applicable					
N – Not Available					
E – Enhanced or Changed					
→ – Feature carried over to next software series					

Index	Feature Description	Series 7300		Series 7400	
		Non-Network	FCCS	Non-Network	FCCS
V-1	Variable Timing Parameters	X	—	→	—
V-2	Voice Call	X	X	→	→
V-2D	Voice Call - D^{term}	X	X	→	→
V-3D	Volume Control - D^{term}	X	—	→	—
W-1	WATS Access	X	—	→	—

NEAX2400 IMX CCIS Features

Index	Feature Description	Series 7300		Series 7400		
		Non-Network	FCCS	Non-Network	FCCS	NEAX2400 IMX-NEAX2000 IVS
	LEGEND X – Available — – Not Applicable N – Not Available E – Enhanced or Changed → – Feature carried over to next software series					
A-44	Asynchronous Data Switching - CCIS	X	X	→	→	N
A-45	Attendant Camp-On with Tone Indication - CCIS	X	X	→	→	X*
A-46	Attendant-Controlled Conference - CCIS	X	X	→	→	X
A-71	Automatic Recall - CCIS	X	X	→	→	X
A-87	Automatic Number Identification (ANI) - CCIS	X	N	→	X	X
A-126	ANI-CCIS (16 Digit)	X	X	→	→	X
B-9	Busy Verification - CCIS	X	X	→	→	X*
B-10	Brokerage Hotline - CCIS	X	N	→	X	X
C-44	Call Back - CCIS	X	X	→	→	X*
C-45	Call Forwarding - All Calls - CCIS	X	X	→	→	X
C-46	Call Forwarding - Busy Line - CCIS	X	X	→	→	X
C-47	Call Forwarding - Don't Answer - CCIS	X	X	→	→	X
C-48	Call Forwarding - Intercept - CCIS	X	X	→	→	X
C-49	Call Forwarding - Override - CCIS	X	X	→	→	X
C-50	Call Transfer - All Calls - CCIS	X	X	→	→	X
C-51	Called Station Status Display - CCIS	X	X	→	→	X
C-52	Calling/Called Number Display - CCIS	X	X	→	→	X
C-53	Call Processing Indication - CCIS	X	X	→	→	X
C-54	Call Transfer - Attendant - CCIS	X	X	→	→	X*
C-55	Centralized Billing - CCIS	X	X	E	→	X*
C-56	Centralized Day/Night Mode Change - CCIS	X	N	→	X	X
C-57	Centralized System Management Report - CCIS	X	X	E	→	X

NEAX2400 IMX CCIS Features (Continued)

LEGEND
- **X** – **Available**
- **—** – **Not Applicable**
- **N** – **Not Available**
- **E** – **Enhanced or Changed**
- **→** – **Feature carried over to next software series**

Index	Feature Description	Series 7300		Series 7400		
		Non-Network	FCCS	Non-Network	FCCS	NEAX2400 IMX-NEAX2000 IVS
C-58	Consultation Hold - All Calls - CCIS	X	X	→	→	X
C-94	Call Forwarding Assignment - Attendant - CCIS	X	X	→	→	N
C-163	CCIS Networking via IP			X	X	X
C-167	Centralized Maintenance - CCIS			X	X	X
D-41	Data Communication - CCIS	X	N	→	N	N
D-65	Data Interface - Automatic Answer - CCIS	X	N	→	N	N
D-66	Data Line Security - CCIS	X	N	→	N	N
D-67	Data Line Privacy - CCIS	X	N	→	N	N
D-68	Data Privacy on Demand - CCIS	X	N	→	N	N
D-69	Data Transparency - CCIS	X	N	→	N	N
D-70	Deluxe Traveling Class Mark - CCIS	X	X	→	→	X
D-71	Dial Access to Attendant - CCIS	X	X	→	→	X*
D-72	Digital Display - Station - CCIS	X	X	→	→	N
D-73	Digital Display - Trunk - CCIS	X	X	→	→	X
D-74	Direct-In Termination - CCIS	X	X	→	→	X
D-75	Distinctive Ringing - CCIS	X	X	→	→	X
D-76D	Do Not Disturb - D^{term} - CCIS	X	X	→	→	X
D-86	Data Hotline - CCIS	X	N	→	N	N
D-91	Dialed Number Display - Recall - CCIS	X	X	→	→	X
D-93D	Dual Hold D^{term} - CCIS	X	—	→	—	X
E-8	Executive Right-of-Way - CCIS	X	—	→	—	X
E-9	Elapsed Time Display - CCIS	X	—	→	—	X
E-20	E911 - ANI Unified Number of Digits - CCIS	X	X	→	→	X

NEAX2400 IMX CCIS Features (Continued)

LEGEND
- **X** – **Available**
- **—** – **Not Applicable**
- **N** – **Not Available**
- **E** – **Enhanced or Changed**
- **→** – **Feature carried over to next software series**

Index	Feature Description	Series 7300		Series 7400		
		Non-Network	FCCS	Non-Network	FCCS	NEAX2400 IMX-NEAX2000 IVS
F-12	Flexible Numbering of Stations - CCIS	X	X	→	→	X
H-10D	Hands-free Answerback - D^{term} - CCIS	X	—	→	—	X
H-11	House Phone - CCIS	X	X	→	→	X
H-12	Hotline - CCIS	X	N	→	X	X
I-16	Incoming Call Identification - CCIS	X	X	→	→	X
I-17	Individual Attendant Access - CCIS	X	X	→	→	X*
I-18	Inter-Position Transfer - CCIS	X	—	→	—	—
L-25	Look Ahead Routing - CCIS	X	X	→	→	X
L-29	LDN Night Connection - CCIS	X	X	→	→	X
M-34	Message Reminder - CCIS	X	X	→	→	N
M-34D	Message Reminder - D^{term} - CCIS	X	X	→	→	N
M-35	Message Waiting Lamp Setting - Attendant - CCIS	X	X	→	→	X
M-36	Message Waiting Lamp Setting - Station - CCIS	X	X	→	→	X
M-37	Miscellaneous Trunk Access - CCIS	X	—	→	—	X
M-38	Miscellaneous Trunk Restriction - CCIS	X	—	→	—	N
M-39	Modem Pooling - CCIS	X	N	→	N	N
M-40	Multiple Call Forwarding - All Calls - CCIS	X	X	→	→	X
M-41	Multiple Call Forwarding - Busy Line - CCIS	X	X	→	→	X
M-42	Multiple Call Forwarding - Don't Answer - CCIS	X	X	→	→	X
M-43	Multiple Console Operation - CCIS	X	X	→	→	X

NEAX2400 IMX CCIS Features (Continued)

LEGEND						
X – Available						
— – Not Applicable						
N – Not Available						
E – Enhanced or Changed						
→ – Feature carried over to next software series						

Index	Feature Description	Series 7300		Series 7400		
		Non-Network	FCCS	Non-Network	FCCS	NEAX2400 IMX-NEAX2000 IVS
M-67	Message Center Interface - CCIS	X	X	E	→	X
N-15	Night Connection - Fixed - CCIS	X	X	→	→	X
N-16	Night Connection - Flexible - CCIS	X	X	→	→	X
N-37	Name Display - System - CCIS	X	X	→	→	X
N-46	Number Portability - CCIS			X	X	X
O-11	Off-Hook Queuing - CCIS	X	X	→	→	X
O-12	Outgoing Trunk Queuing - CCIS	X	X	→	→	N
P-28	Paging Access - CCIS	X	X	→	→	X
R-22	Restriction from Outgoing Calls - CCIS	X	X	→	→	X
S-52	Serial Call - CCIS	X	X	→	→	N
S-53D	Service Display - D^{term} - CCIS	X	—	→	—	N
S-54	Simultaneous Voice and Data Transmission - CCIS	X	X	→	→	N
S-55	Single-Digit Station Calling - CCIS	X	X	→	→	X
S-56	Station-Controlled Conference - CCIS	X	X	→	→	X
S-57	Station-to-Station Calling - CCIS	X	X	→	→	X
S-58	Station-to-Station Calling - Operator Assistance - CCIS	X	X	→	→	X
S-59	Step Call - CCIS	X	—	→	—	X
S-60	Synchronous Data Switching - CCIS	X	X	→	→	X
S-73	Supervisory Call - CCIS	X	X	→	→	N
T-26	Toll Restriction - 3/6-Digit - CCIS	X	X	→	→	X

NEAX2400 IMX CCIS Features (Continued)

LEGEND					
X – **Available**					
— – **Not Applicable**					
N – **Not Available**					
E – **Enhanced or Changed**					
→ – **Feature carried over to next software series**					

Index	Feature Description	Series 7300		Series 7400		
		Non-Network	FCCS	Non-Network	FCCS	NEAX2400 IMX-NEAX2000 IVS
T-27	Trunk Answer from Any Station - CCIS	X	X	→	→	X
U-5	Uniform Numbering Plan - CCIS	X	X	→	→	X
V-7	Voice Call - CCIS	X	X	→	→	X

Note 1: ** This feature is available on the condition that the NEAX2000 IVS is the satellite office.*

Note 2: *** Only 2 modes of Day/Night are available for NEAX2000 IVS.*

Note 3: *Telephone numbers should be used for activating CCIS services through FCCS groups and a NEAX2000 IVS.*

This page is for your notes.

A-1 Attendant Camp-On with Tone Indication

General Description

This feature permits the Attendant, when a desired station is busy, to hold an incoming call in a special waiting mode. The Attendant sends a distinctive Camp-On Tone Indication to the busy station. When that station becomes idle, it is automatically rung and connected to the waiting trunk party upon answering.

Operating Procedure

To activate Camp-On from the ATTENDANT CONSOLE [A-3]:
1. ATTENDANT CONSOLE [A-3] indicates incoming call.
2. Press the ANSWER or INCOMING CALL IDENTIFICATION [I-2] key.
3. Dial the busy telephone number; receive busy tone.
4. Press the RELEASE key; warning tone is sent and Camp-On is set.

To cancel Camp-On from the ATTENDANT CONSOLE [A-3]:
1. Press the loop key corresponding to held call; connect to the waiting trunk party.
2. Press the DEST key; hear busy tone.
3. Press the CANCEL key, automatically returns to the trunk party.

Service Conditions

1. Camp-On is controlled entirely from the ATTENDANT CONSOLE [A-3].
2. Only one incoming call may be camped-on to a particular station at any given time. Multiple Camp-On is not allowed.
3. Calls that remain camped-on for longer than the predetermined timing will initiate AUTOMATIC RECALL [A-8]. See VARIABLE TIMING PARAMETERS [V-1].
4. The camped-on station can answer a Camp-On call using the CALL HOLD [C-6] feature if permitted via CLASS OF SERVICE - INDIVIDUAL [C-15].
5. When Camp-On is denied, the Attendant may place the incoming call into a hold mode by pressing the HOLD key.
6. The maximum number of simultaneous Camp-On's per ATTENDANT CONSOLE [A-3] is 6. If ATTENDANT LOOP RELEASE [A-6] is provided, the maximum number is 12.
7. Camp-On may be denied if the busy station is:
   - a.) dialing or in the LINE LOCKOUT [L-3] mode.
   - b.) listening to tone.
   - c.) being rung.
   - d.) already camped-on by a previous call.
   - e.) protected from Camp-On by CLASS OF SERVICE - INDIVIDUAL [C-15].
   - f.) protected by DATA LINE SECURITY [D-12]. ASFC SFI 11 = 0.
   - g.) being connected to an Attendant loop.
   - h.) activating any conflicting feature, such as:
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL HOLD	[C-6]
CALL TRANSFER	[C-10, C-11, C-11D]

Service Conditions (cont'd)

CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-17D]
DATA LINE SECURITY	[D-12]
DATA PRIVACY ON DEMAND	[D-17]
DIAL ACCESS TO ATTENDANT	[D-2]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E1D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL - D^{term}	[V-2D]

Note: *In each of the above instances, the Attendant will receive reorder tone.*

8. This feature can be denied on DICTATION ACCESS [D-3] and PAGING ACCESS [P-1] connections by assigned office data.

9. The ATTENDANT CAMP-ON WITH TONE INDICATION feature is limited to one call waiting per station line. The check to allow call waiting limits this feature to calls on a steady 2-party talking state with a trunk or another station. There is no limit to the number of lines to which this feature can be assigned.

10. CALL HOLD [C-6]: Attendant Camp-On is denied to a station that has a call on hold or to a station that has been placed on hold.

11. Any restriction that prevents a call from terminating directly at a station also prevents a call from waiting at that station.

12. DATA LINE SECURITY [D-12]: Attendant Camp-On is denied to a station with this restriction.

13. STATION HUNTING [S-7, 8, 9]: This feature takes precedence over Attendant Camp-On. If all stations in the hunt group are busy, the call will wait at the called station.

14. LINE LOCKOUT [L-3]: A call is not allowed to wait on a line that has been locked out.

15. ATTENDANT CAMP-ON WITH TONE INDICATION is denied if the called station has activated CALL BACK [C-1], OUTGOING TRUNK QUEUING [O-2] or has another call waiting.

16. BUSY VERIFICATION [B-3]: This feature is not allowed when a call is waiting. Attendant Camp-On is denied to a station in a 3-way call as a result of busy station verification.

17. CALL BACK [C-1]: Camp-On is denied if another station has activated the CALL BACK [C-1] feature toward the station.

18. CALL FORWARDING [C-2, 3, 5]: When Call Forwarding is in effect, the forwarding operation occurs before any call waiting is allowed. Once a call has been forwarded, the call may wait at the new station if call waiting is allowed.

19. HOT LINE [H-1]: Attendant Camp-On is allowed toward the Hot Line.

20. THREE-WAY CALLING [T-2]: Calls are not allowed to wait on any station involved in a Three-Way Call.

21. DATA PRIVACY ON DEMAND [D-17]: Attendant Camp-On is denied to a user who has activated Data Privacy On Demand.

Interactions

1. System Data 2, Index 2, Bit 5 will enable ATTENDANT LOOP RELEASE [A-6], which allows 12 calls to be camped-on to stations by Attendant Console.
2. The Attendant Console must first be provided.
3. Route Restrictions disallowing a call to terminate at a station will also disallow ATTENDANT CAMP-ON.
4. STATION HUNTING [S-7, 8, 9] and UNIFORM CALL DISTRIBUTION [U-1] take precedence over ATTENDANT CAMP-ON WITH TONE INDICATION. If all stations in the Station Hunting group are busy, the call will wait at the called station.
5. HOTLINE [H-1]: ATTENDANT CAMP-ON is allowed toward the Hotline.
6. TIE LINE ACCESS [T-3]: ATTENDANT CAMP-ON is denied to a station over a TIE Line (distant end).
7. ATTENDANT CAMP-ON WITH TONE INDICATION and SERIAL CALL [S-15] are mutually exclusive.
8. ATTENDANT CAMP-ON WITH TONE INDICATION is usually denied to a station connected to Value-Added Modules (VAM).
9. ATTENDANT CAMP-ON WITH TONE INDICATION is applicable only with incoming C.O. or TIE Line calls to a busy station. Attendant-assisted station-to-station calls cannot be camped-on.

Programming

STEP 1:   **ASFC** - Assign to the telephone a Service Feature Class that allows SFI 11. Data must be "1". Also allow SFI 10 and SFI 11.

STEP 2:   **ASYD** - System Data 1, Index 64, Bit 6, leave as "0".

STEP 3:   System Data 1, Index 145. This index provides timer for Camp-On call to Recall to the Attendant Console. For normal operation assign 00H. (RAM data is 3F [Hex] = 30 seconds.)

STEP 4:   System Data 2, Index 0, Bit 4 must be assigned as data "1", BUSY VERIFICATION.

Note: *All System Data 1 timers, Indexes 128-159, operate normally on values set via the system RAM. Always assign OOH. The RAM default values will be noted beside each system timer.*

FCCS Programming

No unique programming is required for the FCCS network.

Note: *System timers may be set on a network basis in ASYDN.*

A-2 Attendant-Controlled Conference

General Description

This feature permits the Attendant to establish a conference among as many as eight parties. The conferees may consist of any combination of stations and/or trunks, whether inside or outside parties.

Operating Procedure

To activate ATTENDANT CONTROLLED CONFERENCE:
1. Station calls Attendant to request conference.
2. Attendant connects a party to one of the assigned line circuits.
3. Attendant sequentially calls all desired parties and connects them to the other line circuits on the conference.
4. Once all parties are connected, the conference leader with a push-button telephone may dial digit "0" to block additional participants, thereby assuring privacy.
5. If the conference leader dials the digit "#", all conferees will be disconnected. Otherwise, the conference is terminated only after all parties have hung up.
6. To release from a conference circuit individually, a user must hang up. The remaining conferees may continue without interruption.

Service Conditions

1. Conference units are designed to provide adequate amplification, but the condition of the Central Office connections will affect transmission.
2. Conference extension numbers should be placed in a STATION HUNTING - TERMINAL [S-9] group with only the pilot number being published.
3. If the conference leader connected to the conference unit dials digit "#" during the course of the conference, all conferees will be disconnected.
4. The conference leader with a push-button telephone must be connected to level "0" of the conference circuit.
5. Override services such as BUSY VERIFICATION [B-3], ATTENDANT OVERRIDE [A-7] or EXECUTIVE Right-of-Way [E-1] are denied on conference call.
6. Additional hardware is required to implement this feature.

Interactions

The Attendant Console must first be provided.

Programming

STEP 1: **ASDT** - Assign Tenant No., Station No., LENS No., and the Telephone Equipment Class, (TEC), to the stations of the PA-CFTB. Also the Service Feature Class and Route Restriction Class (RSC) are assigned to the telephone. The RSC should allow connections to the incoming and outgoing routes that will be connected to the conference.

TN: Tenant Number
STN: Station Number
LENS: Line Equipment Number (6 digits)

Programming (cont'd)

TEC: Telephone Class (1-31)

       1: DP (10pps)

       2: PB

⟶   3: DP/PB

      12: D^{term}

      13: Data terminal Via D^{term}

      14: Hot Line

      15: CAS Line

      16: Data Terminal Via Data Module

      18: Virtual Circuit

      23: ISDN Terminal

      26: VPS

      27: Eight Conference Equipment

RSC: Route Restriction Class (0-15)

For assignment of RSC, ARSC command.

SFC: Service Feature Class (0-15)

For assignment of SFC, ASFC command.

STEP 2:   **ASHP** - Assign a Pilot hunting group using the last 7 circuits of PA-CFTB card. Circuit 0 of all PA-CFTBs to be used for 8-party conference should be put into a Circular Hunt (ASHC).

STEP 3:   **ASFC** - Assign SFI11 (Data Line Security) as "0".

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   **ASHPN** - Assign a Pilot hunting group using the last 7 circuits of PA-CFTB card. Circuit 0 of all PA-CFTBs to be used for 8-party conference should be put into a Circular Hunt (ASHCN).

STEP 2:   **ALGSN** - Assign stations as directed in ASDT.

A-3 Attendant Console

General Description

The ATTENDANT CONSOLE operates on a switched loop basis. Six Attendant loops terminate at each console via the associated position circuit. The Attendant can answer, originate, hold, extend and re-enter calls through each loop. The number of calls may be effectively increased to 12 through use of the ATTENDANT LOOP RELEASE [A-6] feature.

Operating Procedure

Refer to the description of each service feature related to Attendant Console.

Service Conditions

1. Each ATTENDANT CONSOLE is equipped with dual handset jacks, one on either side. For training purposes, both jacks may be used simultaneously. For normal operation, the Attendant may choose the most convenient side.

Note: *A drop in volume may be noticed while a second handset/headset is connected.*

2. A console switched loop may receive a second call immediately upon release of the first, regardless of whether or not the call has been answered by a station when using the ATTENDANT LOOP RELEASE [A-6] feature.

3. A maximum of 4 consoles per PIM can be provided.

4. The maximum number of consoles allowed per system is:

    1 IMG System: 16
    4 IMG System: 60
    IMX-U System: 60

5. The ATTENDANT CONSOLE is equipped with a digital time display.

6. The ATTENDANT CONSOLE is equipped with a numerical call waiting display.

7. When answering a CALL FORWARDING [C-2, 3, 5, 25] call, the Attendant can identify the called telephone number on display area instead of the trunk number by assigned System Data.

8. The Desk Console for Business System can display a maximum of 24-digit calling/called station number (telephone number) on the LCD. In addition, the calling number of Caller ID service can be displayed.

9. The Desk Console can display 8-bit ASCII characters.

10. Name Display is available when Name Display service is available for the D^{term}. The content of the name display is the same as that of the D^{term}.

11. The maximum number of digits for the Name Display are as shown below:
    - 16 for the name assigned by the MAT
    - 15 for the calling name sent from the Central Office

12. When the calling number is not received, the route/trunk number or the Central Office Code (COC) is displayed instead.

13. The Desk Console and the current Attendant Console can be used together in a system. However, the Attendant Console can display a maximum of 24 digit telephone numbers and Caller ID information is not displayed.

14. The data setting of the station number display pattern for the Attendant Console (SYS1, INDEX 82) is unavailable for the Desk Console.

Service Conditions (cont'd)

15. A PA-CS33 circuit card is required. The switch setting for PA-CS33 (ATI) is shown below:

Switch Name		Setting
SW16	1	OFF (fixed)
	2	ON (fixed)

16. The Attendant Console must be accommodated in one LN only when used in the IMX-U system.
17. A terminating node (FPC) must be assigned in the FCCS network.
18. Identical system data related to Attendant Console should be programmed at all nodes.
19. A different destination for C.O. incoming call (ring down) cannot be set at each tenant group.

Interactions

There are no known interactions.

Programming

Called numbers display when Call Forwarding to ATTCON.
ASYD - System Data 1, Index 70, Bit 0 (0/1=out of service/in service)
Call Waiting lamp display.
System Data 2, Index 8 and 9, Bit 0-7.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDL** - This data must be set to all the nodes.
System Data 1, Index 640: Assign the Fusion Point Code (FPC) of the node providing the Attendant Console. **(Note 2)**

STEP 2: **ASPAL** - This data must be set to all the nodes.
Assign SRV=SSC, SID=2 (Operator Call), FPC of the node that operator calls are to be terminated to.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *Assign the self FPC at the terminating node.*

A-4   Attendant Keypad

General Description

This feature permits the Attendant to dial all calls from the ATTENDANT CONSOLE [A-3] via a push-button PAD.

Operating Procedure

Refer to the description of each service feature related to Attendant Console.

Service Conditions

1. Whether the NEAX2400 IMX is equipped with DP or DTMF trunk lines, signals from the ATTENDANT KEY PAD will be converted.

2. Via the key pad, the Attendant may originate calls, process incoming calls, and activate various service features. They are as follows:
   - a.) Pushbutton Calling [P-4]
   - b.) Pushbutton Calling - Attendant only [P-5]
   - c.) Rotary Dial Calling [R-5]

3. The ATTENDANT KEY PAD generates DC signals, which in turn are converted to either DP or DTMF signals by the Attendant interface circuit.

4. The key pad consists of twelve (12) keys used to generate digits 0 through 9, plus the "*" and "#" keys.

Programming

ASYD - System Data 2, Index 2, bit 1. This assignment will determine type of sender used by the Attendant Console, either dial pulse or push-button, 0/1: DP/PB. The Attendant Console must first be provided.

System Data 1, Index 134, RAM data is 32H, 4 seconds. This is the interdigit timer for the register/sender circuit on the ATI card. For normal operation, no assignment is required via the MAT.

A-5 Attendant Lockout

General Description

This feature denies an Attendant the ability to re-enter an established trunk/station connection without being recalled by the station.

Operating Procedure

No manual operation is required once this feature has been programmed into system data.

Service Conditions

1. This feature is, by definition, mutually exclusive with:

   ATTENDANT OVERRIDE   [A-7]
   BUSY VERIFICATION   [B-3]

2. Lockout is inoperative on TRUNK-TO-TRUNK CONNECTION [T-10] when the release signal is not provided from the distant end.

3. Lockout is not used unless the feature is provided which gives 2-party hold capability. Without this capability, the completed call is removed from the ATTENDANT CONSOLE [A-3] loop, so the Attendant cannot reenter for assistance or any other purpose.

Interactions

1. ATTENDANT OVERRIDE [A-7]: In those cases where answer supervision is returned on TRUNK-TO-TRUNK CONNECTIONS [T-10], the Attendant can override the busy condition by using the ATTENDANT OVERRIDE [A-7] feature.

2. TRUNK-TO-TRUNK CONNECTION [T-10]: Privacy is automatically disabled for TRUNK-TO-TRUNK calls, if the release signal is not provided from the distant end.

3. SPLITTING [S-4]: The Privacy feature works with the SPLITTING [S-4] feature to cause automatic splitting.

4. Switched Loop Operation: Call processing is modified so that pressing a loop key does not cause the Attendant to be bridged on an established call unless the Attendant is recalled. An exception is a TRUNK-TO-TRUNK CONNECTION [T-10] when the release signal is not provided from the distant end.

5. ATTENDANT-CONTROLLED CONFERENCE [A-2]: When the Attendant reenters a conference connection to answer a recall, only the Attendant and the recalling station are connected together.

Programming

Per-Route Basis:
      ARTD - Assign CDN 44:PRV as a "1", Line Privacy.
Per-Station Basis:
      ASFC - Assign "0" to SFI 4 and SFI 11 to the SFC assigned to the stations.
Per-Tenant Basis:
      ASYD - System Data 2, Index 0, bits 3, 4 & 5. Assign data "0".

A-6   Attendant Loop Release

General Description

This feature allows an ATTENDANT CONSOLE loop to become available for a second call as soon as the Attendant has directed the first call to a station, even if that station does not answer.

Operating Procedure

1. ATTENDANT CONSOLE indicates an incoming call.
2. Press the ANSWER or INCOMING CALL INDICATION [I-2] key.
3. Dial the desired telephone number; receive ringback tone.
4. Before the station answers, press the RELEASE key.
5. The loop is now available for another call.

Service Conditions

1. Unanswered calls will be routed to the Attendant within the predetermined time via AUTOMATIC RECALL [A-8]. See VARIABLE TIMING PARAMETERS [V-1].
2. If all Attendant Loop circuits are busy when AUTOMATIC RECALL [A-8] is activated, the system will automatically scan for an idle Loop every 8 seconds.
3. A maximum of six calls (one per Loop) may be released simultaneously from any single ATTENDANT CONSOLE.
4. This feature provides the Attendant with the equivalent of 12 switching loops.
5. In a MULTIPLE CONSOLE OPERATION [M-4], the Attendant who initiated the Loop Release will be recalled.
6. ATTENDANT LOOP RELEASE is only applicable to incoming trunk calls extended to an unanswered station or busy station (Camped-On).
7. Calls that are held by the Attendant, using the HOLD key, cannot be released from the ATTENDANT CONSOLE [A-3]. These calls remain on the switched loop until they are either extended by the Attendant or abandoned by the calling party.
8. After the ATTENDANT LOOP RELEASE is activated, the Attendant cannot interact with the call until altered by the AUTOMATIC RECALL [A-8] feature.
9. ATTENDANT CAMP-ON: This feature, when active, permits the Attendant to CAMP-ON [A-1] to a busy called station. Upon ATTENDANT CAMP-ON WITH TONE INDICATION [A-1], the Attendant may release the call from the ATTENDANT CONSOLE [A-3].

Interactions

1. The Attendant Console must first be provided.
2. ATTENDANT LOOP RELEASE and CALL FORWARDING - DON'T ANSWER [C-3] on calls extended to a station via the Attendant Console (System Data 2, Index 6, Bit 7) are mutually exclusive.
3. ATTENDANT LOOP RELEASE is only applicable to incoming station or trunk calls extended to an unanswered station or busy station. See ATTENDANT CAMP-ON WITH TONE INDICATION [A-1].
4. Calls placed on CALL HOLD [C-6] by the Attendant Console are not released from the console. These calls remain on the loop until they are either extended by the Attendant or abandoned by the calling party.
5. A maximum of six calls per console can be released and stored in the system memory. A seventh call extended (unanswered/camped-on) will remain in the loop.

Interactions (cont'd)

6. Calls processed via SERIAL CALL [S-15] are not released from the Attendant Console. These calls remain in the loop until completion.

Programming

ASYD - System Data 2, Index 2, Bit 5. Assign as data "1." Assign on a per-tenant basis.

A-7 Attendant Override

General Description

This feature permits an Attendant to enter a busy trunk connection within the NEAX2400 IMX, via the Attendant Console [A-3]. Upon activation, a warning tone will be heard by the connected parties, after which they will be connected with the Attendant in a three-way bridge.

Operating Procedure

1. Press the TKSL key.
2. Dial the desired trunk route (2 or 3 digits) and the identification numbers (3 digits).
3. Upon receiving busy tone, press the Busy Verification (BV) key.
4. A two-burst tone is sent to the connected parties.
5. The Attendant can now monitor or join the connection.
6. Press the RELEASE key to disengage.

Service Conditions

1. This feature may be utilized during trunk-to-trunk calls (COT, FX, WATS, CCSA, TIE Lines).
2. This feature cannot be activated when the connected station/trunk is:
    a.) dialing
    b.) connected to a three-way connection.
    c.) when a PRIVACY [P-14D, P-15D] feature is activated.
    d.) connected to a route programmed for Line/Trunk, Privacy, CDN 44:PRV.
    e.) listening to a tone (Dial, Reorder, Service Set, Busy, Ringback).
    f.) protected by DATA LINE SECURITY [D-12].
    g.) being connected to an Attendant loop.
    h.) activating any conflicting feature, such as:
BUSY VERIFICATION	[B-3]
BOSS- SECRETARY OVERRIDE	[B-5]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10, C-11, C-11D]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-17D]
DATA LINE SECURITY	[D-12]
DATA PRIVACY ON DEMAND	[D-17]
DIAL ACCESS TO ATTENDANT	[D-2, D-71]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
EXCLUSIVE HOLD - D^{term}	[E-4D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL	[V-2]

    In each of the above instances, the Attendant will receive reorder tone.
3. ATTENDANT OVERRIDE and ATTENDANT LOCKOUT [A-5] are mutually exclusive features.

Service Conditions (cont'd)

4. Each tone burst is 0.08 seconds in duration and is used to alert both parties that the Attendant is overriding the conversation.

5. This feature can be denied on DICTATION [D-3] and PAGING [P-1] connections by assigned ARTD data.

6. It is possible, via System Data, to completely disable the sending of warning tone during an ATTENDANT OVERRIDE connection. Normally the two burst Warning Tone is sent when the ATTENDANT OVERRIDE connection is initiated and then is repeated approximately every 15 seconds. The initial tone burst is also disabled. If the trunk is connected to a D^{term}, the display is as follows:

```
OPE BV
             (Time Display)
```

After 5 seconds, the display returns to the normal Conference display, CONF.

7. ATTENDANT OVERRIDE is temporarily denied and reorder tone heard if any of the following features are active:
   a.) EXECUTIVE RIGHT-OF-WAY [E-1]: If the called trunk is connected to a line on which EXECUTIVE RIGHT-OF-WAY is being used.
   b.) Trunk Restriction: If the called tie trunk was routed to reorder tone as a result of trunk restriction.
   c.) SPECIAL DIAL TONE [S-2]: If the called trunk is on hold.
   d.) ATTENDANT CAMP-ON WITH TONE INDICATION [A-1]: If the called trunk is camped-on to a busy station.
   e.) SERIAL CALL [S-15]: ATTENDANT OVERRIDE is denied to the parties held on the console.
   f.) ATTENDANT INTERACTION: During the normal operation of PBX features, situations may arise whereby a trunk may be connected to an ATTENDANT CONSOLE [A-3]. While the trunk is connected to the ATTENDANT CONSOLE [A-3] or is in queue at an ATTENDANT CONSOLE [A-3], the Attendant at the Console or an Attendant at any other Console (when multiple consoles are provided) is not allowed to bridge on the connection. The trunk must be connected to a station in a talking mode in order for the ATTENDANT OVERRIDE feature to function.

8. The ATTENDANT CONSOLE cannot specify a trunk accommodated in a different node in the FCCS network.

Interactions

1. With ATTENDANT OVERRIDE, the following trunk types may be verified (busy or idle status):
   a.) One-way incoming trunks
   b.) One-way outgoing trunks
   c.) Bothway trunk

2. Trunks in a station-to-trunk connection or TRUNK-TO-TRUNK CONNECTION [T-10] can be verified when busy.

3. ATTENDANT LOCKOUT [A-5]: The Attendant is prevented from overriding a busy trunk which is connected to a loop held at the Attendant Console. Since the lockout feature applies only to calls held on an Attendant Console loop, ATTENDANT OVERRIDE of those trunks will be denied and the Attendant will hear reorder tone.

4. CALL FORWARDING - ALL CALLS [C-5], BUSY [C-2] or DON'T ANSWER [C-3]: If an Attendant attempts to busy verify an idle or busy station line that has activated the Call Forwarding feature, busy verification of the destination station will occur. If an Attendant attempts to busy verify an idle or busy station which is call forwarded to the Attendant Console, ATTENDANT OVERRIDE will not be allowed.

Interactions (cont'd)

5. DICTATION ACCESS [D-3]: ATTENDANT OVERRIDE will be denied towards the Dictation Access trunks.
6. PAGING ACCESS [P-1]: ATTENDANT OVERRIDE is denied to the Paging Access trunks.
7. DATA PRIVACY - CCIS [D-67] [D-68]: To prevent interruption of data transmission, the Attendant cannot override a trunk connected to a busy station line when the user activates this feature.

Programming

STEP 1:   **ASYD** - System Data 1, Index 78, Bit 0 & 1.

System Data 1, Index 60, Bit 5. Is the two-burst Warning Tone to be disabled? No/Yes.

System Data 1, Index 68, Bit 4. Trunk select (TKSL) key must be enabled. Assign data "1."

System Data 2, Index 0, Bit 3, assign as data "1."

System Data 1, Index 158, timer between tones.

STEP 2:   **ATRK** - Assign the LEN as Route 909, Digital Conference Trunk. LEN # consists of the following:

XX	X	XX	X
Local Processor	**Unit**	**Group**	**Level**

Group and Level numbers for the Digital Conference Trunk are 210, 213, 216, 221, 224, 227, 232 and 235.

STEP 3:   **ASFC** - For stations susceptible to ATTENDANT OVERRIDE, assign a Class of Service that allows SFI 4, EXECUTIVE RIGHT-OF-WAY [E-1], and SFI 11, ATTENDANT CAMP-ON WITH TONE INDICATION [A-1].

STEP 4:   **ARTD** - When a station is connected to a trunk, CDN 44:PRV of the route must be assigned as data "0" for ATTENDANT OVERRIDE to be allowed.

FCCS Programming

No unique programming is required for the FCCS network.

A-8   Automatic Recall

General Description

This feature works as a timed reminder. When a call handled by the Attendant remains on hold, camped-on, or ringing unanswered for a fixed interval, the Attendant is automatically alerted.

Operating Procedure

No manual operation is required.

Service Conditions

1. AUTOMATIC RECALL [A-8] timing is preset in System Data at 30 seconds. See VARIABLE TIMING PARAMETERS [V-1] for other selectable timing choices.

2. If the Attendant reenters a held or camped-on trunk, timing is reset when the trunk is returned to the previous condition.

3. The Attendant Console buzzer will sound to signal Recall, provided no calls are being processed, in addition to the standard visual indication for incoming calls.

4. This feature is denied on INCOMING CENTRAL OFFICE CALL TO TIE LINE CONNECTION [I-3].

5. When an Attendant answers AUTOMATIC RECALL, either the dialed number or the calling telephone/ trunk number can be displayed (on System Data basis).

6. The indication on the ATTENDANT CONSOLE [A-3] follows DIGITAL DISPLAY - STATION [D-5]. When the dialed number (destination) is displayed, the display is as follows:

Tenant Number:	Blank Space
Trunk Route Restriction Class:	Blank Space
Telephone Number:	Dialed Number (Last Digits)

Interactions

1. This feature is available on calls extended to a branch PBX via a CENTRALIZED ATTENDANT SERVICE [C-20] (CAS) position.

2. System Data 2, Index 6, Bit 7. On a per-tenant basis, allow this Bit for CALL FORWARD - DON'T ANSWER [C-2] via the Attendant Console. During this operation, the call will ring at the called station for the time interval set in System Data 1, Index 141 (ASYD 145 must be longer than 141). The call is then forwarded and rings at the forwarded station for the time interval set in Index 145. If the call is still not answered, it will be recalled to the Attendant Console via the AUTOMATIC RECALL feature.

3. System Data 1, Index 70, Bit 0 (Called Number Display). This Bit does not affect the display on the Attendant Console for recalled calls. It is used for DIDs that have call forwarded to the Attendant or if the Attendant reenters the loop on an extended call before AUTOMATIC RECALL has taken place.

4. When a trunk call recalls back to the Attendant Console, the destination telephone number will display, and the SOURCE (SRC) LED will be lit. By pressing the SRC key, the display will change to the originating route and trunk number. By pressing the DEST key, the display will change to the destination station.

5. The station will continue to ring even as the call recalls to the Attendant Console. If the station should answer at the same time the Attendant answers the recalling call, a three-way conversation will take place (if conferencing is allowed and a conference card is programmed and installed). The Attendant can press the SRC, DEST, or TALK keys to achieve the desired conversation or press the RELEASE key to get out of the conversation.

Programming

ASYD - System Data 1, Index 145. Timer Class 1 = 2 second.

For normal operation, assign 00H [RAM data is 94H]. Any call that uses AUTOMATIC RECALL keeps one of the Attendant Console switched loops busy. Since there are six loops per Attendant console, the maximum use of this feature is limited to that number. The AUTOMATIC RECALL interval (normally set for 30 seconds) is a system option (System Data 1, INDEX 145) and can be varied from two seconds to two minutes, in increments of two seconds.

System Data 1, Index 73, Bit 6 = 0.

A-8D   Automatic Recall - D^{term}

General Description

This feature works as a timed reminder. When a D^{term} handled call remains on hold (EXCLUSIVE HOLD [E-4D] or NON-EXCLUSIVE HOLD [N-7D]) or during an unattended transfer for a variable, programmable period of time, the D^{term} is automatically alerted.

Operating Procedure

No manual operation is required.

Service Conditions

1. AUTOMATIC RECALL - D^{term} timing is default in System Data at 30 seconds. See VARIABLE TIMING PARAMETERS [V-1] for other selectable timing choices.

2. If the D^{term} reenters a held or transferred call, timing is reset when the call is returned to a RECALL position.

3. When a held call returns to the D^{term}, a continuous ring of 0.5 seconds ON, 0.5 seconds OFF, and an LED flashing at 240 IPM occurs until the call is retrieved. The upper LCD goes blank during recall. The signal occurs whether the D^{term} is on-hook or off-hook.

4. When an unattended transfer returns to the originator of the transfer, the D^{term} will ring normally for 30 seconds (VARIABLE TIMING PARAMETERS [V-1]), if the release signal is not provided from the distant end. The LCD displays:

	Transferred Station	Transferring Station/Trunk
RECALL	**XXXX**	**XXXX**
	(Time Display)	

Note: *When the telephone number of the transferred/transferring station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of 16 digits transferring telephone number can be displayed on the middle line of LCD depending on the System Data.*

5. When a D^{term} holds a call by NON-EXCLUSIVE HOLD [N-7D] during a THREE-WAY CALL [T-2D], the AUTOMATIC RECALL - D^{term} feature cannot be activated.

Programming

> **ASYD** - System Data 1, Index 144. Recall timing of calls placed on EXCLUSIVE HOLD [E-4D] and NON-EXCLUSIVE HOLD [N-7D]. For normal operation of 30 seconds, leave as data 00H. (RAM data is 3FH)
>
> System Data 1, Index 140. Recall timing of station transfers.
>
> System Data 2, Index 12, Bit 0 - Ringer for NON-EXCLUSIVE, Bit 1 - Ringer for EXCLUSIVE
>
> 0 = Required
>
> 1 = Not Required

A-15 Announcement Service

General Description

This feature allows a user to hear a prearranged announcement when the user dials a predetermined access code.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the announcement trunk access code.
3. Listen to the message from the announcement machine.

Service Conditions

1. This feature requires one of the following hardware alternatives:
    a.) Central Office Trunk (COT) or 2W E&M trunk (TLT) and an announcement machine.
    b.) Digital Announcement Trunk (DAT).
2. The following connections are available:
    a.) multi connection: many users or tie line trunks can connect to one announcement trunk at the same time.
    b.) single connection: at any given time, only one station/trunk can connect to one announcement trunk.
3. This feature is also available for tie line trunk access to announcement trunk.
4. This connection can be continuous until a user hangs up or it can be disconnected after 30 seconds. This function can be selected on a per announcement trunk basis.
5. Before connection to the announcement machine is made, the system can be programmed to send ringback tone.
6. When this feature is activated from a tie line, an answer supervision signal will be sent to the far end PBX.
7. ANNOUNCEMENT SERVICE can be provided for a maximum of 127 trunks, which include the announcement trunks for CALL FORWARDING - INTERCEPT/ANNOUNCEMENT [C-25].
8. This feature is available from the Attendant Console. The Attendant dials the announcement trunk access code and listens to a message from the announcement machine.
9. ANNOUNCEMENT SERVICE is provided to FCCS nodes that have no announcement trunk in the remote node.

Interactions

1. Each route connected to an announcement machine is also an EQP. The same route can be assigned as different EQP's. However, it is best to separate EQP functions by route.
2. 8TLT, 16 COT, or 4DAT cards may be used.

Programming

STEP 1: **ANPD** - Reserve a number level for trunk access. Assign for Connection Indexes Normal (N) and Hooking (H). Assign for NND values in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code to the announcement trunk. Assign SRV=ANNC (Announcement Service). The EQP number assignment should be as assigned in the AAED command. TYPE =? 0/1.

Programming (cont'd)

STEP 3: **ARTD** - Assign the announcement route as shown below. Be sure to provide privacy by programming CDN 44:PRV as data "1".

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :1 | 7-L/T | :1 |
| 8-RLP | :2 | 15-LSG | :4 | | | | | | |

STEP 4: **ARSC** - Assign a Route Restriction Class (RSC) to the station that allows access to the Announcement route. Assign RSC 0 to the Attendant, and allow that RSC access to the Announcement route.

STEP 5: **ATRK** - Assign the LEN Number, Announcement Trunk Route Number. Assign one or more trunks to a specific route used to connect to an announcement machine.

STEP 6: **MBTK** - Assign the Make Idle status to the announcement trunk.

STEP 7: **ARRC** - If TIE Line, DID, or REMOTE ACCESS TO PBX [R-2] connection to the Announcement Service trunk is required, allow trunk-to-trunk connection using ARI-D-RES=1 (Direct Connection is allowed.)

STEP 8: **AAED** - This command is used to assign announcement equipment.

Dead Level:

Assign:

TN: Tenant Number

EQP: (Announcement Equipment Number) = 0 (Dead Level). For example, level 8 is not assigned an announcement is returned rather than a reorder tone.

RT, TK:Route and Trunk number of the trunk connected to the announcement equipment.

Unused Number:

Assign:

TN: Tenant Number

EQP: 1 (Unused Number). For example: EXT-7836 is not in the system. An Announcement is returned rather than a reorder tone.

RT, TK:Route and Trunk number of the trunk connected to the announcement equipment.

Announcement Service:

Assign:

TN: Tenant Number

EQP: = 2 - 15

RT, TK:Route and Trunk number of the trunk connected to the announcement equipment.

C: Duration of Connection, 0/1:Disconnection occurs in 30 seconds / Connection is held until the station releases. See the requirements of the application for the announcement equipment. For Dead Level applications, data 0 is assigned.

R: Sending RBT 0/1: sending RBT/not sending RBT.

A: Answer Signal Sending, 0/1: no answer from Incoming trunk/Answer from Incoming trunk. Normally assign data "1".

M: Multiple Connection 0/1: Single Connection/Multiple Connection. Assign usually for single connection.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   **ALRTN** - This data must be assigned to the NCN.

Assign the logical route number to the physical route.

STEP 2:   **AAEDN** - This data must be assigned to the NCN.

Assign the announcement equipment data.

UGN: User Group Number

EQP: Announcement Equipment Number

    0 = Dead Level

    1 = Unused Number

    2-15 = Announcement service

C: Duration of Connection

    0 = Disconnection occurs in 30 seconds

    1 = Connection is held until the station releases. See the requirements of the application for the announcement equipment. For Dead level applications, data 0 is assigned.

R: Sending RBT

    0/1 = Yes/No

A: Answer Signal Sending (Answer from the incoming trunk)

    0 = No/Yes Normally assign data "1".

M: Multiple Connection

    0/1 = Single Connection/Multiple Connection

LGRT: Logical Route

TK: Trunk Number   *Not necessary for "M = 1"

STEP 3:   **ARRCN** - This data must be assigned to the NCN.

Release the restriction between the terminating trunk and the announcement trunk.

STEP 4:   **ARSCN** - This data must be assigned to the NCN.

Release the restriction between the announcement trunk and the station.

Note: *The current command data shown is set to all nodes using the service: ASTD, ARTD, ATRK, MBTK*

A-16   Alternate Routing

General Description

This feature automatically routes outgoing on or off-net calls over alternate facilities when the first-choice trunk group is busy. The user selects the first-choice route by dialing the corresponding access code, and the equipment then routes the call through alternate trunk groups only if the first is busy. The NEAX2400 IMX will also add or delete digits, when necessary, to complete the call to the desired station.

Operating Procedure

No manual operation is required.

Service Conditions

1.   No indication is provided to a user as to whether the call is routed over first-choice or subsequent choice facilities.
2.   STATION MESSAGE DETAIL RECORDING [S-10] may be used in conjunction with this feature.
3.   The same route can be included in two or more alternative groups.
4.   The total number of routes that can be included in a single route advance group is 15.
5.   The total number of routes that can be contained in the system is 255.
6.   The same route can be included in two or more alternative groups.
7.   The maximum number of trunks to be included in a route is 255.
8.   ALTERNATE ROUTING [A-16] occurs only when the dialed code accesses the first-choice trunk group in the ALTERNATE ROUTING list.
9.   The outgoing call to the trunk belonging to the different node in the FCCS network is available. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

Interactions

1.   ALTERNATE ROUTING may be affected by TOLL RESTRICTION -3/6 DIGIT [T-7]. For example, two routes of WATS provide the same service but for two separate Route Restriction Classes. Stations of one RSC will be allowed to advance to the second WATS route while the other RSC will not.
2.   If LEAST-COST ROUTING [L-5] is used, ALTERNATE ROUTING is not used. However, they may be made available in the same system.
3.   ALTERNATE ROUTING provides for no digit translation, therefore, only routes of the same type may be used. Keep this in mind when coordinating Route Advance groups consisting of DDD and FX routes.

Programming

STEP 1:   **ANPD** - Reserve a number level for trunk access. Assign for Connection Indexes Normal (N) and Hooking (H). Assign NND values in accordance with a predetermined numbering plan.
STEP 2:   **ASPA** - SRV = OGCA (Outgoing Call Advance), assign access code, count number of Routes in a Route Advance Group, and the Route Numbers in the group.
STEP 3:   **ARSC** - A station must be assigned an RSC that will allow access to the routes in the ALTERNATE ROUTING Route Advance Group.
STEP 4:   **AMND -** must be assigned for the number of digits dialed.

FCCS Programming

Refer to the NEAX2400 IMX Fusion Network System Manual.

A-17   Audible Indication Control

General Description

This feature allows the Attendant to adjust the audible indications provided to the ATTENDANT CONSOLE [A-3].

Operating Procedure

The Attendant Console is equipped with a volume control that can raise or lower the internal speaker level. The volume control is located on the left side of the Attendant Console. The audible indication may also be turned off when required.

Service Conditions

Each Attendant Console can adjust the audible indications to the ambient noise level, or completely disable this feature where necessary.

Programming

No programming is required.

A-18   Account Code

General Description

This feature is an adjunct to STATION MESSAGE DETAIL RECORDING [S-10], which provides a user with the capability to enter a cost-accounting or client-billing code (up to 10 digits) into the system before dialing a long distance number.

Operating Procedure

To enter an ACCOUNT CODE:
1. Lift the handset; receive dial tone.
2. Dial the feature access code; receive service set tone.
3. Dial the ACCOUNT CODE (up to 10 digits).
4. Receive dial tone and dial the called number.

Note: *Feature access code - Access code for ACCOUNT CODE entry will be a maximum of 3 digits.*

To enter an ACCOUNT CODE after an AUTHORIZATION CODE [A-20]:
1. Lift the handset; receive dial tone.
2. Dial the feature access code for AUTHORIZATION CODE and receive service set tone.
3. Dial the AUTHORIZATION CODE (up to 10 digits) and receive second service set tone.
4. Dial the ACCOUNT CODE and receive dial tone.
5. Dial the called number.

Service Conditions

1. The maximum number of digits for an ACCOUNT CODE is 10. There is no limitation to the number of account codes used per system.

Note: *Service set tone after the feature access code can be eliminated by System Data. System Data is common for ACCOUNT CODE, AUTHORIZATION CODE [A-20] and FORCED ACCOUNT CODE [F-7].*

2. A user can enter an ACCOUNT CODE of fewer digits than the maximum length defined and indicate the end of entry by pressing the # key.
3. The user may decide if ACCOUNT CODE follows the AUTHORIZATION CODE (per tenant basis).
4. ACCOUNT CODE dialing is also effective while in CONSULTATION HOLD [C-17]. A special dial tone is received after entering the ACCOUNT CODE.
5. Stations are assigned this feature via Class of Service.
6. ACCOUNT CODES can be output in the SMDR record for calls handled with OUTGOING TRUNK QUEUING [O-2] and OFF-HOOK QUEUING [O-7].

Interactions

1. If FORCED ACCOUNT CODES [F-7] are used, ACCOUNT CODES, by definition, are not.
2. ACCOUNT CODE is also effective while in CONSULTATION HOLD [C-17]. A special dial tone is received after the ACCOUNT CODE.
3. When using this feature on a single-line telephone or D^{term}, the user can use the SPEED CALLING-SYSTEM, GROUP, INDIVIDUAL or SPEED CALLING-ONE TOUCH (D^{term}) to complete the call.
4. ACCOUNT CODES cannot be entered by a station upon answering an incoming trunk call. The ACCOUNT CODE can be entered by the Attendant Console before extending the call to a station.

Interactions (cont'd)

5. The access code for ACCOUNT CODES is restricted to a maximum of three digits.
6. STATION MESSAGE DETAIL RECORDING [S-10] Split Billing (System Data Option): On transferred calls, or incoming calls via the Attendant Console, the ACCOUNT CODE will be recorded in all the call records.
7. When OUTGOING TRUNK QUEUING [O-2] is initiated, the ACCOUNT CODE will be recorded when the call is completed.
8. When a D^{term} user initiates the LAST NUMBER DIALED [L-6D] feature, the ACCOUNT CODE will be recorded, if previously dialed.

Programming

STEP 1: **ASYD** - System Data 1, Index 43, bit 2. Is service set tone sent after the ASPA access code for ACCOUNT CODE? 0/1: No/Yes. Assign data "1".
System Data 2, Index 3, bit 4. Is ACCOUNT CODE used with Authorization Code? 0/1: No/Yes.
System Data 1, Index 93, bit 6 = 0.

STEP 2: **ANPD** - Reserve a number level for service feature access. Assign Connection Index, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any service feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - For SRV = SSC (Service Code) SID = 41, assign the access code. Assign the number of digits in the ASPA service feature access code plus the number of digits that will appear in the ACCOUNT CODE for the NND parameter. When ACCOUNT CODE operates with AUTHORIZATION CODE [A-20], the above assignment is omitted. In ASPA, assign for SRV = SSC (Service Code), SID = 42. The NND value will include the number of digits in the ASPA service feature access code plus the number of digits that appear in the ACCOUNT CODE.

For example:
45 - 511234 - 617- 555 - 2323
2   +   6   =   8
ACC   +   ACCT CODE   =   NND

For example:
44 - 623423 - 511234 - 617 - 555 - 2323
2   +   0   +   6   =   8
ACC   +   AUTH CODE   +   ACCT CODE   =   NND

STEP 4: **ASFC** - For stations to use ACCOUNT CODE, assign a Class of Service that allows SFI27.

STEP 5: **AMND** - If Authorization Codes are used with ACCOUNT CODES, then for Tenant 0, assign the Destination Code (DC) as the first digit of all Authorization Codes and the Maximum Necessary Digits (MND) of the Authorization Codes. For the above example, a DC of six is assigned with an MND of six.

STEP 6: **AATC** - Assign when Authorization Code is used.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for service feature access. Assign Connection Index, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any service feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - For SRV = SSC (Service Code) SID = 41, assign the access code. Assign the number of digits in the ASPAL service feature access code plus the number of digits that will appear in the ACCOUNT CODE for the NND parameter. When ACCOUNT CODE operates with AUTHORIZATION CODE [A-20], the above assignment is omitted. In ASPAL, assign for SRV = SSC (Service Code), SID = 42. The NND value will include the number of digits in the ASPAL service feature access code plus the number of digits that appear in the ACCOUNT CODE.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-19 Attendant Night Transfer

General Description

When the ATTENDANT CONSOLE [A-3] is in night mode, any operator calls (dial 0 calls) are automatically routed to a predetermined night station.

Operating Procedure

To answer night call:
1. The user dials the operator call code; receives ringback tone.
2. An operator call is automatically transferred to the night answer station.
3. The calling party hears ringback tone.
4. Ringing signal is sent back to the night station.
5. The night station goes off-hook to answer the call. If necessary, this station can transfer the call to another station within the system or an outside party, using the CALL TRANSFER - ALL CALLS [C-11] feature, or transfer to an outside party, using TRUNK-TO-TRUNK CONNECTION [T-10] for incoming tie trunk calls to the operator.

Service Conditions

1. If the Night Station to which an operator call has been directed is busy, the calling party will receive a ringback tone until the Night Station becomes idle.
2. This service feature may be provided with NIGHT CONNECTION - FLEXIBLE [N-2] or NIGHT CONNECTION - FIXED [N-1] to a Night Station. The night connection station can also be assigned as a Night Station for ATTENDANT NIGHT TRANSFER.
3. If the Night Station is set for CALL FORWARDING - ALL CALLS [C-5], operator calls terminated to that station will be forwarded to the designated station.
4. The Night Station can be assigned as a station in a STATION HUNTING [S-7, 8, 9] group.
5. One Night Station per tenant is available in multi-tenant arrangements.
6. The Night Station can set CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2], CALL FORWARDING - DON'T ANSWER [C-3] to another station. When the Night Station has set CALL FORWARDING - BUSY LINE [C-2] to Attendant, the call is placed in a queue until the Night Station becomes idle. When the Night Station has set CALL FORWARDING - DON'T ANSWER [C-3] to Attendant, the call is not forwarded, and the station keeps ringing.
7. PRIORITY CALL [P-9] and OFF-HOOK ALARM [O-6] are not routed by this function.
8. The Night Station can be assigned as a station in a UCD [U-1] group.
9. If an incoming call terminates at the Night Station assigned by NIGHT CONNECTION - FIXED/ FLEXIBLE [N-1, 2], and the station has set CALL FORWARDING - ALL CALLS [C-5] to the ATTENDANT CONSOLE [A-3], the incoming call will be forwarded to a Night Station assigned by ATTENDANT NIGHT TRANSFER [A-19].
10. This operation is not applicable to LDN calls. Refer to LDN NIGHT CONNECTION [L-28] for more details.
11. Operator calls from a station or TIE LINE trunk in a satellite system (CAS [C-20]) can be transferred to the Night Station.
12. Programmed Night Stations can use CALL HOLD [C-6], CALL TRANSFER [C-10, 11] and THREE-WAY CALLING [T-2], provided these features are programmed into the CLASS OF SERVICE - INDIVIDUAL [C-15].

Service Conditions (cont'd)

13. Operator calls after Consultation Hold is not transferred to the Night Station.

14. Individual Attendant calls are not transferred to the Night Station assigned by ATTENDANT NIGHT TRANSFER.

15. The Night Station can set CALL FORWARDING - ALL CALLS - OUTSIDE [C-28], CALL FORWARDING - BUSY LINE - OUTSIDE [C-60], and CALL FORWARDING - DON'T ANSWER - OUTSIDE [C-74].

16. When a DIT call terminates to a station that has set CALL FORWARDING - ALL CALLS [C-5] to Attendant, the call will be forwarded to a Night Station assigned by this service.

17. In case a station places an incoming call on hold and calls an Attendant, this service is not activated and the station receives reorder tone (including CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2]).

18. An incoming call is transferred to a station in the same node that accommodates the calling station/trunk in the FCCS network.

19. A telephone number cannot be used (must be Physical Station Number).

Interactions

1. There can be only one ATTENDANT NIGHT TRANSFER station per tenant.

2. The ATTENDANT NIGHT TRANSFER telephone number must be programmed using the MAINTENANCE ADMINISTRATION TERMINAL [M-18] (MAT). This telephone number may be the same number as the NIGHT CONNECTION-FIXED/FLEXIBLE [N-1, N-2] number, but each must be individually assigned. PRIORITY CALL [P-9] and OFF-HOOK ALARM [O-6] calls cannot be answered by the ATTENDANT NIGHT TRANSFER station.

3. Stations CALL FORWARDING [C-2,3,5] calls to the operator (dial 0) will be directed to the ATTENDANT NIGHT TRANSFER station.

4. CALL WAITING [C-12]: This feature cannot be activated at the ATTENDANT NIGHT TRANSFER station for operator directed (dial 0) calls.

5. STATION HUNTING [S-7,8,9]: If the ATTENDANT NIGHT TRANSFER station is in a station hunting group and all stations in the group are busy, the call will wait in queue at the ATTENDANT NIGHT TRANSFER station and will be answered by the first available station in the hunt group.

6. A telephone number cannot be used (must be Physical Station Number).

Programming

STEP 1: **ASID** - Assign the Tenant, Group Number (GN) 1-7, and Function (F) = 3, ATTENDANT NIGHT TRANSFER. Assign the point of destination as a station, and assign the station number.

STEP 2: **ASGD** - Assignment is not required. All stations in the tenant group will be affected.

A-20 Authorization Code

General Description

An AUTHORIZATION CODE is a numerical code dialed by users (up to 10 digits), which will override the station CLASS OF SERVICE - INDIVIDUAL [C-15] for facility access restriction.

The AUTHORIZATION CODE can be masked on the D^{term} display if necessary using the AUTHORIZATION CODE DISPLAY ELIMINATION [A-99].

When a wrong code is received from a station/trunk, detailed information on the unauthorized user is output as System Message [26-M]. This message is Toll Fraud Report.

Operating Procedure

There are two procedures for entering an AUTHORIZATION CODE in the system database. One of the following choices will be employed:

Procedure 1
- Without an ACCOUNT CODE [A-18]:
1. Lift the handset and receive dial tone.
2. Enter the feature Access Code and receive service set tone.
3. Enter the AUTHORIZATION CODE (up to 10 digits).
4. Receive dial tone.
5. Enter the number to be called.

Note: *The feature access code for AUTHORIZATION CODE will be a maximum of three digits.*

- With an ACCOUNT CODE [A-18]:
1. Lift the handset and receive dial tone.
2. Enter the feature Access Code and receive service set tone.
3. Enter the AUTHORIZATION CODE and receive second service set tone.
4. Enter the ACCOUNT CODE [A-18] and receive dial tone.
5. Enter the number to be called.

Procedure 2 (only for LEAST COST ROUTING [L-5] calls)
- Without an ACCOUNT CODE [A-18]:
1. Lift the handset and receive dial tone.
2. Enter the number to be called.
3. If an AUTHORIZATION CODE is required, the caller will receive special dial tone.
4. If special dial tone is received, enter the AUTHORIZATION CODE (up to 10 digits) or the call is denied.

- With an ACCOUNT CODE [A-18]:
1. Lift the handset and receive dial tone.
2. Enter the feature access code for the ACCOUNT CODE [A-18] and receive service set tone.
3. Enter the ACCOUNT CODE [A-18] and receive dial tone.
4. Enter the number to be called.
5. If AUTHORIZATION CODE is required, the caller will receive special dial tone.
6. If special dial tone is received, enter AUTHORIZATION CODE (up to 10 digits) or the call is denied.

Note: *The feature access code for ACCOUNT CODE will be a maximum of three digits.*

Service Conditions

1. A maximum of 10 digits for AUTHORIZATION CODE can be dialed, and 8 digits will be registered on STATION MESSAGE DETAIL RECORDING [S-10].

2. The maximum number of AUTHORIZATION CODES is 4,000. This number is dependent upon system configuration.

   These specifications are based on the digits being assigned as follows:

1st digit:	A (when A equals a unique digit from 0 - 9)
2nd digit:	B - C (when b, c equal any two unique digits from 0 - 9)
3rd digit:	D-E (when d, e equal any two unique digits from 0 - 9)
4th digit:	F-G-H (when f, g, h equal any three unique digits from 0 - 9)
5th - 8th digits:	Any combination 0 - 9
9th & 10th digits:	Assigned using the checksum. These are for validation purposes only. See ETI: 091 for more details.

Note: *See ETI: 082 for details on AUTHORIZATION CODE/FORCED ACCOUNT CODE [F-7] assignment.*

3. Service set tone is common to AUTHORIZATION CODE, ACCOUNT CODE [A-18] and FORCED ACCOUNT CODE [F-7], but can be eliminated by System Data as required.

4. AUTHORIZATION CODE and FORCED ACCOUNT CODE [F-7] cannot be provided simultaneously for the same tenant group. System Data determines, on a per-tenant basis, whether AUTHORIZATION CODE or FORCED ACCOUNT CODE [F-7] is used.

5. AUTHORIZATION CODE dialing (Procedure 1) is also effective with CONSULTATION HOLD [C-17]. Special dial tone is received instead of dial tone after AUTHORIZATION CODE.

6. Procedure 2 is effective only for LEAST-COST ROUTING - 3/6-DIGIT [L-5] calls.

7. Stations must be assigned for Procedure 1 and 2 via CLASS OF SERVICE - INDIVIDUAL [C-5] programming in System Data.

8. In Procedure 1, System Data can determine, on a per-tenant basis, whether or not an ACCOUNT CODE [A-18] follows the AUTHORIZATION CODE.

9. Assigned AUTHORIZATION CODES can be used for the REMOTE ACCESS TO SYSTEM [R-2] function.

10. OG TRUNK QUEUING [O-2] and OFF-HOOK QUEUING [O-7] can be set according to the Service Feature Class of the user's AUTHORIZATION CODE.

11. AUTHORIZATION CODE can be recorded in the STATION MESSAGE DETAIL RECORDING [S-10] for Procedure 2.

12. A maximum of 10 digits for AUTHORIZATION CODE is not included in the information block of Condition B on the SMDR output format.

13. The registered/non-registered condition of the AUTHORIZATION CODE is not included in the information block of Condition B on the SMDR output format.

14. Attendant cannot activate this feature by Procedure 1.

Interactions

1. If FORCED ACCOUNT CODES [F-7] are used, AUTHORIZATION CODES are not used within the same tenant.

2. AUTHORIZATION CODES may be used in conjunction with ACCOUNT CODES [A-18].

3. When assigning an AUTHORIZATION CODE Restriction of 1 in AATC, the RSC must be constructed in ARSC.

4. AUTHORIZATION CODES can be unrestricted or assigned one of 15 Route Restriction Classes (RSC) - 15.

Interactions (cont'd)

5.   There are no restrictions regarding the first digit of AUTHORIZATION CODES, except what is programmed in AMND. Tenant 0 does not conflict with the PBX numbering plan. This is true when separate tenant tables are provided. If common tenant tables are used, a conflict between LCR(S) and OGC(A), used with SMDR, will occur.

Note: *The access code to the service feature AUTHORIZATION CODE must be assigned within the PBX numbering plan.*

6.   If ASPA, SRV = LCR (Least Cost Route Selection) / LCRS (Register Sender LCR) AH parameter is assigned as data "1", the request for an AUTHORIZATION CODE is determined by the ARSC assignment of the station in relationship to the chosen route.

7.   When a D^{term} user initiates the LAST NUMBER DIALED [L-6D] feature, the AUTHORIZATION CODE will be recorded if previously dialed.

8.   The AMND command determines the length of AUTHORIZATION CODES, based on the first digit of the code.

9.   AUTHORIZATION CODES are recorded by STATION MESSAGE DETAIL RECORDING [S-10], Procedure 2.

10.   AUTHORIZATION CODES cannot be entered by the Attendant Console.

11.   PEG COUNTS [P-7] of invalid AUTHORIZATION CODES are not available.

12.   AUTHORIZATION CODES can be dialed by a user when establishing a CONSULTATION HOLD [C-17] connection.

13.   For Procedure 2, LCR(S) must be provided.

Programming

Note: *There are two methods of Authorization Code assignment: Full Implementation and the Checksum methods. In the Full Implementation method, the whole AUTHORIZATION CODE is assigned in the AATC command and SYS1. Indexes 12, 13, & 14 are assigned 00H. In the Checksum method, partial assignment for each AUTHORIZATION CODE is assigned in the AATC command. The last one or two digits (programmable option) are determined by the system according to the data assignments in ASYD, SYS 1, Indexes 12, 13, & 14.*

STEP 1:   **ASYD** - System Data 1, Index 12. If Index 12 = 0, no Checksum method is used, and Indexes 13 and 14 are ignored, regardless of their assignments. Each Bit in Index 12 directly correlates to a digit in the AUTHORIZATION CODE assigned in AATC, and will determine the first digit of the Checksum method. For this example, 26428 has been assigned as the AUTHORIZATION CODE in AATC. Arbitrarily pick any Bits, 0 - 4, and flag those Bits as data 1.

Note: *Bit 0 - 7 may be used when 8-digit AUTHORIZATION CODES are assigned in the AATC command.*

	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
AATC	8	2	4	6	2
SYS, IN12	0	1	0	0	1
Designation	d4	d3	d2	d1	d0

Programming (cont'd)

System Data 1, Index 13. Each Bit in Index 13 directly correlates to a digit in the AUTHORIZATION CODE assigned in AATC, and will determine the second digit of the Checksum method. Pick any Bits 0 - 4, but not the same combination of Bits as picked in Index 12.

	Bit 4	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
AATC	8	2	4	6	2
SYS1, IN13	1	0	0	1	0
Designation	d4	d3	d2	d1	d0

System Data 1, Index 14 determines the algorithm used to calculate the last two digits of every AUTHORIZATION CODE. (Only decimal numbers may be used in this index, therefore, hexadecimal values A to F may not be assigned). System Data 1, Index 14 = X & Y, where X and Y represent any arbitrarily chosen decimal digit 1- 9, and where Y is used to determine the first digit and X is used to determine the second digit in the Checksum method. The following data, 37H, has been used for the example calculation:

	X				**Y**			
SYS1, INDEX 14	**Bit 7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**
DATA	0	0	1	1	0	1	1	1

Note: *If only one digit is to be added via the Checksum method, then Index 13 data will be OOH and Index 14.*

Example Calculation:

In AATC, 26428 has been assigned. In System Data 1, Index 12, Bits 0 and 3 were chosen; 26428

$2 + 2 = 4$.

The decimal value of Bits 0 - 3 of Index 14 = 7.

$4 + N = 7. N = \underline{3}$.

7 is obtained as any whole number greater than 4 that ends with a 7, the decimal value as determined in System Data 1, Index 14, Bits 0 to 3. In AATC, 26428 has been assigned. In System Data 1, Index 13, Bits 4 and 1 were chosen; 26428.

$8 + 6 = 14$.

The decimal value of Index 14, Bits 4 - 7 is 3.

$14 + N = 23. N = \underline{9}$.

23 is obtained as any whole number greater than 14 that ends with a 3, the decimal value determined in System Data 1, Index 14, Bits 4 - 7. The AUTHORIZATION CODE will be 26428-$\underline{39}$.

Note: *Digits 39 determined by the Checksum method will be unique to the AUTHORIZATION CODE 26428. 26428 will not be followed by any digits other than 39.*

ASYD - System Data 1, Index 43, Bit 2, is service set tone sent after AUTHORIZATION CODE. ASPA access code? 0/1: No/Yes. Assign data "1".

System Data 1, Index 43, bit 0, is AUTHORIZATION CODE required for DISA? 0/1: required/not required. Normally assign data "0."

System Data 1, Index 93, Bit 6. Are the AMND tables Separate or Common for tenants in the system? 0/1: Separate/Common. Assign data "0" for separate tables.

System Data 2, Index 3, Bit 4: Is Account Code used with AUTHORIZATION CODE? 0/1: No/Yes.

System Data 2, Index 3, Bit 5: Type of code? 0/1: AUTHORIZATION CODE/ Forced Account Code; assign data "0".

Programming (cont'd)

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B) (if applicable to any feature in this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - For SRV = SSC (Service Code), SID = 42, assign the access code. For the NND parameter, no assignment is required when AUTHORIZATION CODE operates by itself. When Account Code operates with AUTHORIZATION CODE, assign for SRV = SSC (Service Code), SID = 42. The NND value will include the number of digits in the AUTHORIZATION CODE access code, and Account Code. For example:

45	–	26428	–	623423	–	9-1-617-555-2323
(ACC)		(Auth Code)		(Account Code)		(Destination Code)
ASPA		ACC=45				NND=8 (ACC + Account Code)

ASPA - For SRV = LCR (Least Cost Route Selection) / LCRS (Register Sender LCR), if operating Procedure 2 is to be used, (dialing the AUTHORIZATION CODE after the number dialed), then assign data "1" to the AH parameter when programming the LCR(S) access code. Therefore, operating Procedure 2 is only available with LEAST-COST ROUTING - 3/6 DIGIT [L-5].

STEP 4: **ASFC** - For stations allowed AUTHORIZATION CODE, assign a Class of Service that allows SFI27.

STEP 5: **AMND** - For Tenant 0, assign the Destination Code (DC) as the first digit of all AUTHORIZATION CODES and the Maximum Necessary Digits (MND) of the AUTHORIZATION CODE. For the above example, a DC of 2 is assigned with an MND of 7. The MND value will include the digits added by the Checksum method.

STEP 6: **AATC** - Assign the TN, Digit Code (DC) (the actual code itself), the AUTHORIZATION CODE RESTRICTION (ACR) as data "1" and Service Feature Class (SFC) and Route Restriction Class (RSC). If ACR is assigned as data 2. Allowed: RSC and SFC parameters are not programmed. (SFC parameters are not operational.)

STEP 7: **LATC** - List up all the AUTHORIZATION CODES. This is the simplest way to determine what digits have been added to the system with the Checksum method. This is not required if the Checksum method is not used.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B) (if applicable to any feature in this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - For SRV = SSC (Service Code), SID = 42, assign the access code. For the NND parameter, no assignment is required when AUTHORIZATION CODE operates by itself. When Account Code operates with AUTHORIZATION CODE, assign for SRV = SSC (Service Code), SID = 42. The NND value will include the number of digits in the AUTHORIZATION CODE access code, and Account Code.

For SRV = LCR (Least Cost Route Selection) / LCRS (Register Sender LCR), if operating Procedure 2 is to be used, (dialing the AUTHORIZATION CODE after the number dialed), then assign data "1" to the AH parameter when programming the LCR(S) access code. Therefore, operating Procedure 2 is only available with LEAST-COST ROUTING - 3/6 DIGIT [L-5].

FCCS Programming (cont'd)

STEP 3:   **LATCL** - List up all the AUTHORIZATION CODES. This is the simplest way to determine what digits have been added to the system with the Checksum method. This is not required if the Checksum method is not used.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-21   Automatic Trunk Test

General Description

The AUTOMATIC TRUNK TEST capability provides a functional test on a large number of trunks at a prearranged time. The results of the test are reported at the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18]. The test can include: Ringback Tone Test, 1 KHz Test Tone and Trunk Selection Test, by having the proper test trunk termination at the distant office.

Operating Procedure

To activate the AUTOMATIC TRUNK TEST, input the route and trunk number to be tested by using the TTLC command:
1. Input the TTLC and ATTD command.
2. The system will prompt for either Immediate or Scheduled Execution of this feature. If Scheduled execution is chosen, the time when the test begins is entered via the MAT.
3. The system will ask for the route number to be tested as RT on CRT.
4. Input a route number from 1 - 255.
5. The system will ask for the trunk number(s) to be tested as TK on CRT.
6. Input the trunk number from 1 through 255. Input the trunk number(s) to be tested as the test goes from TRK NUMBER to TRK NUMBER.
7. The system will execute the trunk test based on the data input above. Test results will be printed out after all trunks have been tested.

Service Conditions

1. Additional hardware required consists of one LTST (PH-M16) card, one 8TLT card, and one line circuit and LTST cable.
2. Trunks are tested in conjunction with the connecting office through the selected trunk, on a one-at-a-time basis. The following different trunk functions can be tested on all trunks in a specified group:
    a.) trunk selection,
    b.) detection of ringback tone sent back from the connecting office after test number outpulsing,
    c.) detection of test tone (1 kHz) returned from AUTOMATIC TRUNK TEST facility if provided at the connecting office.
3. As part of the AUTOMATIC TRUNK TEST facility, an AUTOMATIC TRUNK TEST is provided at the NEAX2400 IMX to answer incoming test calls. Upon terminating the incoming test call from the originating office through a selected test trunk, the AUTOMATIC TRUNK TEST generates a 1 kHz tone to the originating office as an acknowledgment signal.
4. If scheduled execution is chosen, the time when the test begins is entered via the MAT. The MAT is dedicated to the AUTOMATIC TRUNK TEST function from the time the test is ordered until the completion of the test.

Interactions

1. A four-wire TIE Line must be provided with the AUTOMATIC TRUNK TEST. See TIE LINE ACCESS [T-3] for details of the required programming.
2. The test station must be located in the same LP as the PH-LTST circuit card.

Programming

STEP 1: **ANPD** - Reserve a number level for service feature access. Assign for Normal (N), Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - The access code for INDIVIDUAL TRUNK ACCESS must be assigned, SID = 17. Assign Connection Index, CI = (N) Normal. NND is assigned in accordance with a predetermined numbering plan.

STEP 3: **ARSC** - A Route Restriction Class (RSC) must be constructed to meet the requirements of the ATT. These requirements are to allow all outgoing and both way routes*.

STEP 4: **ASFC** - A Service Feature Class (SFC) must be constructed to allow SFI 39, Individual Trunk Selection.

STEP 5: **ASDT** - A Test Station must be assigned using the RSC and SFC previously constructed. This station will be a TEC = 3.

STEP 6: **ATTD** - Assignment of Trunk Test Data is used to order the ATT.

STEP 7: **TTLC** - This command will designate the Start route and the End route and trunk numbers. It will be these trunks that will be tested. Assign the following:

    TEST: TEST TYPE

          1.   IMMEDIATE EXECUTION

          2.   SCHEDULE EXECUTION

    RT: [a] TO [b]: Route Range

          a: Start Route Number

          b: Last Route Number

    TK: [c] TO [d]: Trunk Range

          c: Start Trunk Number

          d: Last Trunk Number

    RESULT:[e] - [f]:   Tested Route & Trunk

          e: RT at end of test

          f: TK at end of test

    START TIME: 15:10

    PRESENT TIME:15:13

Note: *Routes that are used as incoming only, such as DDD or DIT, should be programmed as bothway. Allow only the RSC of the Test station access to these routes on an outgoing basis for test purposes only.*

A-29 Authorization Code - Tie Line Incoming Routes

General Description

This service feature offers an outside party the ability to enter an AUTHORIZATION CODE [A- 20] through an incoming TIE Line trunk.

Operating Procedure

When the incoming route is restricted or when an AUTHORIZATION CODE [A-20] is always required:

1. The called number, office code, and terminal number are received by the TIE Line trunk.
2. The outside calling party hears a special dial tone.
3. Dial the AUTHORIZATION CODE [A-20].

   a.) The connection is established when the AUTHORIZATION CODE [A-20] is valid.
   b.) Busy tone is sent to the calling party when the AUTHORIZATION CODE [A-20] is invalid.

Service Conditions

1. The outside calling party must be able to generate DTMF signals to the NEAX2400 IMX when entering AUTHORIZATION CODE [A-20].
2. An AUTHORIZATION CODE [A-20] can be used for incoming calls to a uniform station or for LEAST-COST ROUTING [L-5] tandem connections.
3. CALL WAITING - TERMINATING [C-12] is available when the called station is busy, after the AUTHORIZATION CODE [A-20] is entered and validated.
4. INTER-OFFICE OFF-HOOK QUEUING [I-11] is available if the called route is busy, after the AUTHORIZATION CODE is entered and validated.
5. Through programming, the system defines the AUTHORIZATION CODE [A-20] to be required for all TIE Line incoming calls or when a restriction is encountered. This is assigned on a per-tenant basis.

Note: *There are two methods of AUTHORIZATION CODE assignment - Full Implementation and the Checksum. In the Full Implementation method, the whole AUTHORIZATION CODE is assigned in the AATC command, and System Data 1, Indexes 12, 13,& 14 are assigned 00H. In the Checksum method, partial assignment for each AUTHORIZATION CODE is assigned in the AATC command. The last one or two digits (programmable option) are determined by the system according to the data assignments in ASYD, System Data 1, Indexes 12, 13, & 14.*

Interactions

1. If FORCED ACCOUNT CODES [F-7] are used, AUTHORIZATION CODES-TIE LINE INCOMING ROUTES are not allowed within the same tenant.
2. AUTHORIZATION CODES-TIE LINE INCOMING ROUTES may be used in conjunction with ACCOUNT CODES [A-18].
3. When assigning an AUTHORIZATION CODE Restriction of 1 in AATC, the RSC must be constructed in ARSC.
4. AUTHORIZATION CODEs can be unrestricted or assigned one of 15 Route Restriction Classes (RSC 1 to 15).
5. There are no restrictions regarding the first digit of AUTHORIZATION CODEs, except what is programmed in AMND. Tenant 0 does not conflict with the PBX numbering plan.

Note: *The access code to the feature AUTHORIZATION CODE - TIE LINE INCOMING ROUTES must be assigned within the PBX numbering plan.*

Interactions (cont'd)

6. If ASPA, SRV: LCR (Least Cost Route Selection) / LCRS (Register Sender LCR) AH parameter is assigned as data "1", the request for an AUTHORIZATION CODE is determined by the ARSC assignment of the station in relationship to the route chosen. For AUTHORIZATION CODE - TIE LINE INCOMING ROUTES, no RSC is assigned against the incoming TIE Line, therefore, AUTHORIZATION CODEs are always required. Trunk connection will be determined against the RSC of the dialed code.

7. When a D^{term} user initiates the LAST NUMBER CALLED - D^{term} [L-6D] feature, the AUTHORIZATION CODE will be recorded if previously dialed.

8. The AMND command determines the length of AUTHORIZATION CODEs based on the first digit of the code.

9. AUTHORIZATION CODEs are recorded by STATION MESSAGE DETAIL RECORDING [S-10].

10. AUTHORIZATION CODEs cannot be entered by the Attendant Console.

11. PEG COUNTS [P-7] of invalid AUTHORIZATION CODEs are not available.

12. AUTHORIZATION CODEs can be dialed by a user, when establishing a CONSULTATION HOLD [C-17] connection.

13. For Procedure 2, LCR(S) must be provided.

14. For senderized TIE Lines, see UNIVERSAL SENDER [U-3]. Also, the ANND command must be programmed for senderized TIE Lines. If other services, such as, STATION MESSAGE DETAIL RECORDING [S-10] and LEAST-COST ROUTING [L-5], the AMND command will be programmed. If digit translation is required, go to the ASTP and AOSP command.

15. MISCELLANEOUS TRUNK RESTRICTION [M-3]. Restrictions to TIE trunks are determined by the Route Service Class (RSC) assigned to the AUTHORIZATION CODE.

Programming

STEP 1:   **ASYD** - System Data 1, Index 4, Bit 4 = 1: Temporary Class Conversion is required.

System Data 1, Index 12. If Index 12 = 0, no Checksum method is used, and Indexes 13 and 14 are ignored, regardless of their assignments. Each Bit in Index 12 directly correlates to a digit in the AUTHORIZATION CODE assigned in AATC, and will determine the first digit of the Checksum method. For this example, 26428 has been assigned as the AUTHORIZATION CODE in AATC. Pick any Bits, 0 - 4, and flag those Bits as data 1.

Note: *Bit 0 - 7 may be used when 8-digit AUTHORIZATION CODES are assigned in the AATC command*

	Bit 4	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
AATC	8	2	4	6	2
SYS1, IN12	0	1	0	0	1
Designation	d4	d3	d2	d1	d0

System Data 1, Index 13. Each Bit in Index 13 directly correlates to a digit in the AUTHORIZATION CODE assigned in AATC, and will determine the second digit of the Checksum method. Pick any Bits 0 - 4, but not the same combination of Bits as picked in Index 12.

Programming (cont'd)

	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
AATC	8	2	4	6	2
SYS1, IN13	1	0	0	1	0
Designation	d4	d3	d2	d1	d0

ASYD - System Data 1, Index 14 determines the algorithm used to calculate the last two digits of every AUTHORIZATION CODE. (Only decimal numbers may be used in this index, therefore, hexadecimal values A to F may not be assigned).

System Data 1, Index 14 = X & Y, where X and Y represent any arbitrarily chosen decimal digit 1- 9, and where Y is used to determine the first digit, and X is used to determine the second digit in the Checksum method. The following data, 37H, has been used for the example calculation:

	X				Y			
SYS1, INDEX 14	**Bit 7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**
DATA	0	0	1	1	0	1	1	1

Note: *If only one digit is to be added via the Checksum method, then System Data 1, Index 13 data will be 00H and Index 14, digit X (Bits 4 - 7) = 0.*

Example Calculation:

In AATC, 26428 has been assigned. In System Data 1, Index 12, Bits 0 and 3 were chosen; 26428

$2 + 2 = 4$.

The decimal value of Bits 0 - 3 of Index 14 = 7.

$4 + N = 7. N = \underline{3}$.

7 is obtained as any whole number greater than 4 that ends with a 7, the decimal value as determined in System Data 1, Index 14, Bits 0 to 3. In AATC, 26428 has been assigned. In System Data 1, Index 13, Bits 4 and 1 were chosen; 26428

$8 + 6 = 14$.

The decimal value of Index 14, Bits 4 - 7, is 3.

$14 + N = 23. N = \underline{9}$.

23 is obtained as any whole number greater than 14 that ends with a 3, the decimal value determined in System Data 1, Index 14, Bits 4 - 7. The AUTHORIZATION CODE will be 26428-$\underline{39}$.

Note: *Digits 39, determined by the Checksum method, will be unique to the AUTHORIZATION CODE 26428. 26428 will not be followed by any digits other than 39.*

ASYD - System Data 1, Index 43, Bit 2, is service set tone sent after AUTHORIZATION CODE ASPA access code? 0/1: No/Yes. Assign data "1". System Data 1, Index 93, Bit 6. Are the AMND tables Separate or Common for tenants in the system? 0/1: Separate/Common. Assign data "0" for separate tables.

System Data 2, Index 3, Bit 4: Is Account Code used with AUTHORIZATION CODE? 0/1: No/Yes.
System Data 2, Index 3, Bit 5: Type of code: 0/1 AUTHORIZATION CODE/ Forced Account Code; assign data "0".

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B) (if applicable to any feature in this level). Assign NND in accordance with a predetermined numbering plan.

Programming (cont'd)

STEP 3:   **ASPA** - For SRV = SSC (Service Code) SID = 42, assign the access code. For the NND parameter, no assignment is required when AUTHORIZATION CODE [A-20] operates by itself. When Account Code [A-18] operates with AUTHORIZATION CODE - TIE LINE INCOMING ROUTES, assign for SRV = SSC (Service Code), SID = 42. The NND value will include the number of digits in the AUTHORIZATION CODE access code, and Account Code.

Note: *Procedure 1 is not available with AUTHORIZATION CODE - TIE LINE INCOMING ROUTES. For example:*

45 -	*26428 -*	*623423 -*	*9-1-617-555-2323*
(ACC)	*(AUTH CODE)*	*(ACCOUNT CODE)*	*(DESTINATION CODE)*
ASPA	*ACC = 45*		*NND = 8 (ACC+ACCOUNT CODE)*

For SRV = LCR (Least Cost Route Selection) / LCRS (Register Sender LCR), if operating Procedure 2 is used, (dialing the AUTHORIZATION CODE after the number dialed), assign data "1" to the AH parameter when programming the LCR(S) access code. Therefore, operating Procedure 2 is only available with LEAST-COST ROUTING - 3/6 DIGIT [L-5].

STEP 4:   **ASFC** - For stations allowed AUTHORIZATION CODE - TIE LINE INCOMING ROUTES, assign a Class of Service that allows SFI 27.

STEP 5:   **AMND** - For Tenant 0, assign the Destination Code (DC) as the first digit of all AUTHORIZATION CODEs and the Maximum Necessary Digits (MND) of the AUTHORIZATION CODE. For the above example, a DC of 2 is assigned with an MND of 7. The MND value will include the digits added by the Checksum method.

STEP 6:   **AATC** - Assign the TN, Digit Code (DC) (the actual code itself), the AUTHORIZATION CODE Restriction (ACR) as data "1", and Service Feature Class (SFC) and Route Restriction Class (RSC). If ACR is assigned as data 2, Allowed: RSC and SFC parameters are not programmed. (SFC parameters are not operational.)

STEP 7:   **LATC** - List all the AUTHORIZATION CODES. This is the simplest way to determine what digits have been added to the system with the Checksum method. This is not required if the Checksum method is not used.

TIE Line Programming

STEP 8:   **ARTD** - Assign the TIE Line routes as shown below:

RT:1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:1	7 L/T	:1
8-RLP	:2	15-LSG	:1						

STEP 9:   **ATRK** - Assign the LEN, TIE Line Route Number, Trunk Number, and Tenant Number.

STEP 10:   **MBTK** - Assign the Make Idle status to the TIE Line Trunks.

STEP 11:   **ANPD**- Assign a number level for trunk access. Assign Connection Index, CI = N, H; Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated.

STEP 12:   **ASPA** - Assign the access code as assigned in ANPD. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the route number associated with this access code.

STEP 13:   **ARSC** - The Route Restriction Class (RSC) must be constructed to allow the station access to the involved routes.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign for normal (N), Hooking (H), and Busy (B) (if applicable to any feature in this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - For SRV = SSC (Service Code) SID = 42, assign the access code. For the NND parameter, no assignment is required when AUTHORIZATION CODE [A-20] operates by itself. When Account Code [A-18] operates with AUTHORIZATION CODE - TIE LINE INCOMING ROUTES, assign for SRV = SSC (Service Code), SID = 42. The NND value will include the number of digits in the AUTHORIZATION CODE access code, and Account Code.

Note: *Procedure 1 is not available with AUTHORIZATION CODE - TIE LINE INCOMING ROUTES.*

For SRV = LCR (Least Cost Route Selection) / LCRS (Register Sender LCR), if operating Procedure 2 is used, (dialing the AUTHORIZATION CODE after the number dialed), assign data "1" to the AH parameter when programming the LCR(S) access code. Therefore, operating Procedure 2 is only available with LEAST-COST ROUTING - 3/6 DIGIT [L-5].

STEP 3: **LATCL** - List all the AUTHORIZATION CODES. This is the simplest way to determine what digits have been added to the system with the Checksum method. This is not required if the Checksum method is not used.

TIE Line Programming

STEP 4: **ARTDN** - Assign the TIE Line routes as shown below:

RT:1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:1	7 L/T	:1
8-RLP	:2	15-LSG	:1						

STEP 5: **ANPDL** - Assign a number level for trunk access. Assign Connection Index, CI = N, H; Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated.

STEP 6: **ARSCN** - The Route Restriction Class (RSC) must be constructed to allow the station access to the involved routes.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-30 Automatic/Manual Intercom

General Description

This feature permits multiple D^{term} users to simultaneously call all the stations in a preassigned group, regardless of their idle/busy status. An INTERCOM member can optionally override another INTERCOM station in a two-party INTERCOM connection. This service is referred to as INTERCOM BRIDGE. INTERCOM service is separated into two types, AUTOMATIC INTERCOM (AICM) and MANUAL INTERCOM (MICM).

Automatic Intercom

All stations in the INTERCOM group are alerted simultaneously with a lamp indication. Ringing is directed to one predefined station, as in a button and buzzer INTERCOM arrangement.

Manual Intercom

All stations in the INTERCOM group are called simultaneously with a lamp indication. The calling INTERCOM station manually sends a one-second tone to the called INTERCOM signal station, as in a button and buzzer INTERCOM arrangement.

Operating Procedure

- AUTOMATIC INTERCOM

To initiate an Automatic INTERCOM call:
1. The INTERCOM station presses the AICM key and goes off-hook (within 5 - 10 seconds).
2. The INTERCOM station will hear ringback tone. A specified station rings.
3. One of the called INTERCOM group stations answers the call and is connected to the calling station.

To answer an Automatic INTERCOM call:
1. The AICM key will flash, indicating an incoming INTERCOM call. The called station will also ring according to the preassigned system parameters.
2. If the called station is already engaged in a conversation with a non-INTERCOM call, the station may press the AICM key after pressing the HOLD key. Ringing will stop.

To bridge into an Automatic INTERCOM call:
1. When two stations are engaged in an INTERCOM call, a third station in the same INTERCOM group presses the AICM key and goes off-hook.
2. A three-party conference is established. The called stations may hear a Warning Tone when the station bridges into the call. This Warning Tone is pre-assigned in System Data.

- MANUAL INTERCOM

To originate a Manual INTERCOM call:
1. A station presses the MICM key and goes off-hook (within 5 seconds).
2. The station will hear ringback tone.
3. The calling station sends a chime to the INTERCOM station by pressing the SIG key.
4. When one of the called INTERCOM stations answers the call, the calling station will be connected. Also, all stations in the group share the common talk path and can pick up an unanswered INTERCOM call.

To answer a Manual INTERCOM call:
1. The MICM key will flash, indicating an incoming INTERCOM call. The called station may also hear one second of ringing from the calling INTERCOM station.
2. If the called station in the INTERCOM group is already engaged in a conversation with a non-INTERCOM call, the station may press the MICM key after pressing the HOLD key.

Operating Procedure (cont'd)

To bridge into a Manual INTERCOM call:
1. When two stations are engaged in an INTERCOM call, a third station, belonging to the same INTERCOM group, will press the MICM key and go off-hook.
2. A three-party conference is established. The called stations may hear a Warning Tone when the station bridges into the call. This Warning Tone is preassigned in System Data.

Use of the SIG key:
1. The Manual INTERCOM Signal (SIG) key is operational at all times. An INTERCOM call is not required. If the signaled station is ringing from another call, the Manual INTERCOM signal will interrupt that ringing.

*   PRIME LINE PICK UP - D^{term} [P-13D]
    The D^{term} may be programmed to seize the incoming call on the AUTOMATIC, MANUAL, or DIAL INTERCOM [D-87] lines before the Prime Line. If two incoming calls terminate simultaneously to the Prime Line and the MICM line, when the user goes off-hook, PRIME LINE PICK UP-D^{term} [P-13D] will seize the MICM line before the Prime Line. If only the Prime Line is ringing when the user goes off-hook, PRIME LINE PICK UP-D^{term} [P-13D] will seize the Prime Line.

Service Conditions

1. Only D^{term}s can be assigned as a member of an INTERCOM group.
2. All members of the same INTERCOM group must be assigned in the same Module Group (MG).
3. Up to 16 stations may be assigned to one INTERCOM group. Each station in the INTERCOM group can be assigned as both a Manual and Automatic INTERCOM member of two different groups.
4. No more than one connection can be established at the same time in one INTERCOM group.
5. A three-party conference can be established in an INTERCOM group if INTERCOM Bridge service is available. If a fourth party tries to activate INTERCOM Bridge service, the connection will be denied.
6. The maximum number of INTERCOM groups (Automatic or Manual) in a NEAX2400 IMX PBX is 50 per MG.
7. It is possible to assign one group of stations as an AICM group, Dial INTERCOM group, and an MICM group at the same time.
8. The DISTINCTIVE RINGING [D-10] sent from an incoming AICM station takes priority over the ringing of multi-line appearances.
9. Service features normally available to multi-line appearances are not available for INTERCOM lines.
10. INTERCOM lines cannot be held with the activation of the HOLD key.
11. When MANUAL SIGNALING [M-47] is performed by a user, this ringing (one second) takes priority over any other incoming call indications from the multi-line appearance.
12. When a station is moved from one INTERCOM group to another INTERCOM group, through system commands, the AICM or MICM key on the associated D^{term} must be cancelled before the change is made.
13. Port traffic and station PEG COUNT [P-7] reports will not record the use of the INTERCOM feature.
14. Dedicated feature keys on the D^{term} cannot be used while on an INTERCOM call. Only the SPEAKER key can be used for hands-free operation.
15. FCCS link is not available for this feature.

Interactions

1. The RECALL key will not operate on an INTERCOM call.
2. THREE-WAY CALLING [T-6] must first be provided.
3. The AICD Command must be assigned before the AKYD command.
4. When assigning the PRI parameter in AKYD, the following data selections are available.

Priority PRI	1	2	3
0	Prime Line	-	-
1	Dial Intercom	Prime Line	-
3	Automatic Intercom	Prime Line	-
3	Manual Intercom	Prime Line	-
4	Automatic Intercom	Manual Intercom	Prime Line

5. No programming is required to enable the SIG key to remain active at all times.
6. The SIG key, when pressed by a calling station, will interrupt other ringing signals at the called station.
7. Hands-Free operation is available with AUTOMATIC/MANUAL INTERCOM. When an incoming call terminates to a station, by pressing the SPEAKER key, the line seized is based on the PRI assignment of the AKYD command.
8. MANUAL SIGNALING [M-47] will not operate if the DATA key has been pressed.

Programming

STEP 1:   **ASYD** - System Data 1, Index 59, Bit 7. Is AICM/MICM in service? 0/1: No/Yes.

System Data 1, Index 69, Bit 6. Is a Warning Tone required when creating a 3-Way AICM/MICM call? 0/1: No/Yes.

System Data 3, Index 3. Assign the data 20H for the burst ringing (for Automatic Intercom) if necessary.

System Data 3, Index 7. Assign the Ringing Pattern (for Automatic Intercom) if necessary.

STEP 2:   **AICD** - Assign the following data:

MG: Module Group

G-ID: Group ID Number per MG

A/M: Automatic/Manual Signaling (0/1)

    0:   Automatic

    1:   Manual

BCR: Bridge Call Restriction (0/1)

    0:   Restricted

    1:   Allowed

TN: Tenant Number

ICM STN: Intercom Station Number

SIG STN: Signaling Station Number

STEP 3:   **AKYD** - Assign a station INTERCOM Line according to the following parameters:

TN: 1

STN: Station Number

TP: Type of D$^{\text{term}}$ 0/1:

Programming (cont'd)

RING:

      0: No Ringing

      1: Ringing - All Lines

      2: Ringing on Prime Line Only

      3: Flexible Ring Assignment, enables RG parameter

PRI: Form of Line Preference (0-3)

KYN: Key Number (1-40)

KYI: Service Index

      0: Key not used

      1: Feature Key

      2: Multi-line Key

KD: Kind of Line

      0: Multi-line

      1: INTERCOM Line

ICM: Kind of INTERCOM

      0: AUTOMATIC INTERCOM

      1: MANUAL INTERCOM

      2: DIAL INTERCOM

If Manual Signaling is used, assign a programmable Line/Feature key as Type:Function: MANUAL SIGNALING KEY [60]

Note: *AKYD A/M Data must be deleted before deleting AICD.*

A-52 Account Code - Attendant

General Description

This feature provides the ATTENDANT CONSOLE [A-3] with the capability to enter an Account Code into the system after talking with a CO outgoing/incoming call.

Operating Procedure

The Attendant talks with the CO trunk call.
1. Press the START key.
2. Dial the Account Code feature access code. Service set tone is heard.
3. Dial the Account Code (up to 10 digits).
4. Dial the desired telephone number.

Service Conditions

1. The Account Code may be a maximum of 10 digits.
2. When the Account Code is entered again for the same call and station, the last code entered will be recorded on SMDR [S-10, 47].
3. Account Code dialing is available for an ATTENDANT CONSOLE [A-3] connected to a trunk.
4. The feature access code for Account Code will be a maximum of 3 digits.
5. An Attendant can enter an Account Code of fewer digits than the maximum length defined, indicating the end of entry by the pound "#" key.

Programming

STEP 1: **ASYD** - System Data 1, Index 43, bit #2. Is service set tone sent after the ASPA access code for ACCOUNT CODE? 0/1: No/Yes. Assign data "1".
System Data 2, Index 3, bit 4. Is ACCOUNT CODE used with Authorization Code? 0/1: No/Yes.
System Data 1, Index 93, bit #6 = 0.

STEP 2: **ANPD** - Reserve a number level for service feature access. Assign Connection Index, CI = N, H, B; Normal, Hooking, and Busy (applicable to any service feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - For SRV = SSC (Service Code), SID = 41, assign the access code. Assign the number of digits in the ASPA service feature access code plus the number of digits that will appear in the ACCOUNT CODE for the NND parameter. When ACCOUNT CODE operates with AUTHORIZATION CODE [A-20], the above assignment is omitted. In ASPA, assign for SRV = SSC (Service Code), SID = 42.

The NND value will include the number of digits in the ASPA service feature access code plus the number of digits that appear in the ACCOUNT CODE.

For example:

45 - 511234 - 617- 555 - 2323

2 + 6 = 8

ACC + ACCT CODE = NND

For example:

44 - 623423 - 511234 - 617 - 555 - 2323

2 + 0 + 6 = 8

ACC + AUTH CODE + ACCT CODE = NND

Programming (cont'd)

STEP 4:   **ASFC** - For stations to use ACCOUNT CODE, assign a Class of Service that allows SFI27.

STEP 5:   **AMND** - If Authorization Codes are used with ACCOUNT CODES, then for Tenant 0, assign the Destination Code (DC) as the first digit of all Authorization Codes and the Maximum Necessary Digits (MND) of the Authorization Codes. For the above example, a DC of six is assigned with an MND of six.

STEP 6:   **AATC** - Assign when Authorization Code is used.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ANPDL** - Reserve a number level for service feature access. Assign Connection Index, CI = N, H, B; Normal, Hooking, and Busy (applicable to any service feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPAL** - For SRV = SSC (Service Code), SID = 41, assign the access code. Assign the number of digits in the ASPAL service feature access code plus the number of digits that will appear in the ACCOUNT CODE for the NND parameter. When ACCOUNT CODE operates with AUTHORIZATION CODE [A-20], the above assignment is omitted. In ASPAL, assign for SRV = SSC (Service Code), SID = 42.

The NND value will include the number of digits in the ASPAL service feature access code plus the number of digits that appear in the ACCOUNT CODE.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-53   All Zone Paging

General Description

This feature provides both the Attendant and a user with dial access to multiple zone paging equipment.

Operating Procedure

To operate from a station:
1. The station goes off-hook; receives dial tone.
2. The station dials the ALL-ZONE PAGING access code.
3. Connections to multiple paging equipment are established.

Service Conditions

1. This feature allows only Paging access. PAGING TRANSFER [P-10] and MEET-ME PAGING [M-11] are not provided.
2. A maximum of seven Paging Zones can be accessed simultaneously.
3. When a user or an ATTENDANT CONSOLE [A-3] has a held station or trunk, this feature is not activated.
4. If the Paging trunk is busy, the Paging connection is not established to the busy zone. PRIORITY PAGING [P-30] access code + ALL-ZONE PAGING [A-53] access code dialing is possible. Even if this dialing operation is performed, the PRIORITY PAGING [P-30] function is not activated when the line is busy; i.e., it has the same result as ALL-ZONE PAGING access code dialing.
5. One trunk circuit is required for each PAGING ACCESS [P-1].
6. Amplifiers and speakers must be customer provided.
7. Where TENANT SERVICE [T-12] is provided, separate access codes and hardware should be provided for each tenant.
8. The ALL-ZONE PAGING access code is three digits maximum. (Outgoing Call Alternative [OGCA])
9. Both the COT card and the TLT card can be used as the paging trunk.
10. Loop signaling is the recommended signaling type.
11. This feature can be activated via FCCS.

Interactions

1. MEET-ME PAGING [M-1, 11] and ALL-ZONE PAGING [A-53] can be provided simultaneously in the same system.
2. To directly answer ALL-ZONE PAGING by the Attendant Console, the Paged party should use the INDIVIDUAL TRUNK ACCESS [I-4] feature.
3. Paging is limited to stations, Attendant Consoles, or TIE Trunks. Other parties (CO trunk calls) must have the Attendant Console or user perform the Paging operation.
4. BUSY VERIFICATION [B-3], EXECUTIVE RIGHT-OF-WAY [E-1]: These features will be denied if the Paging route has been assigned for Privacy. Verify the data in the Assignment of Route Data command, ARTD, CDN 44:PRV. If TCL is assigned as Data 8, CDN 44:PRV is not required.
5. For simple ALL-ZONE PAGING, assignments in ASFC are not required. Refer directly to the other Paging service features, such as PAGING TRANSFER [P-10].
6. The Attendant Console can dial Priority Page access code and release a station.
7. When disconnecting from a Paging trunk, the trunk becomes idle immediately.

Interactions (cont'd)

8. ALL-ZONE PAGING is not possible from CONSULTATION HOLD [C-17].

9. CALL HOLD [C-6]: A Paging trunk cannot be placed on Call Hold.

10. The D^{term} LCD display indicates BUSY when the Paging trunk is Busy. Reorder tone is returned.

11. If Priority Page is to be used with ALL-ZONE PAGING in ARTD, CDN 6:TCL must be assigned as Data 8, Page with ringback tone. SYS1, Index 73 affects the operation of Page routes assigned Page with ringback tone. Therefore, if the Priority Page is used with ALL-ZONE PAGING, then MEET-ME PAGING [M-1, 11] and PAGING TRANSFER [P-10] are not available to the system.

12. Priority Page access will not disconnect an Attendant Console engaged in a Paging trunk connection.

Programming

STEP 1:   **ASYD** - System Data 1, Index 73, Bits 0 & 1. For the Page function only, assign Data 00.

STEP 2:   **ARTD** - Assign the Paging route as shown below:

RT:1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :8 | 7 L/T | :1 |
| 8-RLP | :2 | 15-LSG | :1 |

STEP 3:   **ATRK** - Assign the LEN Number, Paging trunk, Route Number, Trunk Number, and Tenant Number.

STEP 4:   **MBTK** - Assign the Make Idle status to the Paging Trunks.

STEP 5:   **ANPD** - Assign a level for trunk access. Assign Connection Index, CI = Normal (N), Hooking (H). Assign the number of necessary digits, according to a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 6:   **ASPA** - Assign Paging Trunk route data for two or more routes, with a maximum of seven. (CI = N, SRV = OGCA (Outgoing Call [Advance]), COUNT = 2 ~ 7, RT = Paging trunk route).

STEP 7:   **ARSC** - Assign to the station, which is allowed access to Paging trunks, a Route Restriction Class (RSC) that is allowed these routes in Route Restriction Index (RRI) 2 & 3.

FCCS Programming

No unique programming is required for the FCCS network.

A-59   Announcement Service - Attendant

General Description

This feature allows the Attendant, via the ATTENDANT CONSOLE [A-3], to hear a prearranged announcement when the Attendant dials a predetermined access code.

Operating Procedure

1.   Press an idle loop key.
2.   Dial the announcement trunk access code.
3.   Listen to the message from announcement machine.

Service Conditions

1.   This feature requires one of the following hardware alternatives:

   a.) Central Office Trunk (COT) or 2W E&M Trunk and announcement machine.
   b.) Digital Announcement Trunk (DAT).

2.   The following connections are available:

   a.) multi-connection: several Attendants can connect to one announcement trunk at the same time.
   b.) single connection: one Attendant can connect to one announcement trunk at a time.

3.   This connection can be continuous until the Attendant presses the CANCEL key or can be discontinued after 30 seconds. This function can be selected on a per-announcement trunk, and per-tenant basis.

4.   Before connection to the announcement machine is made, the system can be programmed to return ringback tone. This is selected on a per-tenant and per-announcement basis.

5.   This service can be provided for a maximum of 127 announcements per-tenant, which includes the announcement trunks for:

ANNOUNCEMENT SERVICE	[A-15]
CALL FORWARDING - ALL CALLS - ANNOUNCEMENT	[C-69]
CALL FORWARDING - INTERCEPT/ANNOUNCEMENT	[C-25]

6.   ANNOUNCEMENT SERVICE is provided to FCCS nodes that have no announcement trunk using the trunk in the remote node.

Programming

STEP 1:   **ANPD** - Reserve a number level for trunk access. Assign for Connection Indexes Normal (N) and Hooking (H). Assign for NND values in accordance with a predetermined numbering plan.

STEP 2:   **ASPA** - Assign an access code to the announcement trunk. Assign SRV = ANNC (Announcement Service). The EQP number assignment should be as assigned in the AAED command. TYPE =? 0/1.

STEP 3:   **ARTD** - Assign the announcement route as shown below. Be sure to provide privacy by programming CDN 44:PRV as data "1".

   RT: 1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:1	7-L/T	:1
8-RLP	:2	15-LSG	:4						

STEP 4:   **ARSC** - Assign a Route Restriction Class (RSC) to the station that allows access to the Announcement route. Assign RSC 0 to the Attendant, and allow that RSC access to the Announcement route.

STEP 5:   **ATRK** - Assign the LEN Number, Announcement Trunk Route Number. Assign one or more trunks to a specific route used to connect to an announcement machine.

Programming (cont'd)

STEP 6: **MBTK** - Assign the Make Idle status to the announcement trunk.

STEP 7: **ARRC** - If TIE Line, DID, or REMOTE ACCESS TO PBX [R-2] connection to the Announcement Service trunk is required, allow trunk-to-trunk connection using ARI-D-RES=1 (Direct Connection is allowed.)

STEP 8: **AAED** - This command is used to assign announcement equipment.

Dead Level:

Assign:

TN: Tenant Number

EQP: (Announcement Equipment Number) = 0 (Dead Level). For example, level 8 is not assigned an announcement is returned rather than a reorder tone.

RT, TK: Route and Trunk number of the trunk connected to the announcement equipment.

Unused Number:

Assign:

TN: Tenant Number

EQP: 1 (Unused Number). For example: EXT-7836 is not in the system; an Announcement is returned rather than a reorder tone.

RT, TK: Route and Trunk number of the trunk connected to the announcement equipment.

Announcement Service:

Assign:

TN: Tenant Number

EQP: = 2 - 15

RT, TK: Route and Trunk number of the trunk connected to the announcement equipment.

C: Duration of Connection, 0/1:Disconnection occurs in 30 seconds / Connection is held until the station releases. See the requirements of the application for the announcement equipment. For Dead Level applications, data 0 is assigned.

R: Sending RBT 0/1: sending RBT/not sending RBT.

A: Answer Signal Sending, 0/1: no answer from Incoming trunk/Answer from Incoming trunk. Normally assign data "1".

M: Multiple Connection 0/1: Single Connection/Multiple Connection. Assign usually for single connection.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ALRTN** - This data must be assigned to the NCN.

Assign the logical route number to the physical route.

STEP 2: **AAEDN** - This data must be assigned to the NCN.

Assign the announcement equipment data.

UGN: User Group Number

FCCS Programming (cont'd)

EQP: Announcement Equipment Number

      0 = Dead Level

      1 = Unused Number

      2-15 = Announcement service

C: Duration of Connection

      0 = Disconnection occurs in 30 seconds

      1 = Connection is held until the station releases. See the requirements of the application for the announcement equipment. For Dead level applications, data 0 is assigned.

R: Sending RBT

      0/1 = Yes/No

A: Answer Signal Sending (Answer from the incoming trunk)

      0 = No/Yes Normally assign data "1".

M: Multiple Connection

      0/1 = Single Connection/Multiple Connection

LGRT: Logical Route

TK: Trunk Number   *Not necessary for "M = 1"

STEP 3:   **ARRCN** - This data must be assigned to the NCN.

Release the restriction between the terminating trunk and the announcement trunk.

STEP 4:   **ARSCN** - This data must be assigned to the NCN.

Release the restriction between the announcement trunk and the station.

Note: *The current command data shown is set to all nodes using the service: ASTD, ARTD, ATRK, MBTK*

A-60   Attendant-To-Attendant Calling

General Description

This feature permits an Attendant, via an ATTENDANT CONSOLE [A-3], to access a non-specific free Attendant by dialing the operator access code, or to call a particular ATTENDANT CONSOLE [A-3] by dialing an individual Attendant Identification Number.

Operating Procedure

1.   Press an idle loop key.
2.   Dial the individual Attendant Identification Number or operator call code.

Service Conditions

1.   An Attendant Identification Number must be published for each Attendant.
2.   ATTENDANT NIGHT TRANSFER [A-19] cannot be activated for calls via this feature.
3.   The operator call code should be a 1-digit number. Normally, 0 is assigned as the operator call code.
4.   No operation keys on the called Attendant Console can be used while performing ATTENDANT-TO-ATTENDANT CALLING.
5.   Only the CANCEL key on the calling ATTENDANT CONSOLE [A-3] can be used to disconnect ATTENDANT-TO-ATTENDANT CALLING.
6.   An Attendant can receive only one ATTENDANT-TO-ATTENDANT CALL at a time. An INCOMING CALL IDENTIFICATION (ICI) [I-2] key can be designated for receipt of TF: INTER-POSITION TRANSFER CALLs and ATTENDANT-TO-ATTENDANT CALLs.
7.   An Attendant cannot extend ATTENDANT-TO-ATTENDANT CALL to any other destination.
8.   With an Individual Attendant Identification Number, an Attendant Console/Desk Console within an FCCS network can be specified.
9.   When the operator call code is dialed, the call is routed to the predetermined Attendant Console designated by the ASPAL command.

Programming

STEP 1:   **ASYD** - SYS1, INDEX 9. Assign the number of Attendant Consoles / Desk Consoles.
STEP 2:   **ASPA** - Assign SRV=SSC, SID=2 (Operator Call).
STEP 3:   **ASAT** - Assign identification numbers to the specific Attendant Consoles.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ASYDN** - SYS1, INDEX 9. Assign the number of Attendant Consoles / Desk Consoles.
STEP 2:   **ASPAL** - This command must be set to all the nodes (accommodates the Attendant Console). Assign SRV = SSC, SID = 2 (Operator Call), FPC of the node that operator calls are to be terminated to.
STEP 3:   **ALGNN** - This command must be set to the NCN.

FCCS Programming (cont'd)

STEP 4:   **ASATN** - This command must be set to the NCN. Assign identification numbers to the specific Attendant Consoles.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-69 Automatic Idle Return

General Description

This feature enables a D^{term} to become idle automatically after the predetermined time when the line is released by the opposite station on-hook, etc., on hands-free or the speaker operation.

Operating Procedure

No manual operation is required.

Service Conditions

1. This service may be assigned at each terminal.
2. This service is not available when the station has a call placed on hold.
3. This service is activated when reorder tone is sent to a D^{term} individually.
4. Release timer for this service can be set on a system basis.
5. Reorder tone is connected according to System Data 1, Index 401, Bits 0 through 3. When the data is set to 0, no tone is connected. For stations not allowed this service, reorder tone is connected 30 seconds after.

Interactions

1. OFF-HOOK ALARM [O-6]: AUTOMATIC IDLE RETURN cannot be activated when OFF-HOOK ALARM has already been set. However, when the transferred station assigned by OFF-HOOK ALARM is in the LINE LOCKOUT [L-3] status or make busy status, AUTOMATIC IDLE RETURN is available.
2. When a station places the other party on CALL HOLD [C-6], CALL BACK [C-1] or ATT CAMP-ON WITH TONE INDICATION [A-1], AUTOMATIC IDLE RETURN may not be activated.

Programming

STEP 1: **ASYD** - System Data 1, Index 401, Bits 0 through 3. Assign the timer value for AUTOMATIC IDLE RETURN.

STEP 2: **ASFC** - For stations allowed AUTOMATIC IDLE RETURN, assign a Class of Service that allows SFI136.

FCCS Programming

No unique programming is required for the FCCS network.

A-78   Automatic Number Identification (ANI)

General Description

This feature automatically sends the Calling Subscriber's number to the called party after a response is received from the distant office. This feature is used for outgoing CO calls (e.g., Enhanced 911 (E911) calls) or TIE Line calls using DTMF signaling.

Operating Procedure

No manual operation is required. Automatic Number Identification (ANI) calls are placed using normal call origination procedures.

Service Conditions

1. The ANI feature for Enhanced 911 (E911) outgoing connections is available to the following connections:
    a.) call from a station by LCR, DTMF signaling.
    b.) call from an Attendant Console by LCR, DTMF signaling.
2. ANI sending number by Enhanced 911 (E911)-ANI UNIFIED NUMBER OF DIGITS [E-18] is NXX-XXXX, where:
    NXX: determined for each system
    XXXX: telephone number
3. Sending-digit patterns in Enhanced 911 (E911)-ANI UNIFIED NUMBER OF DIGITS [E-18]:
    a.) Outgoing call from a station:
        • If ANI data is assigned:
        KP-0-NXX-XXXX-ST

                                Telephone number
                                Information digit

        • If ANI data is not assigned:
        KP-2-ST

                                Information digit

    b.) Outgoing call from ATTENDANT CONSOLE [A-3]:
        • Individual ATTENDANT CONSOLE [A-3] access available and ANI data is assigned:
        KP-0-NXX-XXXX-ST

                                Individual Attendant Console
                                Information digit

        • Individual Attendant Console access not available and ANI data is assigned:
        KP-0-NXX-XXXX-ST

                                ANI sending number
                                Information digit

        • ANND data is not assigned or is invalid:
        KP-1-ST

                                Information digit

4. An independent route is required for an Enhanced 911 (E911)-ANI interface.
5. It takes some time for a speech path to be established after a calling subscriber number has been sent out to the remote office through the Enhanced 911 (E911)-ANI interface.
6. A Direct Distance Dialed (DDD) seizure tone is not sent after the digits have been sent out.

Service Conditions (cont'd)

7. Other interactions are the same as for DTMF signal dialing.
8. FCCS link is not available for this feature.

Programming

STEP 1: **ARTD** - Assign route class data to the route number of the outgoing trunk.

RT:1

| 1-OSGS | :7 | 2-ONSG | :4 | 3-ISGS | :7 | 4-INSG | :4 | 15-LSG | :5 |
| 19-EANI | :1 | | | | | | | | |

STEP 2: **AAND** - Assign ANI sending digit as per the route number and the number of digits of the caller's number.

When AT = 0:

RT: Route Number

AT: 0/1 = STA outgoing / ATT outgoing

CC = 0

KT: Expansion of Station Number Length*
    0/1=OFF/ON

STNL: Station Number Length (When KT = 1)

SKIP: Call Originator Digit to be Skipped

ADD: ANI Information Additional Number of Digits

DC: ANI Sending Number

Note: *When 0 has been assigned to parameter KT and when the Station Numbers used consist of a different number of digits, outgoing routes must be divided on the basis of each number of digits.*

When 1 has been assigned to parameter KT, outgoing routes need not be divided, even if the Station Numbers used consist of a different number of digits.

A-82   Automated Attendant

General Description

This feature allows a user outside the NEAX2400 IMX to access the system via a public or private network without the Attendant or user's assistance. After or during an announcement, the outside user may originate calls over any or all of the PBX facilities.

Operating Procedure

1. The calling party (public or private network) lifts handset; receives dial tone.
2. The calling party dials Automated Attendant number; receives ringback tone through either the public/ private network. Announcement asking the caller to dial the desired telephone number is provided.
3. The calling party dials the desired telephone number; receives ringback tone (if not busy or restricted).
4. The called party answers.

Service Conditions

1. The incoming routes from the CO lines for AUTOMATED ATTENDANT cannot be used for REMOTE ACCESS TO SYSTEM [R-2].
2. When a Ringdown incoming call encounters registers all busy status, call termination is retried approximately one second later. The call will wait until one of the receivers becomes available, but will not be placed in a queue.
3. System Data can select to provide or not provide the first announcement for an incoming call terminated to AUTOMATED ATTENDANT. If first announcement sending is not provided, the calling party hears ringback tone from the NEAX2400 IMX.
4. When a Ringdown incoming call encounters announcement trunk busy/blockout for the first announcement status, the calling party hears ringback tone from the originating office until the call is connected to the announcement trunk. When a TIE Line incoming call encounters announcement trunk busy/blockout for the first announcement status, the system returns dial tone.
5. In the following cases, either redial or forced release after the second announcement may be selected in System Data:
   a.) When the calling party has dialed a dead number. (When dead number announcement is provided, it takes priority over the second announcement.)
   b.) When the calling party has abandoned dialing.
   c.) When the connection is restricted:
      • The called station is restricted from incoming trunk connection.
      • The calling party has dialed an access code for trunk call origination and encounters digit restriction. When a trunk call has encountered an access code restriction, the second announcement is provided (digit reception ready), and the calling party can redial.
      • The calling party has dialed an access code for trunk call origination and encounters an inter-digit pause time-out connection restriction.
      • The calling party originates a trunk call and encounters trunk busy status.
   d.) When the called station does not answer (the threshold value is 30 seconds), except when CALL FORWARDING - DON'T ANSWER [C-3] is set on the called station.
   e.) When the called station is busy, except when CALL FORWARDING - BUSY LINE [C-2] is set on the called station.

Service Conditions (cont'd)

6. During the first or second announcement, the system can receive DTMF signals. However, when a DTMF signal is included in the recorded announcement, the announcement stops (first digit reception). Then, after providing the second announcement, either redial or forced release is selected (inter-digit time-out).

7. After the first or the second announcement, the system does not return any tone until register time-out.

8. For the first or second register time-out, either transfer to Attendant, or forced release can be selected by the System Data. However, forced release is executed, regardless of the above-mentioned system selection, for CO lines for which release cannot be monitored. Call termination to the Night Transfer station and TAS connection is not available.

9. To provide or not provide the second announcement can be selected in System Data. When second announcement sending is not designated, the system sends out a dial tone. The call is single/multiple connected to the second announcement trunk, and ringback tone is not returned before sending the second announcement.

10. When a call encounters announcement trunk busy/blockout status in a single connection to the second announcement, the system returns a dial tone.

11. TANDEM SWITCHING as AUTOMATED ATTENDANT is a service for trunk-to-station connection, tandem connection is not available. When tandem connection or AUTHORIZATION CODE [A-20] service is required, this service is activated by changing the incoming routes to that of REMOTE ACCESS TO SYSTEM [R-2].

12. If the calling party does not dial the desired telephone number after the first announcement, the call can be transferred to the Attendant after a predetermined period of time (prepause time-out), and the calling party receives ringback tone. However, if the Attendant is not available, reorder tone is returned.

13. When an incoming call has terminated to a station, the following services are available:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
CALL PICKUP	[C-7, C-30]
CALL WAITING - TERMINATING	[C-12]
STATION HUNTING	[S-7, S-8, S-9]

14. When an incoming call has terminated to a station, CALL FORWARDING - DON'T ANSWER [C-3] is not available.

15. A PA-4DATA (DAT) card is required for this service.

16. The length of the announcement depends on the key setting of the PA-4DATA circuit card. In case of multiple connection, it is fixed at 30 seconds. In case of single connection, it may be the length of the actual message (including pause) to a maximum of 64 seconds. When the message ends, the announcement trunk is released.

17. The second announcement is not provided to the ISDN trunk.

18. Since the announcement is provided for a maximum of 30 seconds, the message recording should be completed within 30 seconds, unless a single connection is used.

19. This feature is available for stations in the FCCS network only.

Programming

STEP 1: **ASYD** - System 1, Index 7, Bit 5:

Processing on unobtainable number/dead level dialed, dialing abandoned by calling station, connection restriction, and called station unanswered.

Programming (cont'd)

0/1:   Redial is prompted by sending the second announcement/forcible disconnect

Bit 6: Processing on PB Receiver Time-out.

0/1:   Forcible disconnection/Transfer to ATT

Index 128: Assign the timer value of Register Prepause Time.

Index 139: Assign the value of No Answer Timer (C.F. - All Calls, Call Back, etc.)

Index 246, Bit 4:

Process of incoming calls (Ringdown) after they encounter their 1st, 2nd PB receiver time-out in a sequence of Automated Attendant.

0/1:   Forced Release/Transfer to ATT

STEP 2:   **ARTD** - Assign the route data of the trunk for AUTOMATED ATTENDANT.

RT:1

1-OSGS   :2   4-INSG   :2 or 7   6-TCL :4

Assign the route data of the Digital Announcement Trunk.

STEP 3:   **ATRK** - Assign the trunk data of both the trunk for AUTOMATED ATTENDANT and the Digital Announcement Trunk. Also, assign the trunk data of PB Receiver (RT = 906).

STEP 4:   **MBTK** - Cancel the Make-Busy of the trunk assigned by ATRK.

STEP 5:   **ACSI** - Assign CSI = 5 (Remote Access to PBX) to the route and trunk number of the trunk for AUTOMATED ATTENDANT.

STEP 6:   **ACFR** - Assign the restriction release of TSFI = 7 (Remote Access to PBX)

STEP 7:   **AAED** - Assign the Announcement Equipment for AUTOMATED ATTENDANT.

Announcement Equipment for sending the first announcement.

(EQP = 34, C = 0, R = 1, A = 1, M = 0)

Announcement Equipment for sending the second announcement **(Note 1)**

(EQP = 35, C = 0, R = 1, A = 1, M = _) **(Note 2)**

Note 1: *When ASYD, SYS1, INDEX 7, b=5 =0, assign the Announcement Equipment to send the second announcement.*

Note 2: *When selecting M (0 = Single / 1 = Multi) for the second announcement, take the following into account:*
Do not assign the second announcement in the same route as the first announcement when Multi (M = 1) is selected. In the case of Multi (M = 1), the DAT trunk is forcibly released when 30 seconds have elapsed from the beginning of the second announcement. Note that the connection of the DAT trunk still remains even if the playback reaches the end of the recorded announcement. In the case of Single (M = 0), the DAT trunk is automatically released when the playback reaches the end of the recorded announcement.

STEP 8:   **ASTD** - Assign the following state translation data:

STM = 0, STS = 2, ST = 1 (allows a tandem connection inclusive of COT)

STM = 4, STS = 0, ST = 1 (remote access to PBX in service)

STEP 9:   **ARRC** - Cancel the restrictions on the trunk route for AUTOMATED ATTENDANT and the route for the Digital Announcement Trunk.

ICRT: (Trunk route for AUTOMATED ATTENDANT)

OGRT: (Route for Digital Announcement Trunk)

ARI-D-RES

STEP 10: **ARAC** - Assign an idle station number as the Remote Access Code.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARTDN** - Assign the route data of the trunk for AUTOMATED ATTENDANT.

RT:1

1-OSGS   :2   4-INSG   :2 or 7   6-TCL:4

Assign the route data of the Digital Announcement Trunk.

STEP 2: **AAEDN** - Assign the Announcement Equipment for AUTOMATED ATTENDANT.

Announcement Equipment for sending the first announcement.

(EQP = 34, C = 0, R = 1, A = 1, M = 0)

Announcement Equipment for sending the second announcement

(EQP = 35, C = 0, R = 1, A = 1, M = _)

STEP 3: **ARRCN** - Cancel the restrictions on the trunk route for AUTOMATED ATTENDANT and the route for the Digital Announcement Trunk.

ICRT: (Trunk route for AUTOMATED ATTENDANT)

OGRT: (Route for Digital Announcement Trunk)

ARI-D-RES

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-98   Answer Hold - Attendant

General Description

This feature enables an Attendant to answer an incoming call by pressing the ANSWER key or flashing ICI key. If the Attendant is already engaged in a call, pressing one of these keys places the first call on Hold and automatically connects the second one. Use of ANSWER key or ICI key speeds call handling, while Answer Hold prevents accidental call dropping.

Operating Procedure

To answer a call while engaged in a two-party call:
1. While the Attendant is engaged in a station/trunk call, another call terminates at the Attendant Console.
2. The Attendant presses the ANSWER key or ICI key; the original call is placed on Hold (MUSIC ON HOLD [M-7]). The LED of the ATND key goes out and that of HOLD key lights.
3. The Attendant is connected to the second party. (ATND key LED lights.)

Note: *When the ANSWER key is pressed, the calls connected to the Attendant will be placed on Hold (if there is an idle loop).*

To answer a call while engaged in a three-way call:
1. While engaged in a three-way call, another call terminates at the Attendant Console.
2. The Attendant presses the ANSWER key or ICI key; currently lit LEDs of the ATND key and the ANSWER key go out. The TALK key LED goes out and that of the SRC key lights. The parties formerly connected to the Attendant remain connected to each other.
3. The LEDs of ICI key and the ATND key light. The Attendant is connected to the incoming call.

Service Conditions

1. Activation of this service is determined in individual (two-party call or three-way call) System Data.
2. When the Attendant is engaged in a two-party call:
    a.) If there is no idle loop when the Attendant presses ANSWER key or ICI key, the party currently connected to the Attendant will be placed on Hold (MUSIC ON HOLD [M-7]), but the Attendant cannot answer the second call.
    b.) When the number of available Attendants exceeds the number of incoming calls, the status of each Attendant Console will be one of the following:
        (1) The connected call will be placed on Hold, and the Attendant will be connected to the second call.
        (2) The connected call will be placed on Hold, and the attendant console will become idle.
        (3) No change.
    c.) ATTENDANT LOOP RELEASE [A-6] is not available when the call is placed on Hold.
3. When the Attendant is engaged in a three-way call:
    a.) If there is no idle loop when the Attendant presses ANSWER key or ICI key, one of the following occurs:
        (1) When both the calling and the called parties are trunk and when the called party has not answered yet, the call is held on the loop and the Attendant cannot answer the next incoming call.
        (2) When called party has already answered the call, the Attendant can answer the next incoming call (the previous call is not held on the loop).
    b.) ATTENDANT LOOP RELEASE [A-6] is available when the call is placed on hold.

Service Conditions (cont'd)

    c.) when the number of available Attendants exceeds the number of incoming calls, the status of attendant console will be one of the following:

       (1) The Attendant will be released from the current call and will be connected to the next incoming call.

       (2) The Attendant will be released from the current call and attendant consoles will be idle.

       (3) No change.

4. AUTOMATIC RECALL [A-8] is available for a call held by the Attendant.

Programming

ASYD - System 1, Index 246, Bit 0: Answer Hold - Attendant from a two-party connection. 0/1 = Out/In Service

System 1, Index 246, Bit 1: Answer Hold - Attendant from a three-way connection. 0/1 = Out/In Service

Assign the data of the Attendant Console by referring to the Assignment Procedure of [A-3] ATTENDANT CONSOLE.

FCCS Programming

No unique programming is required for the FCCS network.

A-99   Authorization Code Display Elimination

General Description

This feature eliminates AUTHORIZATION CODE [A-20] and FORCED ACCOUNT CODE [F-7] from being displayed on the D^{term} for security purposes.

Operating Procedure

Procedure 1

(Access code for auth code/forced account code) + (SST) + (auth code/forced account code) + (DT) + (OG access code) + (OG code)

Dial: (DT) - 10 + (SST) - 1234 + (DT) - 9 - 753 - 7000

Display on D^{term} is: 10XXXX97537000

XXXX = authorization code/forced account code

Procedure 2

(OG access code) + (OG code) + (SPDT) + (auth code/forced account code)

Dial: (DT) - 9 - 753 - 7000 + (SPDT) - 1234

Display on D^{term} is: 97537000XXXX

XXXX = authorization code/forced account code

Service Conditions

1. When the station dials the AUTHORIZATION CODE/FORCED ACCOUNT CODE, Xs appear on the display.

2. LAST NUMBER CALL [L-6] and SAVE AND REPEAT - D^{term} [S-24D] features keep dialed information, but display Xs when these feature keys are pressed.

3. SPEED CALLING SYSTEM - D^{term} [S-3D] feature keeps dialed digits, and all digits are displayed at the same time when this feature key is pressed.

4. ACCOUNT CODE [A-18] is displayed on D^{term}.

5. This feature applies only to the calling party's D^{term}.

6. This feature applies for the following dialing procedures:

Procedure	Before Dialing	After Dialing
OG access without held party	Yes	Yes
OG access with held party	Yes	Yes
Attendant	No	No

7. If the network is connected by a trunk (including a CCIS trunk), and AUTHORIZATION CODE/ FORCED ACCOUNT CODE is requested at the other node, this function is not applied.

8. The calling party needs to confirm SPDT/SST if AUTHORIZATION CODE/FORCED ACCOUNT CODE is required. The first digit of AUTHORIZATION CODE/FORCED ACCOUNT CODE may or may not be recognized as AUTHORIZATION CODE/FORCED ACCOUNT CODE, if the inter-digit timing immediately before the AUTHORIZATION CODE/FORCED ACCOUNT CODE is too short.

Programming

ASYD - Assign SFI 137 = 1 to the originating terminal.

A-105 Attendant Overflow

General Description

This feature allows incoming trunk calls directed to the ATTENDANT CONSOLE [A-3] to overflow to a predetermined station. The trunk call will ring the Attendant for a pre-programmed time period before overflowing to the destination station.

Operating Procedure

1. An incoming trunk call arrives at the ATTENDANT CONSOLE [A-3].
2. The Attendant is busy or on another call for longer than the assigned timer (i.e., the incoming caller has waited for 30 seconds or longer).
3. The incoming call is directed to the destination overflow station.

Service Conditions

1. This feature is provided for all incoming ringdown trunk and Direct Inward Dialing [D-8] (DID) Listed Directory Number [L-24] (LDN) trunk calls directed to the ATTENDANT CONSOLE [A-3].
2. This feature is available only while the system is in Day mode (not available for Night mode).
3. For DIRECT-IN TERMINATION [D-7] (DIT) calls, this feature is available when the receiving station has set CALL FORWARDING-ALL CALLS/BUSY LINE [C-5, 2] to the Attendant.
4. For DID call termination, this feature is available for LDN, intercept, and forwarded calls to the Attendant, using CALL FORWARDING-ALL CALLS/BUSY LINE/DON'T ANSWER [C-5, 2, 3].
5. This feature is available for DID calls routed to the Attendant via CCIS.
6. This feature is not available for calls to be transferred outside using the following features:

CALL FORWARDING-ALL CALLS-OUTSIDE	[C-28]
CALL FORWARDING-BUSY LINE-OUTSIDE	[C-60]
CALL FORWARDING-DON'T ANSWER-OUTSIDE	[C-74]
LDN NIGHT CONNECTION	[L-28]
NIGHT CONNECTION-OUTSIDE	[N-17]

7. This feature is also not available for INDIVIDUAL ATTENDANT ACCESS [I-6], which allows a call to be directed to a particular Attendant Console.
8. This feature is not available concurrently with ATTENDANT NIGHT TRANSFER [A-19].
9. The overflow period, after which the call is transferred, is set in System Data.
10. When the designated station used for ATTENDANT OVERFLOW has set CALL FORWARDING-DON'T ANSWER [C-3] to the Attendant or an outside number, the incoming caller will be directed to TRUNK ANSWER ANY STATION [T-8] (TAS) after the timer expires. If the incoming trunk is restricted from connecting to the TAS circuit, the caller will continue to ring at the designated station.
11. FCCS link is not available for this feature. The overflow station and the Attendant must be in the same node.

Interactions

1. All routes and trunk numbers must be assigned for ringdown trunks that are to be terminated to the Attendant Console and that require overflow.
2. For DID trunks, the LDN will be terminated to the Attendant Console with overflow capabilities when CSI = 4.

Interactions (cont'd)

3. ATTENDANT OVERFLOW and DELAY ANNOUNCEMENT ATTENDANT [D-114] are mutually exclusive features.

Programming

STEP 1: **ASYD** - System Data 1, Index 140. This determines the timer value at which the incoming call will overflow to the destination station.

System Data 2, Index 15, Bit 1. Set to data "1". This enables the feature to be assigned via each tenant.

STEP 2: **ACSI** - Assign CSI = 4, Night Connection. This enables the overflow station to be assigned.

STEP 3: **ACFR** - Allow TSFI 2, 3, and 5 to the CCI type of trunks that will overflow. Also TSFI 5 to CCI 8, TSFI 2 to CCI 6.

A-121　　　　Add On Conference - 8 Party

General Description

This service allows the 8-party conference to be established any time by any conferee by use of the 8-party conference trunk.

Operating Procedure

To establish an 8-party conference:
1.　Station A calls Station B; Station B answers.
2.　Station A (or B) switch hook flashes (or press TRANSFER key) and dials Station C's number; Station C answers.
3.　Station A (or B) who had dialed Station C's number presses CONF key; the three-party conference is established.
4.　Station A (B, or C) switch hook flashes (or press TRANSFER key) and dials Station D's number; Station D answers.
5.　Station A (B, or C) who had dialed Station D's number presses CONF key; the four-party conference is established. In the same way, any user connected to the 8-party conference trunk can establish the 8-party conference by switch hook flash and pressing of the CONF key.
6.　When one of the conferees (the user or the outside party) releases, another member can be added to the conference by the same operation.
7.　Single phone can add other conferee by switch hook flashes and dials telephone number, then switch hook flashes again.
8.　When one D^{term} station and multiple outside parties (trunks) are connected to the 8-party conference trunk, when the D^{term} user presses RETAIN CONF key and goes on-hook, the conference by the outside parties (trunks) can be continued. In the other cases as when the station is not a D^{term}, RETAIN CONF key is not assigned, or there is only one outside party connected, the conference trunk is released automatically. When conference has multiple outside parties (trunks), only D^{term}s can keep multiple outside parties still in conference, but it releases by pressing RETAIN CONF key.

Service Conditions

1.　The 8-party conference trunk will be treated as a station, and will have an intra-office route number.
2.　The 8-party conference circuit card can be assigned to any slot.
3.　A minimum of 1 CFTB-L is needed for this feature. A maximum of 20 8-party conference trunk circuit cards (SPA-CFTB-L) can be installed per system.
4.　The 8-party trunk assigned in a different tenant from the general station/trunk, and the connection between the 8-party trunk and the other station/trunk is to be restricted (inter tenant restriction).
5.　This service can coexist in the same system with the Three-Way Calling service using the three-way conference trunk built in the line group = 21–23 of the odd numbered unit, and the current 8-party conference service. If a station is assigned SFI 131, that station will use the 8-party conference trunk even for a 3-party conference.
6.　Any one of the station, central office line, tie line, CCIS line, or the ISDN network subscriber can be the conference member.
7.　The Attendant Console cannot be a member of the conference. Pressing the CONF key will be invalid.
8.　The stations connected to the 8-party conference trunk can call the conferees separately any time.

Service Conditions (cont'd)

9. When all of the eight ports of the 8-party conference trunk are filled with the conferees, no other conferee can be added to the conference.

10. The station/trunk which is connected to the 8-party conference trunk can release from the conference at any time.

11. An incoming call from the ringdown trunk, where release cannot be detected, cannot be connected to the 8-party conference trunk.

12. Assign non-effective hold trunk check in system data for release of ineffectively held trunks at routine diagnosis to prevent the 8-party conference trunk being held up.

13. When all the trunks and stations connected to the 8-party conference trunk release, the conference trunk becomes free. Until then, the same trunk cannot be used by another group for an 8-party conference.

14. On the LCD display of the D^{term} stations, the number of the stations and trunks attending the conference is shown as STA:3, TRK:2 on the upper line. (Name Display service is not available.)

15. The 8-party conference trunk cannot be called from a station, outside party, or the Attendant Console (reorder tone is sent out when attempted).

16. The following services are not available for the stations/trunks connected to the 8-party conference trunk:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
BROKERAGE HOT LINE	[B-6]
BUSY VERIFICATION	[B-3]
CALL WAITING - TERMINATING	[C-12]
CALL WAITING - ORIGINATING	[C-31]
NAME DISPLAY	[N-28]
PRIVACY RELEASE	[P-18]

17. In the following cases, 8-party conference service via CONF key is not available:

    a.) when the service is not set in system data

    b.) when the service is restricted

    c.) when the 8-party conference trunk is not assigned, not accommodated, or busy.

    In the cases above, if Three-Way Calling service is available and the three-way conference trunk is provided, this service is provided by pressing the CONF key. The LCD of the D^{term} connected to the conference trunk shows CONF when using Three-Way Calling service.

18. When a station connected to the 8-party conference trunk transfers a call to another station and the operating station goes on-hook whether transferred station answers or not, the 8-party conference trunk recalls to the operating station.

19. The 8-party conference trunk cannot be assigned as the destination of CALL FORWARDING - ALL CALLS [C-5] / - BUSY LINE [C-2] / - DON'T ANSWER [C-3] service.

20. ADD-ON CONFERENCE - 8 PARTY [A-121] cannot be activated by a single line phone.

21. When the conferee presses the RETAIN CONF key, the LCD display shows as follows for five seconds depending on the connection:

    a.) one station and multiple outside parties RETAIN CONF

    b.) one station and one outside party REST

    c.) multiple stations REST

    Only in the case "a" above, the conference status is retained.

22. When a D^{term} user who has Retain Conference presses the RETAIN CONF key a second time, Retain Conference is cancelled. At that time, the LCD of the D^{term} indicates DISCONNECT CONF and the 8-party conference trunk is released after the stations go on-hook.

23. When only two parties (station/station, station/outside party, outside party/outside party) are connected to the 8-party conference trunk, when either one of the parties releases, the conference trunk is released.

Service Conditions (cont'd)

24. The station setting Retain Conference can only cancel Retaining Conference or go on-hook. (No other operation is available.) When the station goes on-hook, the RETAIN CONF lamp turns off.

25. In case of trunk call origination, the billing is performed against the station which originated the trunk call until the trunk releases. Therefore, there may be several billing messages sent for the same time for the same station.

26. During the 8-party conference, the CONF lamp remains lit.

27. When this service is activated in an FCCS network, hardware conditions for connection trunks are as shown below:

PA-24DTR	SP-3010 Issue No. 13 or later (SW13-8: OFF)
PA-30DTT	SP-3012 Issue No. 8 or later

Programming

STEP 1: **ASYD** - System data 1, index 92, bit 4 = 0/1. This enables tenant-to-tenant route restriction service.

System data 1, index 94, bit 0 = 0/1. This enables tenant-to-tenant restriction service.

System data 1, index 432, bits 0-3. Assign the first digit of the pilot number used for this service.

System data 1, index 432, bits 4-7. Assign the second digit of the pilot number.

System data 1, index 433, bits 0-3. Assign the third digit of the pilot number.

System data 1, index 433, bits 4-7. Assign the fourth digit of the pilot number.

System data 1, index 434, bits 0-3. Assign the fifth digit of the pilot number.

Note: *1 through 5 digits may be used; assign the bits accordingly. If a digit is not used, assign those bits as "0". If a bit is used for 0, see the following example:*
System data 1, index 432 is A7,
System data 1, index 433 is 00,
System data 1, index 434 is x0.

STEP 2: **ASFC** - For the SFC used by the CFTB-L or SP-1114 on PA-CFTB, assign SFI 32 = 1.

For the SFC used by stations that will use this feature, assign SFI 131 = 1. If you do not want certain people to use this feature, make sure that SFI 131 = 0 in the SFC that the phone is programmed to.

STEP 3: **ASDT** - assign stations to each level of the CFTB. Assign TEC = 27 for each level and ensure that the CFTB levels are assigned in a separate tenant and separate SFC from non-CFTB levels.

STEP 4: **ASHC** - Assign a STATION HUNTING - CIRCULAR group for stations programmed to LEN levels 1 through level 7 of the PA-CFTB circuit card(s). For more details, see the figure on the following page.

Programming (cont'd)

STEP 5: **ASHP** - When the system accommodates multiple PA-CFTB circuit cards, assign a STATION HUNTING - TERMINATING group for the stations programmed to LEN level 0 of each PA-CFTB circuit card. For more details, see the figure below:
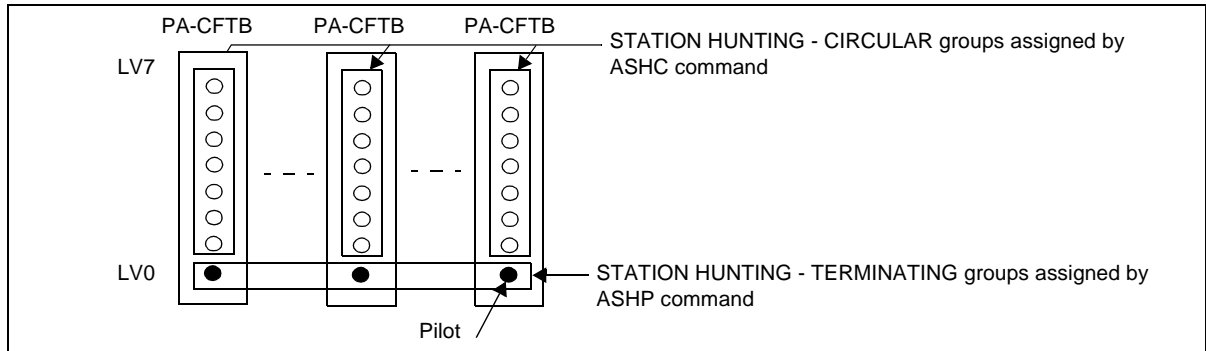
STEP 6: **AKYD** - assign FKY 83 to any D^{term}s that require the use of the Retain Conference feature.

STEP 7: **ADSL** - Assign SN=3 (STATION BUSY) and FKY=13 (THREE-WAY CALLING;CONF).

Assign FKY=83 (RETAIN CONFERENCE; RETAIN) to any D^{term} which require the use of the RETAIN CONFERENCE feature.

This command is required for assigning the function to each soft key.

STEP 8: **ARSC** - assign Restriction data between routes and the RSC used by the CFTB.

STEP 9: **ATNR** - assign restriction data between tenants.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDL** - This data must be assigned to the node set Add On Conference - 8 Party.

System Data 1, Index 527, bit 4 = 1

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-125   Analog Caller ID (Class SM)

General Description

This feature allows the D^{term} to display calling party's number and/or name on the LCD when a call from analog C.O. line is terminated. In addition, the calling number can be output as a part of SMDR information.

Caller ID information can be displayed on an analog telephone with a display device or the display of a D^{term}.

Operating Procedure

No manual operation is required.

Service Conditions

1. This service is available when an incoming call from C.O. line is terminated directly to a station.
2. First ringing pattern for this service is 2-seconds ON and 4-seconds OFF. After that, ringing pattern assigned by system data is applied.
3. The calling numbers received by using this feature or current MF/ISDN feature may be output to the SMDR expanded area.
4. A calling number cannot be received during conversation.
5. The calling numbers which may be added to SMDR output are the dial code only. The calling name is not added.
6. This service is not provided for the Attendant Console.
7. This service is not applied to SAVE AND REPEAT [S-24D] service. The calling number received may not be saved.
8. A maximum of 256 calls per LP are available at the same time.
9. When an incoming call is sent as a test, the LCD does not display both the number and the name.
10. Display conditions are shown below. Also, the ID display of ISDN service has the same conditions.
    a.) It is assigned by system data in which display of the calling number or name has priority on termination. When the calling name has priority, the LCD displays:

Calling Number XXXXXXXX	* 1
(Time Display)	
Caling Name	* 2

    When the calling number has priority, the LCD displays:

Calling Name XXXXXXXX	* 1
(Time Display)	
Caling Number	* 2

    * 1 - In ISDN service, the sub-address is displayed. When the D^{term} does not receive the data pertaining to the sub-address, nothing is displayed.
    * 2 - If the prior display is not assigned by system data, the other is displayed.
    b.) The calling number and name may be exchanged by pressing the feature key, according to the following conditions:
    * When my line is prime line, displays may be exchanged during termination or conversation.
    * When my line is not the prime line, displays may be exchanged only during conversation.

Service Conditions (cont'd)

    c.) When the received numbers of a calling number and calling name exceed the display field, the decision to put the digits to the right or left may be chosen in system data. An "*" is indicated on the exceeded digit position.

    d.) The display is flashing during termination. It is lit during conversation.

    e.) The following are examples of displays when the received digits of a calling number and name exceed the display field:

1234567*	Calling Number
(Time Display)	
ABCDEFGHIJKLMNOPQRSTUVW*	Calling Name

OR

*4567890	Calling Number
(Time Display)	
*DEFGHIJKLMNOPQRSTUVWXYZ	Calling Name

OR

ABCDEFG*	Calling Name
(Time Display)	
12345678901234567890123*	Calling Number

OR

*TUVWXYZ	Calling Name
(Time Display)	
*8901234567890123456789 0	Calling Number

Programming

See also TRUNK LINE APPEARANCE [T-23] for information on how to accommodate C.O. line on a D^{term} line/feature key.

STEP 1:   **ASYD** - System Data 1, Index 241, Bit 6. 0/1=When the length of Caller ID exceeds the limit, only the former/latter part of data appears on the LCD.

           System Data 1, Index 390, Bit 0. Caller ID display pattern on the LCD. 0/1=Calling Number/Calling Name has priority.

           System Data 1, Index 390, Bit 2. When using D^{term} 2-line LCD, the lower LCD can be used for displaying Caller ID. 0/1=Out/In Service.

Programming (cont'd)

When Calling Number is output to SMDR, the following expanded format is used:

				1	2		96	104		129	130	131	162
S T X	O	!	K	H / I / J			OFFICE CODE OF CALLED PARTY (FOR CCIS)	AUTH CODE		A		ANI NO.	Z	E T X

H = Origination
I = Termination
J = Station-to-Station

A = ANI Information

Z = End of SMDR Information

Identifier:
0 = Output is not available
1 = Displayed
2 = Display denied
3 = Service is not available
4 = Origination from public pay phone
Note: *For 0, 2 and 3, the ANI number is not output.*

System Data 1, Index 288, Bit 5. Expanded SMDR Output for SMDR A Apparatus. 0/1=Out/In Service.

System Data 1, Index 290, Bit 5. Expanded SMDR Output for SMDR B Apparatus. 0/1=Out/In Service.

System Data 1, Index 292, Bit 5. Expanded SMDR Output for SMDR C Apparatus. 0/1=Out/In Service.

System Data 1, Index 294, Bit 5. Expanded SMDR Output for SMDR D Apparatus. 0/1=Out/In Service.

System Data 1, Index 296, Bit 0. Output of Calling Number (ANI information). 0/1=Out/In Service. Assign data "1".

System Data 1, Index 300, Bit 0. 0/1=-/Billing information is sent to the Main Node in Expanded SMDR format in the case of CENTRALIZED BILLING - CCIS [C-55].

STEP 2: **ASFC** - Assign a Service Feature Class that allows SFI 14 to stations allowed STATION MESSAGE DETAIL RECORDING [S-10].

Assign a Service Feature Class that allows SFI 146 to analog stations allowed this service.

STEP 3: **ARTD** - Assign route class data for the C.O. trunk.

15-LSG :3   50-DPLY :1
When Calling Number is output to SMDR:
10-SMDR :1

STEP 4: **ATRK** - Assign trunk data for the C.O. trunk.

STEP 5: **MBTK** - Cancel the make busy of the C.O. trunk.

STEP 6: **AKYD** - Assign Call ID Change Display key. Assign Type:Function: [113].

STEP 7: **ADSL** - Assign ID CHG key; SN=4 (Communication in Progress), FKY=113 (Call ID Change Display).

This command is used for assigning a function to each soft key on the D^{term}.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:　**ARTDN** - Assign route class data for the C.O. trunk.

15-LSG　　:3　　　　50-DPLY　　:1

When Calling Number is output to SMDR:

10-SMDR　:1

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

A-127 Analog Caller ID - Station

General Description

This feature allows a called station to receive CALLER ID information (time, calling number and name) from Central Office when a call terminates via the analog COT. The calling number received from the ISDN network, MF-ANI information received from Central Office with the MF feature or the calling telephone number within the PBX can change into CALLER ID information and be sent to the called station.

This feature is also provided for the analog station equipped with the function of receiving the calling number. This function is called Analog Caller ID - Station by Modem Sender.

Operating Procedure

No manual operation is required.

Service Conditions

1. Message types of CALLER ID information sent to a called station are as follows:
   - When SFI:153=0
     04H: Calling Number Delivery Information (for Calling number)
   - When SFI:153=1
     80H: Call Setup (for Calling number and name, or reason not to inform.)
2. When a call terminates via another station, the number of the intermediate station will be sent. After that station hangs up, the number of the originating party will not be sent: CALLER ID of the first termination is only sent.
3. If a calling number exceeds 10 digits, the first or last exceeded digits will be deleted according to system data.
4. This service is not provided for the OPX Lines.
5. This service is not available in boss-secretary service.
6. The first ringing upon termination is 2-second ring and 4-second silence. A ringer pattern is provided from the second ringing.
7. The following are service conditions for current Analog Caller ID - Station:
   a.) This service is provided for analog stations.
   b.) This service is not provided if a call does not terminate directly on a line, such as termination using Call Pickup, or Executive Right-of-Way.
   c.) This service is not provided when a calling party is the Attendant Console.
   d.) **(Series 7400 software enhancement)** This service is provided for a station transferred call.
8. The following are service conditions for Analog Caller ID - Station by Modem Sender:
   a.) This service is provided for analog stations equipped for receiving the calling number.
   b.) Message types of Caller ID information sent to a called analog station are as follows:
      - Message type   - 04H: Calling Number Delivery Information (for calling number)
      - Message type   - 80H: Call Setup (for calling number, name, or reason not to inform)
      - Parameter   - 02H: Calling line DN parameter
                       - 04H: Reason for absence of calling DN Parameter
                       - 07H: Name
                       - 08H: Reason for absence of name
   c.) When an incoming call terminates from a station, the telephone number is displayed as the calling number.

Service Conditions (cont'd)

d.) When the self-address is assigned to the calling ISDN terminal, the self-address is sent. In this case, the sub-address number is not sent.

e.) This function is not available even if the analog telephone has the function to restrict sending the calling number on each conversation.

f.) The function to restrict the calling number notification is available only when a user originates a trunk call. To set this function, the user should dial the number according to the preassigned numbering plan of the PBX.

g.) This service is not available when the terminating station has set the following features, since an incoming call does not terminate to a line when these features are activated:

CALL PICKUP GROUP	[C-7, 7D]
CALL WAITING - TERMINATING	[C-12]
CALL WAITING - ORIGINATING	[C-31]
DUAL STATION CALL	[D-156]
EXECUTIVE RIGHT-OF-WAY	[E-1]

In addition, an analog station equipped with the function of receiving the calling number cannot be used as a boss station for Boss-Secretary service.

h.) The timer for timeout of the Call Forwarding - Don't Answer service starts when the process of Caller ID Notification is completed.

i.) The maximum number of calls simultaneously terminating to analog stations per system includes the number of incoming calls terminating by this service.

j.) Some telephones can only display the station/telephone number that is assigned using the numeral digits 0-9. Thus, the station/telephone number, excluding "*" or "#", is recommended.

k.) The following messages are displayed when the reason for restricting Caller ID Notification is received:
   P : Privacy Security
   O： Outside Area where Service is not provided

l.) This feature is available only for the analog station programmed SFI168 in ASFC.

m.) When the current Analog Caller ID - Station service is also assigned to a station, it has priority over this service.

n.) The preassigned additional number or deleted number is not available when the call is equipped with Analog Caller ID.

o.) When the Name Display data is assigned to the calling party in station-to-station calling, the calling party's name is also sent to the called party. Note that only 1 byte character data can be effective in this case. Since the name data is sent without confirming whether the proper character is used or not, characters that are not proper may cause abnormal status to the system.

p.) When all the sender trunks are busy, the calling number cannot be notified.

9. To activate the Analog Caller ID - Station by Modem Sender service in the FCCS network, the sender trunk for sending Modem signal (RT=937, ATRK) should be accommodated in the all nodes where the stations providing the service is installed.

Interactions

1. The current Analog Caller ID - Station service and the Analog Caller ID - Station by Modem Sender can be used in a system. However, both of them cannot be used by one station. One feature must be specified by system data.

2. The following circuit cards are required for this service:
   • PA-8RSTY
   • PA-16LCBY **(Note)**

Interactions (cont'd)

Note: *16LCBY and 8RSTY must be used together for Caller ID.*

3.   Only one route number can be assigned for each sender and register in a PA-8RSTY card.

Programming

ASFC - Assign a Service Feature Class that allows SFI 146 to analog stations allowed this service.

When using Release 7 software or later:

STEP 1:   **ASFC** - Assign the service feature class to each analog station.

DAY/NIGHT:D/N

TN: Tenant Number

SFI: 168=1 (Analog Caller ID Station by Modem Sender is available)

When Calling Number Delivery (Message Type - 04H) is notified

SFI: 153=1

STEP 2:   **ATRK** - Assign the sender trunk data. **(Note)**

RT: 937

Note: *RT 937 must be programmed in level 4, 5, 6, or 7 for FSK Sender.*
Level 0, 1, 2, or 3 may be used for RT 902 or PB/MF Sender.

FCCS Programming

No unique programming is required for the FCCS network.

B-2 Busy Lamp Field - Flexible

General Description

This feature provides the Attendant with visual indications of either busy, idle or LINE LOCKOUT [L-3] conditions for a particular group of stations via a designated lamp field on the Attendant Console or the dial pad on the desk console.

Operating Procedure

1. Press an idle loop key.
2. Key in thousands (where applicable) and hundreds digit(s) of the desired group.

   Example:
     a.) To monitor the stations 200 to 299, dial "2".
     b.) To monitor the stations 2200 to 2299, dial "22".
3. Lamp status indicates a busy (light steady), idle (no lamp), or LINE LOCKOUT [L-3] (lamp flashing) condition.

   Example: If ANPD and ASPA are assigned:
     a.) ANPD 3 = NND 2
     b.) ASPA 30 = STN
   To monitor STN 3000 to STN 3099, key in 300.

Note: *For the Desk Console, dial all digits, except the last digits of the desired number. The Desk Console indicates only 10 stations status at once with the last digits.*

Service Conditions

1. For 3-digit telephone numbers, the digital display will show the first digit of the group being monitored (100's, 200's, etc.). Lamps 00-99 will provide visual indication of the status of each station in the selected group.
2. For 4-digit telephone numbers, the digital display will show the first two digits of the group being monitored (1100's, 1200's, etc.). Lamps 00-99 will provide visual indication of the status of each station in the selected group.
3. For an Attendant Console, the Busy Lamp Field (BLF) display is applicable for 2 through 5-digit station numbering plans.
4. For a Desk Console, the Busy Lamp Field (BLF) display is applicable for 3 through 5-digit station numbering plans.
5. Operation of the BLF supersedes the display of the CALL WAITING LAMP [C-13] feature.
6. The lamp indication for LINE LOCKOUT [L-3] is an LED flashing at 60 pulses per minute.
7. LINE LOCKOUT [L-3] lamp indication can be provided by system database programming.
8. The BLF does not indicate busy/idle status for stations located in CCIS satellite offices.
9. For the FCCS network, when assigning a telephone number to a station, the telephone number is displayed for the station.
10. For the FCCS network, the Busy Lamp Field (BLF) display is applicable for 2 through 5-digit Physical Station Number / telephone number.

Note: *For a Desk Console, BLF display is applicable for 3 through 5-digit station numbering plans.*

Interactions

1. CENTRALIZED ATTENDANT SERVICE (CAS) [C-20]: At the CAS main location, when the ATTENDANT CONSOLE [A-3] is handling a call from a CAS branch over a Release Line Trunk (RLT), the BLF will give no indication of busy/idle status of branch location stations.

2. The BLF indicates the station status after the hundreds digit is keyed in by the Attendant.

3. A 2-digit display indicator is used to display the thousands and hundreds digit of the displayed stations.

Programming

STEP 1: **ASYD** - System Data 1, Index 16, bits 0 - 5. Place 1 - 6-digit station numbers in service. Assign 1FH, BLF - FLEXIBLE is available for 3 and 4-digit station numbering plans only.

System Data 1, Index 70, bit 1. Assign as data "0". For stations in Line Lockout, flash on BLF.

System Data 2, Index 7, bit 0. Assign as data "1". Enables BLF on a tenant basis.

STEP 2: **ANPD** - For the level(s) reserved for station numbering, assign BLF in service. Assign Connection Index, CI = N, H; Normal (N) and Hooking (H). NND value is assigned in accordance with the numbering plan.

Note: *Consideration should be given when the system has various digits stations (2 digit STN, 3 digit STN, etc.) whose first digit is the same number. In this case, only a station whose (NND) values are the same in ASPA and ANPD can be displayed in the BLF on ATTs. The remaining stations which do not meet the above condition cannot be displayed.*

FCCS Programming

Programming for the IMX-U System

(Series 7400 software enhancement) BLF data can be transmitted to all the Local Nodes by the circuit card DLMX (PA-PC94). This transmission is via the DLKC circuit card in the IMX-U System. For more detailed information, see the NEAX2400 IMX Command Manual and the appropriate circuit card manual.

Programming for the DLMX (PA-PC94) Circuit Card

STEP 1: **ASYD** - SYS1 INDEX 70, b1: Flashing Display of Line Lockout on Attendant Console BLF

0/1: In service/Out **(Note 1)**

Note 1: *Unify the data to all the Local Nodes.*

SYS1 INDEX 257, b0=1: DLKC card is to be mounted. **(Note 2)**

Note 2: *Assign as SYS1 INDEX 257, b0=1 to the ISW and each Local Node.*

SYS2 INDEX 7, bit0=1: Busy Lamp Field – Flexible [B-2] is in service. **(Note 3)**

Note 3: *Assign as SYS2 INDEX 7, b0=1 to each Local Node.*

STEP 4: **ASYDL** - SYS1 INDEX 946. Assign the FPC No. of the Local Node which the DLMX card is mounted. **(Note 4)**

Note 4: *Assign the FPC No. to the ISW and each Local Node.*

STEP 5: **ATRK** - Assign the trunk data of DLMX.

TK: 938 (DLMX)

LENS: Assign LV7 of odd-number Group (G) **(Note 5)**

Note 5: *Assign the trunk data to the Local Node which the DLMX card(s) is/are mounted.*

STEP 6: **MBTK** - Assign the Make Idle status to the trunk which DLMX card(s) is/are mounted.

STEP 7: **ANPDN** - Assign the Busy Lamp Field Display Activation on an Attendant Console (BLF).

1ST DC: Dial Code (Station Number)

BLF = 1 (BLF is in service)

B-3   Busy Verification

General Description

When an Attendant places a call to a busy station, this feature allows the Attendant to break into the connection. When this feature is initiated from the console, the system sends a Warning Tone to the stations before establishing a three-party conference. Additionally, the Attendant Monitor Function can be activated depending on system data.

Operating Procedure

To activate BUSY VERIFICATION:
1.   Press an idle loop key and dial the desired telephone number; receive the busy tone.
2.   Press the BV key; two burst tones are sent to the connected parties. Attendant may now monitor or join the connection.
3.   Press the RELEASE key to disengage.

To monitor the call in progress before entering the busy connection - from a station:
1.   Press an idle loop key and dial the desired telephone number; receive the busy tone.
2.   Press the BV key. The Attendant can monitor the connection. (BV lamp lights.)
3.   Press the TALK key. A Warning Tone is sent, and a three-way call is established (TALK lamp lights). If the called station is a D^{term}, the LCD displays OPE BV for 5 seconds, then CONF.
4.   Press the CANCEL key to disengage; Attendant returns to the incoming call. The originally connected parties remain connected.

Service Conditions

1.   This feature may be used during station-to-station and station-to-trunk calls (COT, FX, WATS, CCSA, or TIE LINES).
2.   BUSY VERIFICATION cannot be established to a station when the station is:
   a.) Dialing
   b.) Listening to a tone
   c.) Being rung
   d.) Being connected to an Attendant loop
   e.) Activating a conflicting feature such as:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1][A-45]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
CALL HOLD	[C-6]
CALL TRANSFER	[C-10] [C-11, 11D] [C-50] [C-54]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, -17D] [C-58]
DATA LINE SECURITY	[D-12] [D-66]
DATA PRIVACY ON DEMAND	[D-17] [D-68]
DIAL ACCESS TO ATTENDANT	[D-2] [D-71]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]

Service Conditions (cont'd)

        THREE-WAY CALLING   [T-2, T-2D]

        VOICE CALL - D^{term} [V-2D]

    f.) Modem pooling connection

    g.) Data Call through Data Adapter

    h.) Data Call through Data Module

    i.) The calling station is connected to an Attendant Loop

Note: *In each of the above instances, the Attendant will receive reorder tone.*

3.   Before the Attendant is added to an existing connection, a two-burst tone is applied to alert the parties of the Attendant's presence. Sending this tone burst can be suppressed by System Data.

4.   BUSY VERIFICATION and ATTENDANT LOCKOUT [A-5] are mutually exclusive features.

5.   This feature can be denied on DICTATION ACCESS [D-3] and PAGING ACCESS [P-1] connections by assigned System Data Assignment.

6.   PAGING ACCESS [P-1]: BUSY VERIFICATION will be denied on a station line that is connected to paging equipment. If the initiating paging station goes on-hook and is waiting for a callback call from the paged party, BUSY VERIFICATION will be allowed on that station line.

7.   DICTATION ACCESS [D-3]: BUSY VERIFICATION will be denied on a station that is connected to a dictation trunk. Attempts to busy-verify a station on this connection will result in a reorder tone being sent to the Attendant.

8.   STATION HUNTING (Circular [S-7], Secretarial [S-8], or Terminal [S-9]): If an Attendant attempts to busy-verify a busy station line in a Hunt Group, the call will hunt. That is, STATION HUNTING will take precedence over BUSY VERIFICATION. If all stations in a Hunt Group are busy, BUSY VERIFICATION takes place on the dialed station.

9.   The BUSY VERIFICATION feature is assigned to Attendant Consoles only.

10.   ATTENDANT LOCKOUT [A-5]: The Attendant is prevented from busy-verifying a station line that is connected to a loop held on the ATTENDANT CONSOLE [A-3]. Because the LOCKOUT feature applies only to calls held on the Attendant Console loop, BUSY VERIFICATION of those station lines will be denied, and the Attendant will hear the reorder tone.

11.   CALL BACK [C-1]: When Station A is busy and Station B has activated this feature toward Station A, and then goes on-hook to wait for Station A to become idle, both stations can be busy-verified. When Station A goes on-hook and the CALL BACK [C-1] process has begun, neither station can be busy-verified until the talking connection between Stations A and B has been established. The Attendant will hear the reorder tone when BUSY VERIFICATION attempts are made during the denied period.

12.   CALL FORWARDING (ALL CALLS [C-5], BUSY LINE [C-2]): If an Attendant attempts to busy-verify a (busy or idle) station line that has the CALL FORWARDING (ALL CALLS [C-5], BUSY LINE [C-2]) feature activated to another station line, the call will be forwarded to the other line, and BUSY VERIFICATION will proceed as if the Attendant had attempted to busy-verify the other line. If an Attendant attempts to busy-verify a (busy or idle) station line that has the CALL FORWARDING (ALL CALLS [C-5], BUSY LINE [C-2]) feature activated to the Attendant, BUSY VERIFICATION will be denied.

13.   CALL HOLD [C-6]: When two stations have established a talking connection, and one of the stations has a third party on hold, the two talking parties can be verified, but the party on hold cannot be busy-verified.

14.   CALL WAITING [C-12, 31]: If an Attendant attempts to busy-verify a station line that already has a waiting call, BUSY VERIFICATION will be denied. Also, if the Attendant attempts to busy-verify a station line that is waiting for another line, the BUSY VERIFICATION attempt will be temporarily denied, because such waiting calls always involve either a connection to the Attendant position or the calling party is listening to the ringback tone.

Service Conditions (cont'd)

15. UNIFORM CALL DISTRIBUTION (UCD) [U-1]: The Attendant can busy-verify a station line that is part of a UCD group. That is, the BUSY VERIFICATION call will not hunt. If BUSY VERIFICATION is attempted on the group number, UCD hunting will take precedence over BUSY VERIFICATION.

16. It is determined in system data to allow monitoring of the busy connection before establishing a three-way call.

17. The Attendant cannot monitor the call when activating the INDIVIDUAL TRUNK ACCESS [I-4].

18. When the Attendant presses the TALK key and enters a three-party call, the Attendant cannot return to the monitor mode.

19. While monitoring, only the operations via the TALK key or CANCEL key are valid.

20. If one of the originally connected parties disconnects while the Attendant is monitoring the call, the reorder tone is sent to the Attendant and the other party. The third party will remain on hold.

21. While being monitored, the switch hook flashed by the originally connected party is invalid.

22. The billing during the monitor mode is continued from the status before monitoring.

23. The node accommodating the Attendant Console requires CFT function for FCCS service.

Interactions

1. This feature is allowed whenever the destination telephone set is engaged in any state other than:
    a.) a three-way connection,
    b.) a PRIVACY [P-14D, 15D] feature is activated,
    c.) connected to a route programmed to have Line/Trunk, Privacy, CDN 44:PRV,
    d.) listening to a tone (dial tone, reorder tone, service set tone, busy tone, ringback tone).

2. With the ATTENDANT OVERRIDE [A-7] feature, the following trunk types may be verified busy or idle status:
    a.) one-way incoming trunks,
    b.) one-way outgoing trunks,
    c.) bothway trunk.

3. Trunks in a station-trunk connection, TRUNK-TO-TRUNK CONNECTION [T-10], and ATTENDANT CONTROLLED CONFERENCE [A-2] can be verified when busy.

4. ATTENDANT LOCKOUT [A-5]: The Attendant is prevented from verifying a busy station line which is connected to a loop held at the Attendant Console. Since the LOCKOUT feature applies only to calls held on an Attendant Console loop, BUSY VERIFICATION of those station lines will be denied and the Attendant will hear the reorder tone.

5. CALL FORWARDING - ALL CALLS [C-5], BUSY [C-2]: If an Attendant attempts to busy-verify a (busy or idle) station line that has the CALL FORWARDING (ALL CALLS [C-5], BUSY [C-2]) feature activated to another station line, the call will be forwarded to the other line, and BUSY VERIFICATION will proceed as if the Attendant had attempted to busy-verify the other line. If an Attendant attempts to busy-verify a (busy or idle) station line that has the CALL FORWARDING (ALL CALLS [C-5], BUSY [C-2]) feature activated to the Attendant, BUSY VERIFICATION will not be denied.

6. CALL HOLD [C-6]: When two stations have established a connection and one of the stations has a third party on hold, the two talking parties can be busy verified, but the party on hold cannot be busy verified.

7. DATA LINE SECURITY [D-12]: An Attendant cannot busy-verify a busy station line that has a DATA LINE SECURITY [D-12] Class of Service. If BUSY VERIFICATION is attempted, the Attendant will hear the reorder tone.

Interactions (cont'd)

8. CALL WAITING [C-12, 31]: If an Attendant attempts to busy-verify a station line that already has a Waiting call, BUSY VERIFICATION will be denied. Also, if the Attendant attempts to busy-verify a station line that is waiting for another line, the BUSY VERIFICATION attempt will be temporarily denied because such waiting calls always involve either a connection to the Attendant position or the calling party is listening to a ringback tone.

9. UNIFORM CALL DISTRIBUTING (UCD) [U-1]: The Attendant can busy-verify a station line that is part of a UCD group. That is, the BUSY VERIFICATION call will not hunt. If BUSY VERIFICATION is attempted on the group number, UCD hunting will take precedence over BUSY VERIFICATION.

10. DATA PRIVACY - CCIS [D-67, 68]: To prevent interruption of data transmission, the Attendant cannot busy-verify a station line when this feature is used.

11. DICTATION ACCESS [D-3]: Dictation Access trunks cannot be busy-verified by the Attendant. The Attendant will hear the reorder tone.

12. PAGING ACCESS [P-1]: Paging Access trunks cannot be busy-verified by the Attendant.

Programming

STEP 1:   **ASYD** - System Data 1, Index 60, bit 5. Is the two-burst Warning Tone to be disabled? 0/1: No/Yes.

System Data 1, Index 68, bit 4. Trunk Select (TKSL) key must be enabled. Assign data "1".

System Data 1, Index 179, bit 4. Is ATT Monitor Service - in service? 0/1: No/Yes.

System Data 1, Index 158. Timer between tones.

System Data 1, Index 4, bit 4. Enable Busy Verification service.

System Data 2, Index 0, bit 3. Attendant Override service. Assign as data "1".

System Data 2, Index 0, bit 4. Attendant Busy Verification service. Assign as data "1".

STEP 2:   **ATRK** - Assign these LEN's as Route 909, Digital Conference Trunk. LEN consists of:

Group and Level numbers for the Digital Conference Trunk are 210, 213, 216, 221, 224, 227, 232, and 235.

STEP 3:   **ASFC** - for stations subject to ATTENDANT OVERRIDE [A-7], assign a Class of Service that allows SFI 4, EXECUTIVE RIGHT-OF-WAY [E-1], and SFI 11, ATTENDANT CAMP-ON WITH TONE INDICATION [A-1].

STEP 4:   **ARTD** - When a station is connected to a trunk, CDN 44:PRV of the route must be assigned as data "0" for ATTENDANT OVERRIDE [A-7] to be allowed.

FCCS Programming

No unique programming is required for the FCCS network.

B-5D Boss - Secretary Override - D^term

General Description

This feature enables a secretary to voice announce a call to a boss when he is currently on his My-Line.

Operating Procedure

- Station 200 - Boss
- Station 201 - Secretary

Boss is currently connected to Trunk A. Call at Trunk B, intended for 200, reroutes to Station 201.

1. Secretary answers station 201.
2. Secretary asks the caller to hold and presses CALL HOLD [C-6D] feature key or TRANSFER key and CALL HOLD code (CALL WAITING - ORIGINATE [C-31] key); secretary hears dial tone.
3. Secretary presses SPEED CALLING - ONE TOUCH [S-26D] key on which the BOSS-SECRETARY OVERRIDE Tone Code pause (recall key) and the boss' telephone number (200) has been programmed.
4. Secretary hears ringback tone; boss receives 3 bursts of Camp-on Tone (to distinguish it from the single burst for an Attendant Camp-on).

Boss' Response Options

Case 1:

1. Boss presses the ANSWER key and converses with secretary (Trunk A is placed on hold).
2. Secretary hangs up, boss speaks with Trunk B.

Case 2:

1. Boss presses the ANSWER key and converses with secretary (Trunk A is placed on hold).
2. Boss presses 201 key and converses with Trunk B; secretary hears reorder tone.
3. Boss presses ANSWER to reconnect with Trunk A; Trunk B is placed on hold.

Case 3:

1. If boss does not respond to 3 bursts of waiting tone, secretary presses RECALL key to resume talking to Trunk B.

Case 4:

1. Boss presses the ANSWER key and converses with Secretary (Trunk A is placed on hold). Boss denies the call.
2. Boss presses TRANSFER to return to Trunk A. Secretary can also press TRANSFER key, so that both boss and secretary return to original callers.
3. Secretary is returned to Trunk B.

Service Conditions

1. Secretary must have a D^term for this operation. Boss may have a single line telephone, but since no line key or CALL HOLD key is available, the boss's switch hook flashes to alternate between Trunk A and Trunk B. To disconnect from one trunk, the boss hangs up. The remaining trunk recalls to the single-line set. The held party hears ringback tone.
2. If boss and secretary have multi-line operations, they must have each other's My-Line appearing on their D^term.
3. This service feature is available only when the boss and the secretary are on their own My-Lines.
4. This feature must be allowed in CLASS OF SERVICE - INDIVIDUAL [C-15] via system data programming.
5. BOSS-SECRETARY OVERRIDE is denied if the boss is connected to the ATTENDANT CONSOLE.

Service Conditions (cont'd)

6. If provided in the system, the held caller will hear MUSIC ON HOLD [M-7].
7. The call is recorded in SMDR for the secretary's station (e.g., 201).
8. This feature is denied to a UCD [U-1] group.
9. BOSS-SECRETARY OVERRIDE [B-5] overrides DO NOT DISTURB [D-11D] if set for the boss.
10. BOSS-SECRETARY OVERRIDE [B-5] is denied under the following conditions:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10] [C-11, 11D] [C-50] [C-54]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-17D] [C-58]
DATA LINE SECURITY	[D-12] [D-66]
DATA PRIVACY ON DEMAND	[D-17] [D-68]
DIAL ACCESS TO ATTENDANT	[D-2] [D-71]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL - D^{term}	[V-2D]

11. FCCS link is not available for this feature.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, bits 0 & 1. Consultation Hold allowed or denied. 00: denied; 01: Originating and Terminating Calls allowed, Tandem Call Denied; 11: All calls allowed.

System Data 2, Index 10. Assign data 10H to enable CALL WAITING ORIGINATING [C-31] service.

STEP 2: **ANPD** - Reserve a number level for service feature access. Assign for a Connection Status Index of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL HOLD set, SID = 1 for Connection Status Index (CI) of Hooking (H). Assign an access code to CALL WAITING - ORIGINATING [C-31] service. SRV = SSC (Service Code), SID = 5. Assign for a Connection Index of Normal (N) and Busy (B).

Assign an access code to BOSS-SECRETARY OVERRIDE Tone, SRV = SSCA (Service Code Appendix), SIDA = 53. Assign for Connection Status Index of Normal (N) and Hooking (H).

STEP 4: **ASFC** - Assign station to receive BOSS-SECRETARY OVERRIDE [B-5] a feature class that allows the following SFI's: 5, 6, 10, 11, and 51. Assign these SFI's as data "1".

Programming (cont'd)

STEP 5:   **AKYD** - Optional. Assign to a programmable Line/Feature key a CALL HOLD [C-6] key. Assign Type:Function:CALL HOLD [10]. (The operation of TRANSFER key and access code is also available.) Optional. Assign to a programmable Line/Feature key a CALL WAITING - ORIGINATING [C-31] key. Assign Type:Function:CALL WAITING [4]. (The operation of TRANSFER key and access code is also available).

STEP 6:   **ADSL** - Assign SN=5 (Consultation Hold) and FKY=10 (Call Hold;C-Hld) and FKY=4 (Call Waiting; CW)

This command is required only for assigning the function to each soft key.

B-6 Brokerage - Hotline

General Description

This feature provides a HOT LINE [H-1] function for D^{term}.

Operating Procedure

1. Lift handset or press the SPEAKER key.
2. Press sub-line key associated with the predetermined desired station. The destination station is automatically dialed; Ringback tone is heard, the destination station answers.
3. After completion of conversation, hang up or press the SPEAKER key.

Note: *To make another HOT LINE [H-1] call instantaneously, press another sub-line key without going on-hook and off-hook.*

4. If the desired station is busy, while hearing busy tone, press the EXECUTIVE RIGHT-OF-WAY (OVER) key; receive warning tone. The caller can override the call in progress.

Service Conditions

1. One of the line/feature keys must be assigned as a My Line.
2. A station Hot Line (calling party) cannot belong to a Hunt [S-7, 8, or 9] or UCD [U-1] group.
3. Single line station or virtual lines (SOFTWARE LINE APPEARANCE [S-33]) can be assigned as a BROKERAGE HOT LINE destination.
4. When a Hot Line call is made from a D^{term}, the D^{term}'s display shows the destination telephone number but doesn't show the SERVICE DISPLAY [S-25] of hot line.
5. This hot line feature is applicable for intra-office connection within the system.
6. My Line of a D^{term} cannot be assigned as a Hot Line feature button.
7. Destinations must be stations or an ATTENDANT CONSOLE [A-3] of the system.
8. When a destination is an ATTENDANT CONSOLE [A-3], the Hot Line call terminates as an ATND call.
9. ATTENDANT CAMP-ON [A-1], EXECUTIVE RIGHT-OF-WAY [E-1], CALL WAITING [C-31] and CALL BACK [C-1] can be prohibited to the hot line connection through CLASS OF SERVICE - INDIVIDUAL [C-15].
10. When a destination station is busy, STEP CALL [S-13], CALL BACK [C-1], CALL WAITING [C-31], or MESSAGE REMINDER - D^{term} [M-19D] cannot be activated.
11. Station Hunting works if the destination station is in a hunt group.
12. UCD function works if the destination station is a UCD station, but busy tone is given if all the UCD stations within the group are busy (no UCD queuing).
13. CALL FORWARDING [C-2, 3, 5] is allowed if the destination station has set Call Forwarding, but CALL FORWARDING - OUTSIDE [C-28] cannot be provided.
14. Overriding is available only via the OVER key on D^{term}. If switch hook flash is attempted, the caller receives reorder tone.
15. In the following cases, overriding by the OVER key is not available, and the caller receives reorder tone.
    a.) the conference-function trunks are all busy.
    b.) the destination station is not engaged in a two party call, as when
    - call is terminating to the destination station.
    - the destination station has a call on hold.

Service Conditions (cont'd)

- the destination station is off-hook.
- the destination station is already engaged in a three-party call.
  - c.) the destination is the Attendant or is connected to an outside party.
16. When EXECUTIVE RIGHT-OF-WAY [E-1, E-1D] is used with this feature, it is not activated under any of the following conditions:
    - when utilizing EXECUTIVE RIGHT-OF-WAY [E-1, E-1D] service using switch hook flash and access code.
    - when all three-party conference trunks are busy.
    - when the destination is not in the two-party connection (an incoming call is in the middle of terminating to the destination or the destination places a call on hold or the destination is in off-hook status or the three-party connection including the destination has already been established).
    - when the destination is connected with the Attendant Console or the C.O. trunk.
17. This feature can be activated via FCCS.
18. Only the station assigned a telephone number is available for the station assignment when activating this feature via FCCS.
19. The station, the Attendant Console/Desk Console (operator call), and the trunk can be a destination for Hotline.
20. When Call Forwarding - All Calls/Busy Line/Don't Answer service has been set to the called station, these features are available for the call to the station.
21. When a calling party encounters a busy station, the call may bridge into the connection, depending on the data assigned by the ASYD command.

Programming

STEP 1: **ASDT** - Assign to a PA-16LC circuit the following data:

TN: Tenant Number
STN: Station Number
LENS: Line Equipment Number (6 digits) - Actual LENS for TEC 14, Virtual LENS for TEC 18
TEC: Telephone Class (1-31)

- 1: DP (10pps)
- 2: PB
- 3: DP/PB
- 12: D^{term}
- 13: Data terminal via D^{term}
- → 14: HOTLINE
- 15: CAS Line
- → 18: Virtual Circuit

RSC: Route Restriction class (0-15)
SFC: Service Feature Class (0-15)

STEP 2: **AHLS** - Assign the station numbers programmed above for the following parameters:

HOT TN: Hotline Tenant
STN: Hotline Station
TYPE: 1 = station
CON TN: Connecting Station's Tenant
CON STN: Connecting Station Number

Programming (cont'd)

STEP 3:   **AKYD** - Assign to a D^{term} a line appearance of the Hotline station number.

TN: 1

STN: Station Number

TP: Type of D^{term} (0/1)

KYN: Key Number (1-40)

KYI: Service Index

0: Key not used

1: Feature Key

⟶   2: Multi-line Key

KD: 0

TN, STN:Tenant Number and Station Number of Multi-line (Virtual)

RG: Ringing Assignment per Multi-Line Appearance

0: No Ringing

1: Ringing in Day Mode Only

2: Ringing in Night Mode Only

3: Ringing Day and Night

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

AHLSN - This data must be assigned to the NCN.

UGN: User Group Number

TELN: Telephone Number of the calling party

TYPE: 1 (the called party is a station)

CON UGN: User Group Number of the called party

CON TELN: Telephone Number of the called party

Note: *The current data should also be set in addition to the command above.*

The command to be set to the node accommodating the calling party: ASDT/AKYD

The following ASFC command data must be assigned at all nodes to be set BROKERAGE HOTLINE service. SFI=36 (Brokerage Hotline), RES=1 (allowed)

☎ ⌒⌒⌒ Hotline ⌒⌒⌒ D^{term}

Single Line
TEC: 14
Assign as STN and
CON STN in AHLS

Assign Subline as
Virtual: TEC 18
Assign as STN and
CON STN in AHLS

B-8 Boss - Secretary - Message Waiting Lamp Control

General Description

This feature allows a secretary, via her station, to control the Call Indicator Lamp **(Note)** or Message Waiting (MW) display on the boss' station.

Note: *The Call Indicator Lamp is used as the MW Lamp.*

Operating Procedure

1. CALL FORWARDING [C-3, 5] is not set on Boss' station.
2. An incoming call for Boss' station is answered on Secretary's D^{term}.
3. Secretary sets the Call Indicator Lamp or MW display on Boss' station. See Procedure 1 below.
4. Boss's station Call Indicator Lamp or the MW display is on.
5. Secretary cancels the Call Indicator Lamp or MW display on Boss' station.

To set Message Waiting at a Boss' station:
Procedure 1 (Secretary's station requires a D^{term} with a LED)
1. While remaining connected to the calling party, press the MW SET line/feature key.
2. The LCD display will indicate MW SET (for 5 seconds, in place of time display).
3. MW is set on Boss' station. Call Indicator Lamp or the MW display is on.
4. Secretary will not hear service set tone.

Procedure 2
1. Secretary releases the call after taking the message and presses the RECALL key. Dial tone is heard.
2. Secretary presses the MW SET line/feature key. LCD will indicate MW SET. Secretary will hear service set tone.
3. MW is set to Boss' station. Call Indicator Lamp or the MW display is ON.

To cancel Message Waiting indication:
Procedure 1
1. While remaining connected, Secretary presses the MW CANCEL line/feature key.
2. The LCD display will indicate MW CANCEL (For 5 seconds, in place of time display).
3. Boss' MW indication is then cancelled. Call Indicator Lamp or the MW display is OFF.

Procedure 2
1. Secretary presses Boss' line appearance. Dial tone is heard.
2. Press the MW CANCEL line/feature key. Service set tone is heard.
3. Secretary's LCD will display MW CANCEL.
4. Boss' MW indication is cancelled.

Service Conditions

1. Any number of D^{term} stations within the system can be assigned to activate this feature.
2. Secretary must have a D^{term}.
3. Any attempt to set BOSS-SECRETARY MW LAMP CONTROL to a station that already has an MW indication will receive MW BUSY following Procedure 1 or a busy tone following Procedure 2.
4. Any station provided with the sub-line can set or cancel BOSS-SECRETARY MW LAMP CONTROL indication on that sub-line.
5. This feature is not restricted by CLASS OF SERVICE - INDIVIDUAL [C-15] on either the boss or secretary stations.

Service Conditions (cont'd)

6. BOSS-SECRETARY MW LAMP CONTROL indication is cleared by system initialization or a Local Processor initialization.

7. MW control is provided to stations using the D^{term} sub-line when:
   - a.) one station is talking with another station.
   - b.) a special purpose button is pushed after a call is established.
   - c.) the station is calling another station in the network.
   - d.) CALL WAITING [C-12, 13] is being set up.
   - e.) the station is using VOICE CALL - D^{term} [V-2D].
   - f.) the ATTENDANT CONSOLE [A-3] indication shows an incoming call.

8. MW for one station of the network can be controlled from the ATTENDANT CONSOLE [A-3] and any other station at the same time. The controlled station cannot identify the controlling party.

9. The MW indication on the boss' station appears as follows:

Type of Station Set	Message Waiting Indication
D^{term} Series E	**MW** **(Time Display)**

10. The LCD on the secretary's station displays the following messages:

Status of Boss' Station		LCD D^{term} Series E	Type of Tone
MESSAGE WAITING (already set)	SETTING	**MW** **BUSY** **(Time Display)**	
	CANCELLING	**MW** **CANCEL** **(Time Display)**	
MESSAGE WAITING (not set)	SETTING	**MW** **SET** **(Time Display)**	Call Indicator is ON

11. MW cannot be activated on a virtual line. The LCD displays MW REST, and the reorder tone is heard when activation from a virtual line is attempted.

Note: *The reorder tone is not heard while talking to the calling party.*

12. This feature can control the Call Indicator Lamp or MW display from the sub-line during:
   - a.) conversation with the calling party.
   - b.) special code dialing after replacing the handset or pressing the SPEAKER key.
   - c.) ringback tone for station calling.
   - d.) MUSIC ON HOLD [M-7] when the other party has pressed the HOLD key.
   - e.) dialing of telephone number.

Service Conditions (cont'd)

  f.) trunk origination or called-number dialing.

  g.) calls to or talking to Attendant.

  h.) THREE-WAY CALLING [T-2].

  i.) CONSULTATION HOLD - ALL CALLS [C-17].

  j.) calls by VOICE CALL - D^{term} [V-2D].

  k.) Call Waiting ringback tone with Call Waiting set.

  l.) secretary calls to boss by BOSS-SECRETARY TRANSFER [B-11].

13. MW can be cancelled for a station in the same module group using the MY Line during:

  a.) conversation with the calling party.

  b.) ringback tone for station calling.

  c.) MUSIC ON HOLD [M-7] when the other party has pressed the HOLD key.

  d.) THREE-WAY CALLING [T-2].

  e.) CONSULTATION HOLD - ALL CALLS [C-17].

  f.) calls by VOICE CALL - D^{term} [V-2D].

  g.) Call Waiting ringback tone with Call Waiting set.

14. CALL WAITING [C-12, 13] set from any other station causes the MW Indication for the party setting the call waiting to go off.

15. THREE-WAY CALLING [T-2] established by EXECUTIVE RIGHT-OF-WAY - D^{term} [E-1D] causes the MW Indication connected to the interrupted party to go off when the interrupting party presses the MW CANCEL button. When using a soft key, press the MW OFF to cancel.

16. FCCS link is not available for this feature.

Interactions

1. Use of the following features has no effect on this feature. BOSS-SECRETARY MW LAMP CONTROL can be set/cancelled to a station that has previously activated any of the following features:

  a.) DO NOT DISTURB - D^{term} [D-21D]

  b.) CALL BACK - D^{term} [C-1D] set to boss' station

  c.) CALL BACK - D^{term} [C-1D] set from boss' station

  d.) CALL FORWARDING ALL CALLS - D^{term} [C-5D] will not follow forwarding data

  e.) CALL FORWARDING DON'T ANSWER - D^{term} [C-3D] will not follow forwarding data

  f.) CALL FORWARDING BUSY - D^{term} [C-2D] will not follow forwarding data.

2. When the boss' line is answered by the secretary, the following services may be activated either by the secretary or by another station towards the secretary. These services will not interfere with the secretary's ability to set/cancel MW.

  a.) PRIVACY - D^{term} [P-14D]

  b.) CONSULTATION HOLD - ALL CALLS [C-17]

  c.) CALL WAITING - ORIGINATING [C-31] set to boss' station

  d.) CALL WAITING - ORIGINATING [C-31] set from boss' station

  e.) ATTENDANT CAMP ON WITH TONE INDICATION [A-1] set to boss' station

  f.) THREE-WAY CALLING - D^{term} [T-2D]

  g.) NON-EXCLUSIVE HOLD - D^{term} [N-7D], EXCLUSIVE HOLD - D^{term} [E-4D] or DUAL HOLD [D-32].

Programming

STEP 1:   **AKYD** - Assign to a programmable line/feature key a MW Lamp Set key; Type:Function:BOSS-SECRETARY MSG WAIT-SET [9] and a MW Lamp Cancel key; Type:Function:BOSS-SECRETARY MSG WAIT-CNCL [11].

STEP 2:   **ADSL** - Assign SN=4 (Communication in Progress) when operating Procedure 1, SN=2 (Originating) when operating Procedure 2. Assign FKY=9 (MW Lamp Set key; MWSET) and FKY=11 (MW Lamp Cancel key; MWOFF).

This command is required only for assigning the function to each soft key.

STEP 3:   **ASFC** - Assign the stations a feature class that allows; SFI:74 (MW Called) and SFI:82 (MW Set).

B-11   Boss - Secretary Transfer

General Description

This feature allows a secretary to voice-announce a call to a boss when the secretary answers a call to the boss' line.

Operating Procedure

To transfer from D^{term} to D^{term}:
1.   Call terminates to Boss' line.
2.   Secretary answers the call on the sub-line of Secretary's D^{term}.
3.   Secretary presses the line key of answered call; Boss and Secretary talk by Voice Call. LCD displays:

```
                                    Boss/Secretary
      ICM                              XXXX
                  (Time Display)
```

4.   Boss answers the call. LCD displays:

```
                                       Secretary
      TRANSFER                          XXXX
                  (Time Display)
```

5.   Secretary hangs up; calling party talks to Boss. LCD displays:

```
                                    Calling Party
                                       XXXX
                  (Time Display)
```

To transfer from D^{term} to a single line telephone:
1.   Call terminates to Boss' line.
2.   Secretary answers the call on the sub-line of Secretary's D^{term}.
3.   Secretary presses the line key of the answered call. Boss' station rings. LCD displays (Secretary):

```
      TRANSFER                          XXXX
                  (Time Display)
```

4.   Boss answers the call.
5.   Secretary hangs up; calling party talks to Boss.

To cancel:
1.   Secretary presses the line key.
2.   Secretary talks to the calling party.

Service Conditions

1.   Secretary must have boss' My Line appearing on the D^{term} in a multi-line operation.
2.   Secretary must have a D^{term} for this operation. Boss may have a single line telephone.
3.   This service feature is only available when the secretary is talking on the boss' My Line.

Service Conditions (cont'd)

4. This feature must be allowed in CLASS OF SERVICE - INDIVIDUAL [C-15] via System Data programming.
5. BOSS-SECRETARY TRANSFER [B-11] is denied if the secretary is connected to the ATTENDANT CONSOLE [A-3].
6. If provided in the system, the held caller will hear MUSIC ON HOLD [M-7].
7. The call is recorded in SMDR [S-10] for the boss' station.
8. This feature will override CALL FORWARDING - BUSY LINE [C-2] set for the boss, unless the boss' line is forwarded to the secretary.
9. THREE-WAY CALLING [T-2] (Boss, Secretary and calling party) is not available.
10. A BOSS-SECRETARY TRANSFER call cannot be picked up by CALL PICKUP [C-7, 30].
11. Name Display service is not available when the secretary is calling the boss or when the secretary is talking to the boss.
12. When the boss is using a D^{term}, the boss must always press the line key in order to answer the call transferred from the secretary.
13. FCCS link is not available for this feature.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASFC** - Assign station to receive Boss-Secretary Override a feature class that allows the following SFIs: 5, 6, 10, 11 and 51. Assign these SFIs as Data "1".

STEP 3: **AKYD** - Boss' My line must be assigned as a sub-line on the secretary's phone.

B-12 Brokerage Hotline - Outside

General Description

This feature provides a HOT LINE - OUTSIDE [H-9] function for a D^{term}.

Operating Procedure

To access a BROKERAGE HOT LINE - OUTSIDE from a D^{term}:
1. Lift the handset or press the SPEAKER key.
2. Press the sub-line key associated with a predetermined desired outside party. The destination station is automatically dialed; ringback tone is heard; the destination station answers.
3. After completion of the conversation, hang up or press the SPEAKER key.

To immediately make another BROKERAGE HOT LINE - OUTSIDE call:
1. Press another sub-line button associated with another station without going on/off-hook. The RELEASE key on the Add-On Module can be used as the RELEASE key.
2. A maximum of 39 BROKERAGE HOTLINES-OUTSIDE can be used to access distant destinations.

Service Conditions

1. One of the line keys of the D^{term} must be assigned as the My Line.
2. When a BROKERAGE HOT LINE - OUTSIDE call is made, the D^{term} display shows the connected trunk number but does not show a SERVICE DISPLAY [S-25] for the BROKERAGE HOT LINE.
3. The My Line of a D^{term} cannot be assigned as a BROKERAGE HOT LINE - OUTSIDE.
4. The virtual line of a single line station can be assigned as the hot line station.
5. BROKERAGE HOT LINE - OUTSIDE uses SPEED CALLING - SYSTEM [S-3] memory. The total number of BROKERAGE HOT LINE - OUTSIDE destinations is limited by the capacity of the SPEED CALLING - SYSTEM [S-3].
6. ATTENDANT CAMP-ON [A-1], CALL BACK [C-1], CALL WAITING [C-31], and EXECUTIVE RIGHT-OF-WAY [E-1] can be prohibited to the BROKERAGE HOT LINE - OUTSIDE connection through CLASS OF SERVICE - INDIVIDUAL [C-15].
7. A hot line station user confronted with all trunks busy or all senders busy at the time of calling hears the reorder tone. No indication is shown on the user's D^{term} LCD.
8. Outside connection when a user calls in BROKERAGE HOT LINE - OUTSIDE service is realized when trunk classification (DDD, TIE, CCSA) and the trunk number is indicated on the LCD indication.
9. Outside connection when a user answers in BROKERAGE HOT LINE - OUTSIDE service is realized when time duration, trunk classification (DDD, TIE, CCSA) and the trunk number is indicated on the LCD indication.
10. The Station Message Detail Recording (SMDR) is available for outgoing calls in the BROKERAGE HOT LINE - OUTSIDE service.
11. A D^{term} with an Add-On Module attached is used for applications requiring at least 15 but fewer than 39 destinations. In this case, one of the line keys of the D^{term} must be assigned as the My Line.
12. An AC Adapter is required for the Add-On Module for the D^{term} phones.
13. This feature can be activated via FCCS.
14. Only the station assigned a telephone number is available for the station assignment when activating this feature via FCCS.

Service Conditions (cont'd)

15. The station, the Attendant Console / Desk Console (operator call), and the trunk can be a destination for Hotline.

16. When Call Forwarding - All Calls/Busy Line/Don't Answer service has been set to the called station, these features are available for the call to the station.

17. When a calling party encounters a busy station, the call may bridge into the connection, depending on the data assigned by the ASYD command.

Programming

STEP 1: **ASDT** - Assign to a 16LC circuit the following data:
   TN: Tenant Number
   STN: Station Number
   LENS: Line Equipment Number (6 digits)
   TEC: Telephone Class (1 - 31)
         1: DP (10 pps)
         2: PB
         3: DP/PB
         12: D^{term}
         13: Data terminal via D^{term}
   →   14: Hotline
         15: CAS Line
         18: Virtual circuit **(Note)**
   RSC: Route Restriction Class (0 - 15)
   SFC: Service Feature Class (0 - 15)

STEP 2: **ASPD** - Assign ADC code, maximum of 3 digits; assign CD = telephone number, maximum 24 digits, corresponding to the ADC.

STEP 3: **AHLS** - Assign the station number programmed above for the following parameters:
   HOT TN: Hotline Tenant
   STN: Hotline Station
   TYPE: Connection Type 2 - Abbreviated Digit Code (ADC)
             Connection Type 3 - Trunk Line
   ADC: Abbreviated Digit Code (C) of the Destination Station
   CON TN: Connecting Station's Tenant
   CON STN: Connecting Station's Number
   CON RT: Connecting Station's Route Number
   CON TK: Connecting Station's Trunk Number

STEP 4: **AKYD** - Assign to a D^{term} a line appearance of the Hotline station number.
   TN: Tenant Number
   STN: Station Number
   TP: Type of D^{term} [0/1]:
   KYN: Key Number (1 - 40)
   KYI: Service Index
         0: Key not used
         1: Feature Key

Programming (cont'd)

$\longrightarrow$ 2: Multi-line Key

KD: 0

RG: Ringing Assignment per multi-line appearance

    0: No ringing

    1: Ringing in Day mode only

    2: Ringing in Night mode only

    3: Ringing in Day and Night mode

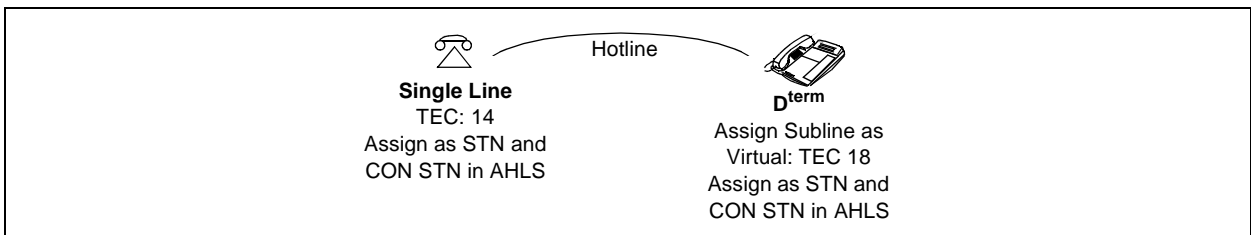## FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

AHLSN - This data must be assigned to the NCN.

UGN: User Group Number of the calling party

TELN: Telephone Number of the calling party

TYPE: 2 (the called party is an outside line)

              3 (the called party is a trunk)

CON UGN: User Group Number of the called party (for TYPE=2)

CON ADC: Abbreviated digits code assigned by the ASPD command (for TYPE=2)

CON LRN: Logical Route Number of the called party (for TYPE=3)

CON TK: Trunk Number of the called party (for TYPE=3)

Note: *The current data should also be set in addition to the command above.*

The command to be set to the node accommodating the calling party: ASDT/AKYD/ASPD

If Hotline TEC=14, the ASFC command data must be assigned at all the nodes to be set Brokerage-Hotline service: SFI=36 (Brokerage Hotline), RES=1 (allowed). When assigning Virtual Hotline, set the ASFC command data to TEC=18.

If Hotline is Virtual TEC=18, assign SFI=36. If Hotline is a TEC=14, do not assign SFI=36.

B-17 Blind Transfer To Attendant

General Description

This feature allows a station to transfer a held call (station or trunk) to the Attendant Console and hang up without having to wait for the Attendant to answer.

Operating Procedure

1. While connected to another party (station or trunk), the user presses switch hook or TRANSFER key; receives special dial tone.
2. User dials the access code for operator; receives ringback tone while the call terminates to the Attendant at RECALL key. The transferred party hears MUSIC ON HOLD [M-7].
3. User can either:
   a.) Hang up before the Attendant answers, and call will be connected to the Attendant when the Attendant answers.

Note: *The call will terminate at the Attendant's INCOMING CALL IDENTIFICATION (ICI) key depending on the call class (LDN, FX, WATS, CCSA, TIE, ATND) of the party being transferred. Peg count will be incremented by one, according to the call class.) The transferred party hears ringback tone.*

   b.) Wait for the Attendant to answer and then hang up after announcing that a call is being transferred.

Note: *When this method is used, the call is identified at the Attendant's INCOMING CALL IDENTIFICATION (ICI) key as RECALL key. Peg count for RECALL will be incremented by one.*

Service Conditions

1. Reorder tone will be sent to the station if an attempt is made to transfer to an Attendant in night mode.
2. This feature is not available on a tenant basis.
3. If the Attendant does not answer the transferred call within the predetermined time set for Transfer Call Recall, the transferring station will not be recalled.
4. This feature is allowed only when a station is engaged in a two party connection (station or trunk).
5. Reorder tone will be sent to the transfer originating station if that station is restricted from accessing the Attendant.
6. Attendant peg count is incremented by one for the following:
   a.) RECALL when the Attendant answers before the transferring station releases.
   b.) LDN, FX, WATS, CCSA, TIE, or ATND when the Attendant answers after the transferring station releases.
7. The NEAX2400 IMX will not set a priority queue for the call being transferred when the station originating the transfer hangs up before the Attendant answers.
8. CALL TRANSFER - ATTENDANT [C-10] is restricted when this feature is activated.
9. This feature is allowed via System Data and service feature data assignment.
10. If a call is blind transferred to a station that has set CALL FORWARDING - DON'T ANSWER [C-3] to the Attendant, the following conditions will occur:
    a.) if No Recall on Call Transfer is in service, the call will forward in a Don't Answer scenario. B-18 must be in-service.
    b.) if Recall on Call Transfer is in service, the transferred call will recall to the transferring party.
11. This feature is available for stations in the FCCS network only.

Programming

STEP 1:   **ASYD** - System 1, Index 17, Bit 4: (1) Blind Transfer to Attendant In Service.
           System Data 2, Index 1, Bit 0 and Bit 1: (1).
STEP 2:   **ASFC** - Cancel the restriction of Blind Transfer to Attendant from SFC of the station.
           (SFI = 103, RES = 1).
STEP 3:   **ANPD** - 0 = Hooking (H) NND = 1.
STEP 4:   **ASPA** - 0 = Hooking (H) SRV = SSC (Service Code), SID = 2.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ANPDL** - 0 = Hooking (H), NND = 1.
STEP 2:   **ASPAL** - 0 = Hooking (H) SRV = SSC (Service Code), SID = 2, FPC = "x".

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

B-18   Blind Transfer To Station

General Description

This feature allows two Class Marks to be assigned to stations, enabling services such as Voice Mail, announcement machine, etc. depending on the Class Mark.

1. A Class Mark which allows No Answer timer to be extended when the Blind Transferred-to station does not answer within the predetermined period of time interval.

2. A Class Mark which activates CALL FORWARDING - DON'T ANSWER [C-3] set to the Blind Transferred-to station when CALL FORWARDING - DON'T ANSWER [C-3] is available.

Operating Procedure

To transfer a call in progress:

1. While connected to another party (station or trunk), the user presses switch hook or TRANSFER key on D^{term}; receives special dial tone.

2. User dials the third station; receives ringback tone. If the user remains on the line, the transferred party hears MUSIC ON HOLD [M-7].

3. At this point, the user can hang up before the third station answers; the transferred party hears ringback tone.

Service Conditions

1. This feature is allowed only when a station is engaged in a two party connection (station or trunk).

2. Samples of connection patterns available under BLIND TRANSFER service are as follows:

    a.) Station A blind-transfers incoming trunk/station to Station B.
    b.) Station A blind-transfers incoming trunk/station call to the Attendant.
    c.) Station A blind-transfers incoming trunk/station call to Station B, which has set CALL FORWARDING-DON'T ANSWER to Station C (the call is forwarded to Station C).
    d.) Station A blind-transfers incoming trunk/station call to Station B, which has set CALL FORWARDING-DON'T ANSWER trunk (the call is forwarded to outside station).

3. The Class Mark that extends No Answer timer must be the same as the one used for BLIND TRANSFER TO ATTENDANT [B-17]. This Class Mark is assigned to the transferring station.

4. Depending on System Data assignment, the following conditions occur when CALL FORWARDING - DON'T ANSWER feature is set on the Blind Transferred-to station:

    a.) the transferring station is recalled.
    b.) the transferred-to station rings continuously.
    c.) the call is forwarded when the CALL FORWARDING - DON'T ANSWER timer expires.

5. If the destination station for Blind Transfer has set CALL FORWARDING - DON'T ANSWER [C-3] to a station/trunk, Call Forwarding is activated when a predetermined No Answer timer expires.

6. This feature is available for stations in the FCCS network only.

Programming

STEP 1:   **ASYD** - System 1, Index 69, Bit 0:

Processing for a case where the transfer destination station does not answer the call within a predetermined period of time. 0/1 = the transferring station is recalled/the transfer destination station is continuously rung, or if the C.F. - Don't Answer is set at the destination station, C.F.- Don't Answer is executed. Index 247: Assign the timer value of No Answer Timer for Blind Transfer to Station.

Programming (cont'd)

STEP 2: **ASFC** - Assign the following data to the SFC of the station:

SFI = 103: Assign the timer value of No Answer Timer for BLIND TRANSFER TO STATION.

RES: 0/1 = Index 140 / Timer value assigned by ASYD, SYS-1, INDEX 247

0 = Index 140

1 = Index 247

Also, when ASYD, SYS-1, INDEX 69, b0 = 1 has been assigned, assign the following data to the SFC of the station:

SFI = 104:   Processing in a case when the transfer destination station does not answer within a predetermined period of time.

RES: 0/1 =   The transfer destination station is continuously rung / C.F.-Don't Answer is executed if it is set at the transfer destination station.

FCCS Programming

No unique programming is required for the FCCS network.

Note: *System timers may be set on a network basis in ASYDN.*

C-1   Call Back

General Description

This feature provides the ability for a calling station that has dialed a busy station to dial a CALL BACK code. When this has been done, the calling station will be rung as soon as the busy station becomes available, provided the calling station is also idle.

Operating Procedure

To set CALL BACK:
1. Dial the desired telephone number; receive busy tone.
2. Press switch hook for special dial tone.
3. Dial CALL BACK code; receive service set tone.
4. Hang up.
5. When desired station becomes idle, calling station will ring. Upon answering, the called station will be rung.

To cancel CALL BACK:
1. Lift the handset; receive dial tone.
2. Dial CALL BACK cancel code; receive service set tone.

Service Conditions

1. If CALL BACK is not answered within 30 seconds, ringing will stop and CALL BACK will be automatically cancelled.
2. As with certain other CLASS OF SERVICE - INDIVIDUAL [C-15] features, CALL BACK may be assigned via feature class.
3. CALL BACK to a busy station won't occur if that station is in the LINE LOCKOUT [L-3] mode.
4. There is no time limit for CALL BACK. Once activated, it will remain in status memory until completed or manually cancelled.
5. A station cannot activate CALL BACK to more than one station at a time.
6. A station cannot use CALL BACK and OUTGOING TRUNK QUEUING [O-2] at the same time.
7. When the calling station is called back, STATION HUNTING [S-7, 8, 9] and CALL PICKUP [C-7] programming will be ignored.
8. There is no limit to the number of stations that may access this feature simultaneously.
9. A delay timer can be set in system programming, on a system-wide basis. This allows a station, to which CALL BACK has been set, to initiate another call within a predetermined time period after becoming idle, before the CALL BACK feature is activated. The delay timer can be set in multiples of 2 seconds for up to a maximum of 14 seconds.
10. CALL BACK service cannot be set when FCCS links are all busy.
11. CALL BACK service that has already been set is automatically cancelled when FCCS links are all busy at the moment the target station becomes idle.

Interactions

1. OUTGOING TRUNK QUEUING [O-2] and CALL BACK cannot be accessed simultaneously.
2. ASYD - System Data 1, Index 139, No Answer Timer is also used for station-to-station call, DID, or TIE Line call for CALL FORWARDING - DON'T ANSWER [C-3], and CALL HOLD [C-6].

Interactions (cont'd)

3. CALL WAITING - ORIGINATE [C-31] automatic setting and CALL BACK are mutually exclusive.

4. CALL HOLD [C-6]: Activation of CALL BACK is not allowed if the calling or called station has a party on CALL HOLD [C-6]. CALL BACK can be activated against a D^{term} that is holding a call or is being held via EXCLUSIVE HOLD [E-4D] or NON-EXCLUSIVE HOLD [N-7D].

5. Call Back cannot be activated toward the Attendant Console.

6. When CALL FORWARDING - ALL CALLS [C-5] has been set from Station A to Station B, and Station B is busy, the CALL BACK feature will be set against Station B.

7. CALL BACK [C-1] cannot be activated when using CONSULTATION HOLD [C-17].

8. CALL BACK [C-1] cannot be set when all FCCS links are busy.

9. When the FCCS links are all busy at the moment the target station becomes idle, CALL BACK [C-1] that has already been set is automatically cancelled.

Programming

STEP 1: **ASYD** - System Data 1, Index 139. No Answer Timer for CALL BACK. Assign 00H. (RAM data is 3FH = 30 seconds.)

System Data 1, Index 68, Bit 0. 0/1: SHF and access code/last digit of telephone number + access code.

System Data 2, Index 0, Bit 0. Is CALL BACK enabled on a per-tenant basis? 0/1: No/Yes.

System Data 2, Index 4, Bit 0. CALL BACK and OUTGOING TRUNK QUEUING [O-2] access codes are same or separate? 0/1: Separate/Same.

System Data 3, Index 3, Bit 5. Enable Ringer pattern 5 for CALL BACK. See DISTINCTIVE RINGING [D-10].

System Data 3, Index 7. Assign data 24H for 4 seconds On, 2 seconds Off.

System Data 1, Index 5, Bit 7: CALL BACK - Delay Timer: 0/1 = Out/In Service.

System Data 1, Index 5, Bits 4 through 6: Delay Timer. Value equals 2 seconds X the Data set.

STEP 2: **ANPD** - Reserve a number level for service feature access and cancel. Assign for Normal (N) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL BACK - Entry, SRV = SSC (Service Code), SID = 3 and a Connection Status Index (CI) for Busy (B) service. For CALL BACK - Cancel, SRV = SSC (Service Code), SID = 6. Assign a Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 2 to stations to be allowed the feature CALL BACK.

STEP 5: **ATNR** - Allow Tenant Restriction Index TRI 0, station-to-station calling for Inter and Intra-tenant connections.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ANPDL** - Reserve a number level for service feature access and cancel. Assign for Normal (N) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

FCCS Programming (cont'd)

STEP 2: **ASPAL** - Assign an access code to CALL BACK - Entry, SRV = SSC (Service Code), SID = 3 and a Connection Status Index (CI) for Busy (B) service. For CALL BACK - Cancel, SRV = SSC (Service Code), SID = 6. Assign a Connection Status Index (CI) for Normal (N) service.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-1D   Call Back - D^{term}

General Description

This feature provides the ability for a D^{term}, which has dialed a busy station, to press a CALL BACK key. When this has been done, the calling station will be rung as soon as the busy station becomes available, provided that the calling station is also free.

Operating Procedure

To set CALL BACK:
1.   Dial desired telephone number; receive busy tone.
2.   Press the CALL BACK key; receive service set tone. LCD displays:

Called Station

```
┌─────────────────────────────────┐
│  CB SET                   XXXX   │
│           (Time Display)         │
│                                  │
│                                  │
└─────────────────────────────────┘
```

3.   Hang up.
4.   When the desired station becomes idle, the calling station will ring. The LCD displays:

Called Station (Flashing)

```
┌─────────────────────────────────┐
│  CB                       XXXX   │
│           (Time Display)         │
│                                  │
└─────────────────────────────────┘
```

5.   Upon answering, the called station will be rung.
6.   Called D^{term}'s LCD displays:

Calling Station

```
┌─────────────────────────────────┐
│  CB                       XXXX   │
│           (Time Display)         │
│                                  │
└─────────────────────────────────┘
```

To cancel CALL BACK:
1.   Lift the handset or press the SPEAKER key; receive dial tone.
2.   Press the CALL BACK key; receive service set tone. Call Back is cancelled.
3.   The LCD displays:

```
┌─────────────────────────────────┐
│  CB CANCEL                       │
│           (Time Display)         │
│                                  │
└─────────────────────────────────┘
```

Service Conditions

1.   If CALL BACK is not answered within 30 seconds, ringing will stop and CALL BACK will be automatically cancelled.
2.   CALL BACK may be assigned via CLASS OF SERVICE - INDIVIDUAL [C-15].

Service Conditions (cont'd)

3. CALL BACK to a busy station cannot be established if that station is in the LINE LOCKOUT [L-3] mode.

4. There is no time limit for CALL BACK. Once activated, it will remain in status memory until completed or manually cancelled.

5. CALL BACK cannot be activated to more than one station at a time. (Calling party).

6. CALL BACK cannot be set by more than one station at a time. (Called party).

7. A station cannot use CALL BACK and OUTGOING TRUNK QUEUING [O-2] at the same time.

8. When the calling station is called back, STATION HUNTING [S-7, 8, 9] and CALL PICKUP [C-7] programming will be ignored.

9. There is no limit to the number of stations that may access this feature simultaneously.

10. CALL BACK can only be activated from MY Line of a D^{term}.

11. CALL BACK cannot be established to a busy station when the station is engaged in any of the following:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
CALL HOLD	[C-6, C-6D]
OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2, O-2D]

12. A delay timer can be set in system programming, on a system-wide basis. This allows a station to which CALL BACK has been set to initiate another call within a predetermined time period after becoming idle, before the CALL BACK feature is activated. The delay timer can be set in multiples of 2 seconds, up to a maximum of 14 seconds.

13. CALL BACK service cannot be set when FCCS links are all busy.

14. CALL BACK service that has already been set is automatically cancelled when FCCS links are all busy at the moment the target station becomes idle.

Programming

STEP 1: **ASYD** - System Data 1, Index 139. No Answer Timer for CALL BACK. Assign 00H. (RAM data is 3FH = 30 seconds.)

System Data 1, Index 68, Bit 0. 0/1: SHF and access code/last digit of telephone number + access code.

System Data 2, Index 0, Bit 0. Is CALL BACK enabled on a per-tenant basis? 0/1: No/Yes.

System Data 2, Index 4, Bit 0. CALL BACK and OUTGOING TRUNK QUEUING [O-2] access codes are same or separate? 0/1: Separate/Same.

System Data 3, Index 3, Bit 5. Enable Ringer pattern 5 for CALL BACK. See DISTINCTIVE RINGING [D-10].

System Data 3, Index 7. Assign data 24H for 4 seconds On, 2 seconds Off.

System Data 1, Index 5, Bit 7: CALL BACK - Delay Timer: 0/1 = Out/In Service.

System Data 1, Index 5, Bits 4 through 6: Delay Timer. Value equals 2 seconds X the Data set.

STEP 2: **ANPD** - Reserve a number level for service feature access and cancel. Assign for Normal (N) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL BACK - Entry, SRV = SSC (Service Code), SID = 3 and a Connection Status Index (CI) for Busy (B) service. For CALL BACK - Cancel, SRV = SSC (Service Code), SID = 6. Assign a Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 2 to stations to be allowed the feature, CALL BACK.

STEP 5: **AKYD** - For D^{term} sets, CALL BACK may be assigned to a programmable line/feature key. Assign Type:Function:CALL BACK [5].

Programming (cont'd)

STEP 6: **ATNR** - Allow Tenant Restriction Index TRI 0, station-to-station calling for Inter and Intra-tenant connections.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ANPDL** - Reserve a number level for service feature access and cancel. Assign for Normal (N) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to CALL BACK - Entry, SRV = SSC (Service Code), SID = 3 and a Connection Status Index (CI) for Busy (B) service. For CALL BACK - Cancel, SRV = SSC (Service Code), SID = 6. Assign a Connection Status Index (CI) for Normal (N) service.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-2   Call Forwarding - Busy Line

General Description

This feature permits a call to a busy station to be immediately forwarded to a predesignated station or to the ATTENDANT CONSOLE [A-3].

If a called station is in a STATION HUNTING [S-7, 8, 9] Group and forwards calls to another Hunt Group, it can be determined through System Data that the calling party has been directed either to the called parties Hunt Group or to the terminating parties Hunt Group when all of the forwarded stations are busy.

Operating Procedure

To set CALL FORWARDING - BUSY LINE from an individual station:
1. Lift the handset, receive dial tone.
2. Dial the specific CALL FORWARDING - BUSY LINE access code; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - BUSY LINE from an individual station:
1. Lift the handset, receive dial tone.
2. Dial the specific CALL FORWARDING - BUSY LINE cancel code; receive service set tone.

To set CALL FORWARDING - BUSY LINE from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the specific CALL FORWARDING - BUSY LINE access code; receive special dial tone.
3. Dial the TENANT SERVICE [T-12] number (2/3 digits).
4. Dial the originating telephone number.
5. Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - BUSY LINE from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the specific CALL FORWARDING - BUSY LINE cancel code.
3. Dial the TENANT SERVICE [T-12] number (2/3 digits).
4. Dial the originating telephone number; receive service set tone.

Service Conditions

1. This feature may be set and cancelled by either the user or the Attendant.
2. CALL FORWARDING - BUSY LINE data remains in the data memory, even if the system is re-initialized or in the event of a power failure, but it must be saved to HD.
3. Stations are assigned this feature according to CLASS OF SERVICE [C-15] programming in System Data.
4. Registration memories for CALL FORWARDING - BUSY LINE and CALL FORWARDING - DON'T ANSWER [C-3] are common. Changing System Data will enable separation of the two, permitting separate access codes to be assigned.
5. CALL FORWARDING - BUSY LINE can be provided on a tenant or an individual station basis.
6. Call Forwarding on a tenant basis allows any incoming calls that encounter a busy condition to be forwarded to a predetermined station or the ATTENDANT CONSOLE [A-3].
7. Individual CALL FORWARDING - BUSY LINE supersedes system basis call forwarding.
8. If all the stations in the terminating Hunt Group are busy, the calling party will hear busy tone and will not return to the called parties Hunt Group.

Service Conditions (cont'd)

9. When MULTIPLE CALL FORWARDING - BUSY LINE [M-24] service is activated, hunting will be performed at the last destination of the forwarded call, even though the multiple jumped stations are in a Hunt Group.

10. When the pilot station of a STATION HUNTING [S-7, 8, 9] Group activates CALL FORWARDING - BUSY LINE to a station (not a member of a Hunt Group) and system parameters specify that call hunting will be activated at the forwarded station, the NEAX2400 IMX will send busy tone if the forwarded station is busy. If the system parameters specify hunting at the forwarding station, and the forwarded station is busy, the call will hunt in the forwarding stations Hunt Group.

11. When a station CALL FORWARDS - ALL CALLS [C-5] to a pilot in a STATION HUNTING [S-7, 8, 9] Group and the pilot activates CALL FORWARD - BUSY LINE to another station, if system parameters define the call to hunt to the forwarded Hunt Group and all stations are busy, the calling party will hunt at the called stations Hunt Group. If system parameters define the call to hunt to the forwarding Hunt Group and all stations are busy, the calling party will then hunt to the forwarding stations Hunt Group.

12. If the called station is the pilot of a UCD [U-1] group and activates CALL FORWARDING - BUSY LINE, the calling station will queue to the UCD [U-1] group and will not Call Forward.

13. If a calling station, ATTENDANT CONSOLE [A-3], or trunk receives a busy tone after being CALL FORWARDED-BUSY and activates EXECUTIVE RIGHT-OF-WAY [E-1], CALL WAITING-ORIGINATING [C-31], CALL WAITING-TERMINATING [C-12] or BUSY VERIFICATION [B-3], these services will be activated to the calling station.

14. There is no limitation to the number of stations that can set CALL FORWARDING - BUSY LINE simultaneously.

15. The operator answering a Call Forwarded call can identify the called telephone number on the ATTENDANT CONSOLE [A-3] display.

16. When a user places a call to a busy station which has been set CALL FORWARDING-BUSY LINE [C-2], the calling party can override the call forwarding feature, activating service features associated with busy status such as CALL BACK [C-1], EXECUTIVE RIGHT-OF-WAY [E-1], STEP CALLS [S-13], provided that the service feature class (SFC) of the calling party permits this feature. Otherwise, the call is forwarded to a predetermined destination as usual.
    Programming of this feature:
    ASFC - DAY / NIGHT
    TN: Tenant Number
    SFI: 128 (Service selection for a busy station with Call Forwarding - Busy Line service)
    SFC: Service Feature Class
    RES: (Allowed)

17. The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number except when called from a station or a tie line trunk.

18. When a call terminates to a busy station setting CALL FORWARDING - BUSY LINE, depending on the calling station service restriction class, it can be selected to make the station busy (not to activate CALL FORWARDING - BUSY LINE) and to activate such services as ATTENDANT CAMP-ON [A-1], BUSY VERIFICATION [B-3], CALL WAITING - TERMINATING [C-12], STEP CALL [S-13], etc.

19. This service is not available when the called party is the attendant console or monitoring station. However, the service is available when these stations are designated as the transfer destination of CALL FORWARDING - BUSY LINE service.

20. This service is available only when the called party is busy and has set CALL FORWARDING - BUSY LINE. In case CALL FORWARDING - BUSY LINE is set as the second hop and after in the Multiple Call Forwarding link, this service is not available.

Service Conditions (cont'd)

21. This service is available in the following occasions:
    a.) When the destination of the CALL FORWARDING - BUSY LINE service is the calling station.
    b.) When the calling party is the attendant console or the night station, and the destination of the CALL FORWARDING - BUSY LINE service is also the attendant console or the night station.
22. SPLIT CALL FORWARDING [S-99] is available only when the calling party is the station or the CCIS line.
23. A telephone number must be set to the call forwarding destination.
24. This feature is not available for stations having a telephone number of seven digits or more.
25. A call can be forwarded to an Attendant Console in the remote node via FCCS link.
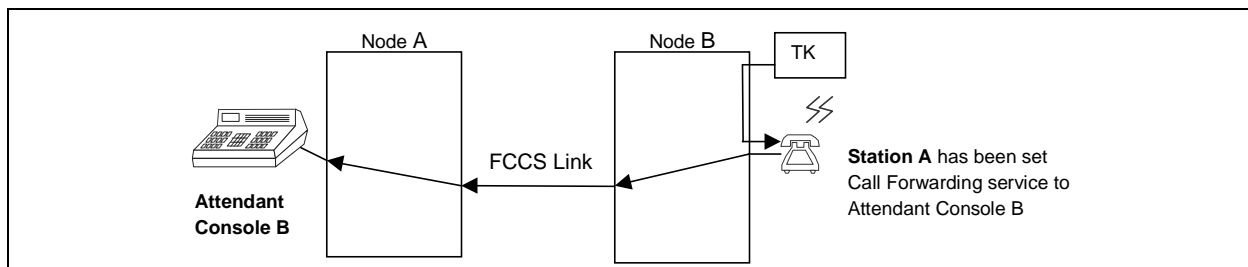
26. When a call is forwarded through FCCS link, the numbering plan of the originally called station must be identical with that of the forwarded Attendant Console.

Interactions

1. If access codes for CALL FORWARDING-BUSY LINE and CALL FORWARDING-DON'T ANSWER [C-3] are the same, only one key needs to be assigned in AKYD.
2. If a call is terminated, using ATTENDANT CAMP-ON [A-1], Station A has CALL FORWARDING-BUSY LINE set to Station B, and Station B is both busy and a member of a STATION HUNTING [S-7, 8, 9] Group, the call will Camp-On at Station A and not hunt; ASYD - System Data 1, Index 69, Bit 5 = 0.
3. If CALL WAITING [C-12, 31], ATTENDANT CAMP-ON [A-1], and/or CALL BACK [C-1] is directed toward Station A, Station A has CALL FORWARDING-BUSY LINE set to Station B, and Station B is busy, and Station A will receive Call Waiting Tone; ASYD - System Data 1, Index 69, Bit 5 = 0.
4. A non-controlling UD station is allowed to activate CALL FORWARDING-BUSY LINE [C-2]. When this station sets CALL FORWARDING-BUSY LINE, only calls directly dialed to this station are Call Forwarded.
5. If an Attendant attempts BUSY VERIFICATION [B-3] to Station A that has CALL FORWARDING-BUSY LINE set to Station B and Station B is busy, BUSY VERIFICATION [B-3] is allowed at Station A. If Station B has set CALL FORWARDING-BUSY LINE to the Attendant Console, BUSY VERIFICATION [B-3] is allowed at Station A.
6. When CALL FORWARDING-BUSY LINE is in effect, the activating station may be used to originate calls.
7. When a call is Call Forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].
8. STATION-TO-STATION CALLING [S-11] must be provided.

Interactions (cont'd)

9. A calling station, Attendant Console, or trunk can successfully activate EXECUTIVE RIGHT-OF-WAY [E-1], CALL WAITING-ORIGINATING [C-31], CALL WAITING-TERMINATING [C-12], or BUSY VERIFICATION [B-3] after having been Call Forwarded and having received busy tone. (A trunk cannot activate EXECUTIVE RIGHT-OF-WAY [E-1] or BUSY VERIFICATION [B-3]); ASYD - System Data 1, Index 69 = 1, Bit 5 = 1.

Programming

STEP 1: **ASYD** - System Data 1, Index 5, Bit 0. Are access codes for CALL FORWARDING-BUSY LINE and CALL FORWARDING-DON'T ANSWER the same or separate? 0/1: Same/Separate.

System Data 1, Index 69, Bit 7, and System Data 1, Index 5, Bits 1~3 for MULTIPLE CALL FORWARDING.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Index, CI = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-BUSY LINE Entry, SID = 10 and to CALL FORWARDING-BUSY LINE Cancel, SID = 11. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign the stations to receive CALL FORWARDING-BUSY LINE a Service Feature Class that allows SFI = 9.

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-BUSY LINE may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-BUSY LINE [1].

STEP 6: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set by the Attendant Console assignment, assign TRI = 3 for Inter and Intra-Tenant connection via the Attendant Console. This allows a station in one tenant to be Call Forwarded to a station in the same or different tenant. Also assign TRI = 0, station-to-station calling.

STEP 7: **ACFO** - For tenant-wide CALL FORWARDING-BUSY LINE of an incoming DID and DIT calls, assign CF = 1 for a destination (CFI) of either the Attendant Console or station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDL** - This Data must be assigned to all the nodes set Call Forwarding service.

System Data 1, Index 640: Assign the Fusion Point Code (FPC) of the node providing the attendant console.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The data of the ASFC command is assigned to the node set Call Forwarding service.*

C-2D   Call Forwarding - Busy Line - D^{term}

General Description

This feature permits a call to a busy station to immediately be forwarded to a predesignated station, or to the Attendant. CALL FORWARDING - BUSY LINE - D^{term} may be set or cancelled by the user for all multi-line appearances on the D^{term}. Additionally, a single line user may set CALL FORWARDING - BUSY LINE - D^{term} for all sub-lines on the D^{term}.

Operating Procedure

To set CALL FORWARDING - BUSY LINE - D^{term}:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the CALL FORWARDING - BUSY LINE FORWARD-BY key; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone. The LED of the associated feature key lights and the LCD displays:

Target Station

```
FORWARD SET              XXXX
          (Time Display)
```

4. Replace the handset or press the SPEAKER key.
5. If the target station is the Attendant Console, the LCD displays:

```
FWD SET
          (Time Display)
```

To monitor CALL FORWARDING - BUSY LINE - D^{term}:
1. Press the CALL FORWARDING - BUSY LINE FORWARD-BY feature key. The LCD displays:

Target Station

```
FORWARD                  XXXX
          (Time Display)
```

2. If the target station is the Attendant Console:

```
FWD SET
          (Time Display)
```

To cancel CALL FORWARDING - BUSY LINE - D^{term}:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the FORWARD-BY key; receive service set tone. The LCD displays:

```
FORWARD CANCEL
          (Time Display)
```

3. The associated LED goes out.
4. Replace the handset or press the SPEAKER key.

Operating Procedure (cont'd)

To set CALL FORWARDING - BUSY LINE - D^term to a D^term multi-line:

1. Press the multi-line key for which CALL FORWARDING - BUSY LINE - D^term feature is to be set.
2. Lift the handset or press the SPEAKER key; receive special dial tone.
3. Press the CALL FORWARDING - BUSY LINE "FORWARD-BY" feature key; receive special dial tone.
4. Dial the desired target telephone number; receive service set tone. The LCD displays:

Target Station

```
FORWARD SET              XXXX
          (Time Display)
```

5. The LED of the associated feature key lights on the D^term for which this multi-line is a MY Line.
6. If the target station is the Attendant, the LCD displays:

```
FWD SET OPR
          (Time Display)
```

7. Replace the handset or press the SPEAKER key.

To monitor CALL FORWARDING - BUSY LINE to a D^term multi-line:

1. Press the multi-line key for which CALL FORWARDING - BUSY LINE - D^term is to be monitored.
2. Press the FORWARD-BY key. The LCD displays:

Target Station

```
FORWARD                  XXXX
          (Time Display)
```

If the target station is the Attendant Console:

```
FWD SET OPR
          (Time Display)
```

To cancel CALL FORWARDING - BUSY LINE to a D^term multi-line:

1. Press the multi-line key for which CALL FORWARDING - BUSY LINE - D^term feature is to be cancelled.
2. Lift the handset or press the SPEAKER key; receive dial tone.
3. Press the FORWARD-BY key; receive service set tone. The LED of the associated feature key will go out on the D^term for which this multi-line is a MY Line. The LCD displays:

```
FORWARD CANCEL
          (Time Display)
```

4. Replace the handset or press the SPEAKER key.

Service Conditions

1. This feature may be set and cancelled by the user or the Attendant.
2. CALL FORWARDING - BUSY LINE - D^term data remains programmed, even if the system is reinitialized or a power failure occurs.

Service Conditions (cont'd)

3. This feature is assigned to stations through CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.

4. There is no limitation to the number of stations that can set CALL FORWARDING - BUSY LINE [C-2] simultaneously.

5. CALL FORWARDING - BUSY LINE - D^{term} may also be accessed via the dial pad or SPEED CALLING - ONE TOUCH [S-22].

Note: *If this feature is accessed via the dial pad, it must be cancelled via the dial pad.*

6. If separate access codes are programmed into System Data for CALL FORWARDING - DON'T ANSWER [C-3] and CALL FORWARDING - BUSY LINE [C-2], separate feature keys must be programmed on each D^{term} to equip it with both features.

7. CALL FORWARDING - BUSY LINE - D^{term} can be provided on a tenant and/or an individual station basis.

8. Call Forwarding on a tenant basis allows any incoming calls, which encounter a busy condition, to be forwarded to a predetermined station or the ATTENDANT CONSOLE [A-3].

9. Individual CALL FORWARDING - BUSY LINE - D^{term} supersedes tenant basis CALL FORWARDING.

10. The display of an intermediate station on a D^{term}'s LCD panel may be allowed or denied according to system data. This assignment is done on a system basis. The LCD displays:

Intermediate Station	Calling/Called Party
CF BUSY XXXX	**XXXX**
(Time Display)	

Note: *When the telephone number of the intermediate or calling/called station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of 16 digits calling/called telephone number can be displayed on the middle line of LCD depending on the System Data.*

11. CALL FORWARDING - BUSY LINE - D^{term} supersedes STATION HUNTING [S-7, 8, 9].

12. The operator answering a forwarded call can identify the called number on the ATTENDANT CONSOLE [A-3] display.

13. If the called station is the pilot of a UCD [U-1] group and activates CALL FORWARDING - BUSY LINE - D^{term}, the calling station will queue to the UCD [U-1] group and will not CALL FORWARD.

14. If a calling station, ATTENDANT CONSOLE [A-3], or trunk receives busy tone after setting CALL FORWARDING - BUSY LINE [C-2] and activates EXECUTIVE RIGHT-OF-WAY [E-1], CALL WAITING - ORIGINATING [C-31], CALL WAITING - TERMINATING [C-12], or BUSY VERIFICATION [B-3], these services will be activated to the calling station.

15. If all the stations in the terminating Station Hunt Group are busy, the forwarding call will hear busy tone and will not return to the calling party's Hunting Group.

16. When MULTIPLE CALL FORWARDING - BUSY LINE [M-24] service is activated, hunting will be performed at the last destination of the forwarded call, even though the multiple jumped stations are in a Hunt Group.

17. When the pilot station of a Hunt Group activates CALL FORWARDING - BUSY LINE - D^{term} to a station (not a member of a Hunt Group) and system parameters specify that Call Hunting will be activated at the forwarded station, the NEAX2400 IMX will send busy tone if the forwarded station is busy. If the system parameters specify hunting at the forwarding station and the forwarded station is busy, the call will hunt in the forwarding station's Hunt Group.

Service Conditions (cont'd)

18. When a station sets CALL FORWARDING - ALL CALLS [C-5] to a pilot in a Hunt Group, and the pilot activates CALL FORWARDING - BUSY LINE to another station, if the system parameters define the call to hunt to the forwarded-to Station Hunt Group and all stations are busy, the calling party will hunt at the called station's Hunt Group. If system parameters assign the call to hunt to the forwarding Station Hunt Group and all stations are busy, the calling party will then hunt to the forwarding station's Hunt Group.

19. This service feature can be restricted according to the service restriction class of the D^{term} MY Line. Even after the CALL FORWARDING - BUSY LINE [C-2] has been set to a D^{term} multi-line, incoming calls to the multi-line cannot be transferred if the service restriction class of the MY Line restricts this service feature.

20. A user may set CALL FORWARDING - BUSY LINE - D^{term} for a multi-line appearance based on the CLASS OF SERVICE - INDIVIDUAL [C-15], as assigned to the station setting the service. The figure below is a simplified key sheet assignment for stations 200 & 201. The CLASS OF SERVICE - INDIVIDUAL [C-15] for station 200 is allowed CALL FORWARDING - BUSY LINE - D^{term}, but the CLASS OF SERVICE - INDIVIDUAL [C-15] for station 201 is not. Station 200 is able to set CALL FORWARDING - BUSY LINE - D^{term} for station 201. The associated feature button LED on station 201 will illuminate.
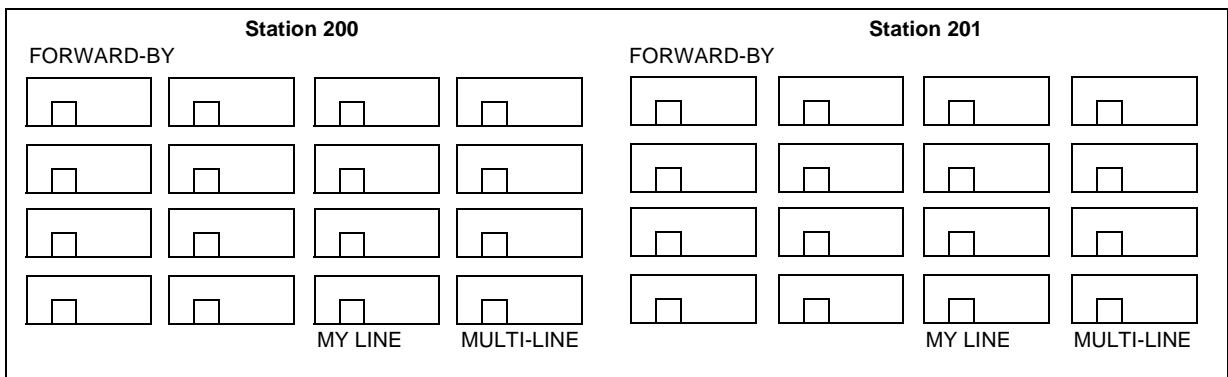
Note: *The FORWARD-BY key is same as the CALL FORWARDING - BUSY LINE feature key.*
Even when a sub-line of D^{term} is assigned as the destination station, the call is not forwarded if the MY Line of that D^{term} is not allowed CALL FORWARDING - DON'T ANSWER - D^{term}.

21. This feature is applicable to CALL FORWARDING - OUTSIDE [C-28] and CALL FORWARDING/ MULTIPLE CALL FORWARDING - BUSY LINE - CCIS [C-46] [M-41].

22. When a user places a call to a busy station which has been set CALL FORWARDING-BUSY LINE [C-2], the calling party can override the call forwarding feature, activating service features associated with busy status such as CALL BACK [C-1], EXECUTIVE RIGHT-OF-WAY [E-1], STEP CALLS [S-13], provided that the service feature class (SFC) of the calling party permits this feature. Otherwise, the call is forwarded to a predetermined destination as usual.

23. This service is not available when the called party is the attendant console or monitoring station. However, the service is available when these stations are designated as the transfer destination of CALL FORWARDING - BUSY LINE service.

24. This service is available only when the called party is busy and has set CALL FORWARDING - BUSY LINE. In case CALL FORWARDING - BUSY LINE is set as the second hop and after in the Multiple Call Forwarding link, this service is not available.

25. This service is available in the following occasions:

a.) When the destination of the CALL FORWARDING - BUSY LINE service is the calling station.

Service Conditions (cont'd)

　　　　b.) When the calling party is the attendant console or the night station, and the destination of the CALL FORWARDING - BUSY LINE service is also the attendant console or the night station.

26.　SPLIT CALL FORWARDING [S-99] is available only when the calling party is the station or the CCIS line.

27.　The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number except when called from a station or Tie Line trunk.

28.　Telephone number must be set to the call forwarding destination.

29.　This feature is not available for stations having a telephone number of seven digits or more.

30.　A call can be forwarded to an Attendant Console in the remote node via FCCS link.
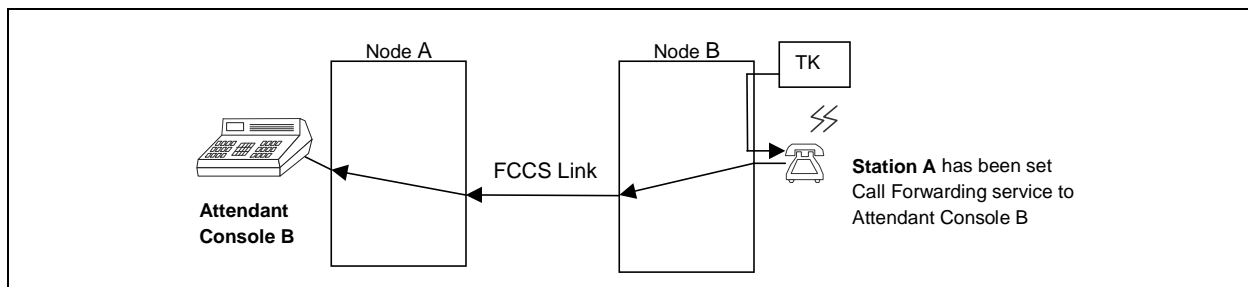
31.　When a call is forwarded through FCCS link, the numbering plan of the originally called station must be identical with that of the forwarded Attendant Console.

Interactions

1.　If the same access code is used for CALL FORWARDING - BUSY LINE - D^{term} and CALL FORWARDING - DON'T ANSWER [C-3], only one key needs to be assigned in AKYD.

2.　An ATTENDANT CAMP-ON [A-1] call is terminated at Station A, and Station A has CALL FORWARDING - BUSY LINE - D^{term} set to Station B. If Station B is busy and part of a STATION HUNTING [S-7, 8, 9] Group, the call will Camp-On at Station A and will not Hunt.

3.　When CALL WAITING [C-12, 31], ATTENDANT CAMP-ON [A-1], and CALL BACK [C-1] is directed toward Station A, which has call forwarding set to Station B, and Station B is busy, Station A will receive Call Waiting Tone.

4.　A non-controlling UCD station is allowed to activate CALL FORWARDING - BUSY LINE - D^{term} [C-2]. When this station sets CALL FORWARDING - BUSY LINE - D^{term}, only calls that are directly dialed to this station are call forwarded.

5.　The Attendant attempts BUSY VERIFICATION [B-3] to Station A. Station A has CALL FORWARDING - BUSY LINE - D^{term} set to Station B. Station B is busy. BUSY VERIFICATION is allowed at Station A. If Station A has set CALL FORWARDING - BUSY LINE - D^{term} to the Attendant Console, BUSY VERIFICATION [B-3] is allowed at Station A.

6.　When CALL FORWARDING - BUSY LINE - D^{term} is in effect, the activating station may be used to originate calls.

7.　When a call follows call forwarding, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

8.　STATION-TO-STATION CALLING [S-11] must be provided.

Programming

STEP 1:   **ASYD** - System Data 1, Index 5, Bit 0. Access codes for CALL FORWARDING BUSY LINE - D^{term} and CALL FORWARDING - DON'T ANSWER [C-3] are same or separate? 0/1: Same/Separate.

System Data 1, Index 69, Bit 5, Index 69, Bit 7.

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and BUSY (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to CALL FORWARDING - BUSY LINE - D^{term} entry, SID = 10 and to CALL FORWARDING-BUSY LINE-D^{term} cancel SID = 11. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI = 9 to the stations that receive CALL FORWARDING-BUSY LINE-D^{term}.

STEP 5:   **AKYD** - For D^{term} sets, CALL FORWARDING-BUSY LINE-D^{term} may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-BUSY LINE [1].

STEP 6:   **ADSL** - Assign SN=3 (Called Station is Busy) and FKY=1 (Call Forwarding - Busy Line; FDB)

This command is required only for assigning the function to each soft key.

STEP 7:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set, assign Inter and Intra-Tenant connection TRI = 3 from the Attendant Console. This allows a station in one tenant group to be call forwarded to a station in the same or different tenant group. Also assign TRI = 0, station-to-station calling.

STEP 8:   **ACFO** - For tenant-wide CALL FORWARDING-BUSY LINE - D^{term} of incoming DID and DIT calls, assign CF = 1 for a destination (CFI) of either the Attendant Console or a station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ASYDL** - This data must be assigned to the node set Call Forwarding service.

System Data 1, Index 640: Assign the FPC of the node providing the attendant console.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The data of the ASFC command is assigned to the node set Call Forwarding service.*

C-3   Call Forwarding - Don't Answer

General Description

This feature permits a call to an unanswered station to be forwarded to a predesignated station, or to the Attendant, when the called station doesn't answer after a predetermined time interval. If the individual Call Forwarding - Don't Answer timer is not assigned, the default timer assigned by system data programming is used.

Operating Procedure

To set CALL FORWARDING - DON'T ANSWER from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the specific CALL FORWARDING - DON'T ANSWER access code; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - DON'T ANSWER from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the specific CALL FORWARDING - DON'T ANSWER cancel code; receive service set tone.

To set CALL FORWARDING - DON'T ANSWER from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the specific CALL FORWARDING - DON'T ANSWER access code; receive special dial tone.
3. Dial the TENANT [T-12] number (2/3 digits).
4. Dial the originating telephone number.
5. Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - DON'T ANSWER from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the specific CALL FORWARDING - DON'T ANSWER cancel code; receive special dial tone.
3. Dial the TENANT [T-12] number (2/3 digits).
4. Dial the originating telephone number; receive service set tone.

To assign individual Call Forwarding - Don't Answer timer to each station:
1. Use the ADAI command:
   - a.) Parameter NAT139 overrides SYS-1, Index 139 of ASYD
   - b.) Parameter NAT140 overrides SYS-1, Index 140 of ASYD
   - c.) Parameter NAT141 overrides SYS-1, Index 141 of ASYD
   - d.) Parameter NAT247 overrides SYS-1, Index 247 of ASYD
2. Timer assigned to called party is valid.

Service Conditions

1. This feature may be set and cancelled by either the user or the Attendant.
2. When the Attendant extends a call to a station that has set CALL FORWARDING - DON'T ANSWER, the called station will ring for 10 seconds. If the call is not answered, AUTOMATIC RECALL [A-8] is activated. This timing can be changed through the VARIABLE TIMING PARAMETERS [V-1] feature.
3. This feature is assigned by CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
4. A station programmed for access to CALL FORWARDING - DON'T ANSWER is automatically allowed CALL FORWARDING - BUSY LINE [C-2, 2D].
5. There is no limitation to the number of stations that can set the CALL FORWARDING - DON'T ANSWER simultaneously.

Service Conditions (cont'd)

6. CALL FORWARDING - DON'T ANSWER can be provided on either a tenant or an individual basis.

7. Individual CALL FORWARDING - DON'T ANSWER takes precedence over tenant basis Call Forwarding.

8. Call Forwarding on a tenant basis allows direct incoming trunk calls that encounter a Don't Answer condition to be forwarded to a predetermined station or the ATTENDANT CONSOLE [A-3].

9. The operator answering a Call Forwarding call can identify the called telephone number on the ATTENDANT CONSOLE [A-3] display.

10. CALL FORWARDING - DON'T ANSWER from the Attendant is only activated after pressing the RELEASE key.

11. If the station's own telephone number is set for CALL FORWARDING - DON'T ANSWER, then this feature is changed to CALLING PARTY RECOGNITION SERVICE (CALL FORWARDING - DON'T ANSWER [C-103]).

12. When the called station does not answer for a predetermined time interval, stations are assigned this feature according to the TENANT SERVICE [T-12] class of the calling and destination stations. In the following cases, when the calling station and destination station are restricted by TENANT SERVICE [T-12] class, this feature is not activated, and the called station continues to ring:

    a.) when the station called is setting CALL FORWARDING - DON'T ANSWER,

    b.) when a station holding an original call (station or trunk) on CONSULTATION HOLD [C-17] places a call to a station setting CALL FORWARDING - DON'T ANSWER.

13. Call Transfer - Attendant (Trunk): Trunk calls transferred by the Attendant are assigned this feature when the called station does not answer for a predetermined time interval according to Route Restriction Class of the trunk and the destination stations. When restricted by Route Restriction Class, this feature is not activated, and the called station continues to ring.

14. Call Transfer - Attendant (Station): Station calls transferred by the Attendant are assigned this feature when the called station does not answer for a predetermined time interval according to TENANT SERVICE [T-12] class of the originating and destination stations. When restricted by Tenant Service class, this feature is not activated, and the called station continues to ring.

15. Speed Calling List numbers may be programmed as the destination telephone number. This permits the sent digits to exceed the 12-digit maximum.

16. CALL FORWARDING - DON'T ANSWER data remains in the data memory, even if the system or LP is reinitialized.

17. SPLIT CALL FORWARDING [S-99]: When a call is forwarded to the parties predesignated by SPLIT CALL FORWARDING [S-99], service conditions are the same as described in items 12, 13, and 14.

18. When a call is transferred from the Attendant to a station that has set CALL FORWARDING - DON'T ANSWER, this feature may be restricted or activated according to System Data (Sys 2, Index 6, Bit 7).

19. A call can be forwarded to an Attendant Console in the remote node via FCCS link.
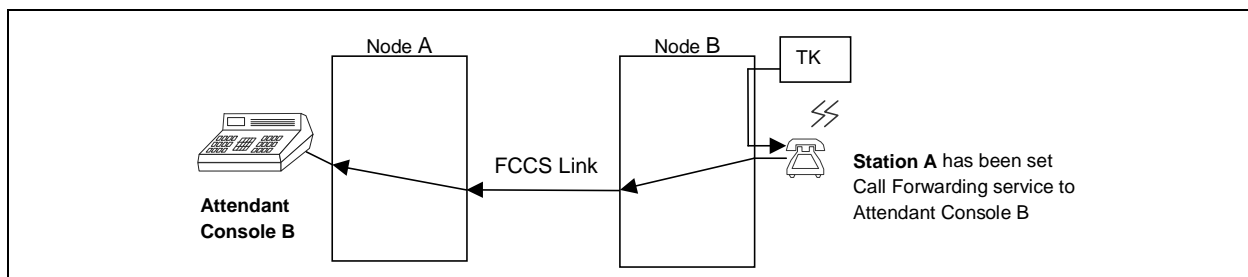
Service Conditions (cont'd)

20. When a call is forwarded through FCCS link, the numbering plan of the originally called station must be identical with the one of the forwarded Attendant Console.

21. If individual Call Forwarding - Don't Answer timer is not given, the default timer assigned by ASYD command is used.

Interactions

1. If access codes for CALL FORWARDING-BUSY LINE and CALL FORWARDING-DON'T ANSWER are the same, only one key needs to be assigned in AKYD.

2. ACFO is applicable to DID, DIT, and TIE Line calls only.

3. A non-controlling UCD station is allowed to activate CALL FORWARDING-DON'T ANSWER. When this station sets call forwarding, calls directed to this station will be call forwarded. The member station is not removed from the UCD group under the conditions of the call forwarding feature used. When it is the station's turn to ring, that call is affected by CALL FORWARDING-DON'T ANSWER.

4. CALL FORWARDING-DON'T ANSWER to an Attendant Console will not operate when the system is in Night mode. If ATTENDANT NIGHT TRANSFER [A-19] is provided, the call is forwarded to the ATTENDANT NIGHT TRANSFER [A-19] station.

5. If the CALL FORWARDING-DON'T ANSWER target station is a D^{term} that has activated DO NOT DISTURB [D-21D], call forwarding is not activated.

6. The CALL FORWARDING-DON'T ANSWER feature is set from Station A to Station B if Station A is idle and Station B is busy.

7. When a call is Call Forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

8. STATION-TO-STATION CALLING [S-11] must first be provided.

Programming

STEP 1: **ASYD** - System Data 1, Index 5, Bit 0. Are the access codes for CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - DON'T ANSWER the same or separate? 0/1: Same/ Separate.

System Data 1, Index 69, Bit 1 and 2 is a short tone to alert person receiving the call that this is a CALL FORWARDING-DON'T ANSWER call? 0/1: No/Yes.

System Data 1, Index 139. Assign the No Answer timer for station-to-station, DID and TIE Line calls. For 30 seconds, assign 00H. [RAM data is 3FH].

System Data 1, Index 141. Assign the No Answer timer for incoming calls via the Attendant Console. It will then be forwarded to the next station according to SYS1, Index 145 timer. For 10 seconds assign 00H. [RAM data is 3FH.]

System Data 1, Index 141. Assign the No Answer timer for incoming calls via the Attendant console. It will then be forwarded to the next station according to SYS1, Index 145 timer. For 10 seconds, assign 00H. [RAM data is 35H.]

System Data 1, Index 145. Assign the time an incoming call via the Attendant Console will ring at the CALL FORWARDING-DON'T ANSWER station before recalling to the Attendant console. For 30 seconds, assign 00H. [RAM data is 9FH.]

System Data 2, Index 6, Bit 7. Enable CALL FORWARDING-DON'T ANSWER via the Attendant Console.

Programming (cont'd)

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Index (CI) = N, H, B; Normal, Hooking, and Busy (in order to be applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to CALL FORWARDING-DON'T ANSWER entry, SID = 12, and to CALL FORWARDING-DON'T ANSWER cancel, SID = 13. Assign CI for Normal (N) service.

STEP 4:   **ASFC** - Assign the stations to receive CALL FORWARDING-DON'T ANSWER a Service Feature Class that allows SFI = 8.

STEP 5:   **AKYD** - For D^{term} sets, CALL FORWARDING-DON'T ANSWER may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARD-DON'T ANSWER [22].

STEP 6:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this service feature to be set by the Attendant Console, assign Inter and Intra-Tenant connection via the Attendant Console, TRI = 3. Also assign TRI = 0, station-to-station calling.

          CFI of either the Attendant Console or a station.

STEP 7:   **ACFO** - For tenant-wide CALL FORWARDING-DON'T ANSWER, assign CF = 2 for a destination

STEP 8:   **ACFS** - Call Forwarding can also be assigned via the ACFS command.

STEP 9:   **ADAI** - Assign NAT139, NAT140, NAT141 and NAT247 for Individual Call Forwarding - Don't Answer Timer.

          Service Version Index (SVI) allow SVI 1439, Individual Call Forwarding - Don't Answer Timer.

          Binary:0/1=-/enable

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ASYDL** - This data must be assigned to the node set Call Forwarding service.

          System Data 1, Index 640: Assign the FPC of the node providing the attendant console.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The data of the ASFC command is assigned to the node set Call Forwarding service.*

C-3D   Call Forwarding - Don't Answer - D^term

General Description

This feature permits a call to an unanswered station to be forwarded to a predesignated station or to the Attendant, if the called station does not answer within a predetermined period of time. CALL FORWARDING - DON'T ANSWER - D^term may be set or cancelled by the user for all multi-line appearances on the D^term. Additionally, a single station user may set CALL FORWARDING - DON'T ANSWER - D^term to all sub-lines on the D^term.

Operating Procedure

To set CALL FORWARDING - DON'T ANSWER D^term from MY Line:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the CALL FORWARDING - DON'T ANSWER FORWARD-NA key; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone. The LCD displays:

<div align="center">Target Station</div>

```
┌─────────────────────────────────────┐
│  FORWARD SET              XXXX       │
│          (Time Display)              │
│                                      │
└─────────────────────────────────────┘
```

To monitor CALL FORWARDING - DON'T ANSWER from a D^term from MY Line:
1. Press the CALL FORWARDING - DON'T ANSWER FORWARD-NA key. The LCD displays:

```
┌─────────────────────────────────────┐
│  FORWARD                  XXXX       │
│          (Time Display)              │
│                                      │
└─────────────────────────────────────┘
```

<div align="center">**OR**</div>

```
┌─────────────────────────────────────┐
│  FWD SET                             │
│          (Time Display)              │
│                                      │
└─────────────────────────────────────┘
```

To set CALL FORWARDING - DON'T ANSWER for a multi-line appearance other than the MY Line:
1. Lift the handset or press the SPEAKER key.
2. Press the multi-line appearance; receive dial tone. Press the CALL FORWARDING - DON'T ANSWER FORWARD-NA key; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone. The LED of the associated feature button does not light at the station setting the service. If the multi-line appearance is another D^term's MY Line, that station's feature key LED will light. The setting station's LCD displays:

<div align="center">Target Station:</div>

```
┌─────────────────────────────────────┐
│  FORWARD SET              XXXX       │
│          (Time Display)              │
│                                      │
└─────────────────────────────────────┘
```

4. Replace the handset or press the SPEAKER key.

Operating Procedure (cont'd)

5. If the target station is the Attendant, the LCD displays:

```
FWD SET OPR
          (Time Display)
```

To monitor CALL FORWARDING - DON'T ANSWER for a multi-line appearance other than the MY Line:
1. Press the CALL FORWARDING - DON'T ANSWER FORWARD-NA key. The LCD displays:

Target Station

```
FORWARD                    XXXX
          (Time Display)
```

To cancel CALL FORWARDING - DON'T ANSWER from MY Line:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the CALL FORWARDING - DON'T ANSWER FORWARD-NA key. The associated LED goes out. Receive service set tone. The LCD displays:

```
FORWARD CANCEL
          (Time Display)
```

To cancel CALL FORWARDING - DON'T ANSWER for a multi-line appearance other than the MY Line:
1. Lift the handset or press the SPEAKER key.
2. Press the multi-line appearance; receive dial tone. Press the CALL FORWARDING - DON'T ANSWER FORWARD-NA key; receive service set tone. The LCD displays:

```
FORWARD CANCEL
          (Time Display)
```

The associated LED that is lit at another station goes out.
3. Replace the handset or press the SPEAKER key.

Service Conditions

1. This feature may be set and cancelled by the D^term user or the Attendant.
2. AUTOMATIC RECALL [A-8] supersedes the timing for CALL FORWARDING - DON'T ANSWER - D^term. Therefore, if the programmed timing for AUTOMATIC RECALL [A-8] is shorter than the programmed timing for CALL FORWARDING - DON'T ANSWER - D^term, CALL FORWARDING - DON'T ANSWER - D^term is disabled.
3. Stations are assigned this feature according to CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
4. A station programmed for access to CALL FORWARDING - DON'T ANSWER - D^term is automatically allowed CALL FORWARDING - BUSY LINE [C-2].
5. All stations may simultaneously activate CALL FORWARDING - DON'T ANSWER - D^term.
6. If separate access codes are programmed into System Data for CALL FORWARDING - DON'T ANSWER - D^term and CALL FORWARDING - BUSY LINE [C-2], each feature must be programmed on a separate feature button at the D^term.

Service Conditions (cont'd)

7. CALL FORWARDING - DON'T ANSWER - D^{term} may also be accessed via the dial pad or SPEED CALLING - ONE TOUCH - D^{term} [S-26D]. If this feature is accessed via the dial pad, it must be cancelled via the dial pad.

8. CALL FORWARDING - DON'T ANSWER - D^{term} is not applicable to CONSULTATION HOLD - ALL CALLS [C-17], and CALL TRANSFER - ALL CALLS [C-11].

9. A user may set CALL FORWARDING - DON'T ANSWER - D^{term} for a multi-line appearance based on the CLASS OF SERVICE - INDIVIDUAL [C-15] as assigned to the station (MY Line) setting the service. The figure below is a simplified key sheet assignment for stations 200 & 201. The CLASS OF SERVICE - INDIVIDUAL [C-15] for station 200 is allowed CALL FORWARDING - DON'T ANSWER - D^{term}, but the CLASS OF SERVICE - INDIVIDUAL [C-15] for station 201 is not. Station 200 is able to set CALL FORWARDING - DON'T ANSWER - D^{term} for station 201. The associated feature button LED on station 201 will illuminate.
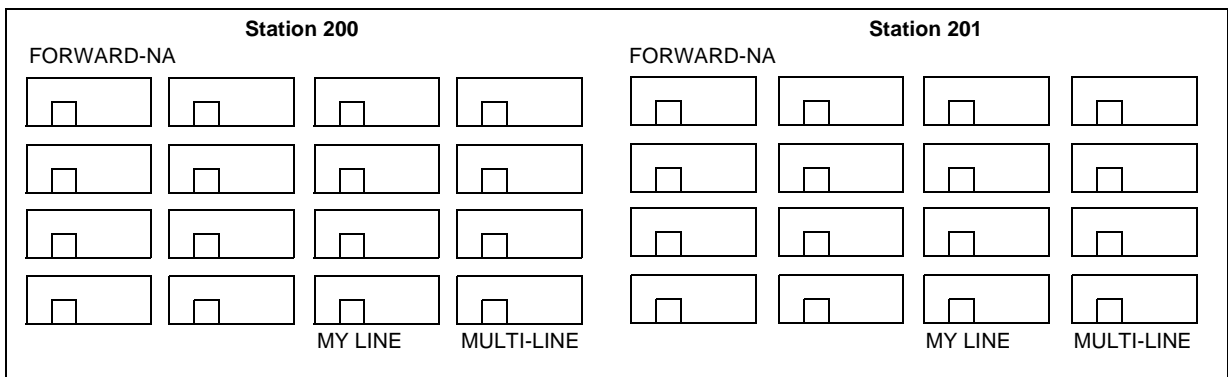
Note: *FORWARD-NA key is same as the CALL FORWARDING - DON'T ANSWER feature key.*

Even when a sub-line of D^{term} is assigned as the destination station, the call is not forwarded if the MY Line of that D^{term} is not allowed CALL FORWARDING - DON'T ANSWER - D^{term}.

10. This feature is applicable to CALL FORWARDING - ALL CALLS - OUTSIDE [C-28], CALL FORWARDING - DON'T ANSWER - CCIS [C-47], and MULTIPLE CALL FORWARDING -DON'T ANSWER - CCIS [M-42].

11. The display of an intermediate station on a D^{term}'s LCD panel may be allowed or denied according to System Data. This arrangement is done on a system basis. The LCD displays:
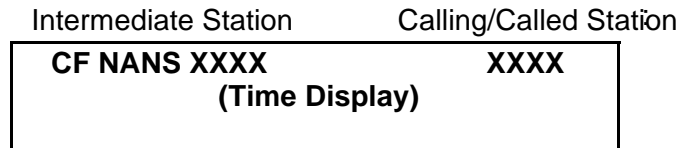
Intermediate Station   Calling/Called Station

CF NANS XXXX   XXXX
(Time Display)

Note: *When the telephone number of the intermediate or calling/called station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of 16 digits calling/called telephone number can be displayed on the middle line of LCD depending on the System Data.*

12. Stations are assigned this feature according to TENANT SERVICE [T-12] of the calling and destination stations, when the called station does not answer for a predetermined time interval. In the following cases, when the calling or destination stations are restricted by TENANT SERVICE [T-12] class, this feature is not activated, and the called station continues to ring:

a.) when a station places a call to another station setting CALL FORWARDING - DON'T ANSWER,

Service Conditions (cont'd)

b.) when a station holding an original call (station or trunk) on CONSULTATION HOLD [C-17] places a call to a station setting CALL FORWARDING - DON'T ANSWER.

13. Call Transfer - Attendant (Trunk): Trunk calls transferred by the Attendant are assigned this feature according to Route Restriction Class of the trunk and the destination station when the station does not answer for a predetermined time interval. When restricted by Route Restriction Class, this feature is not activated, and the called station continues to ring.

14. Call Transfer - Attendant (Station): Station calls transferred by the Attendant are assigned this feature according to TENANT SERVICE [T-12] class of the originating and destination stations when the called station does not answer for a predetermined time interval. When restricted by TENANT SERVICE class, this feature is not activated, and the called station continues to ring.

15. Speed Calling List numbers may be programmed as the destination telephone number. This permits the sent digits to exceed the 12-digit maximum.

16. CALL FORWARDING - DON'T ANSWER data remains in the data memory, even if the system or LP is reinitialized.

17. When a call is transferred from the Attendant to a station that has set CALL FORWARDING - DON'T ANSWER, this feature may be restricted or activated according to System Data (SYS2, INDEX6, BIT7).

18. A call can be forwarded to an Attendant Console in the remote node via FCCS link.
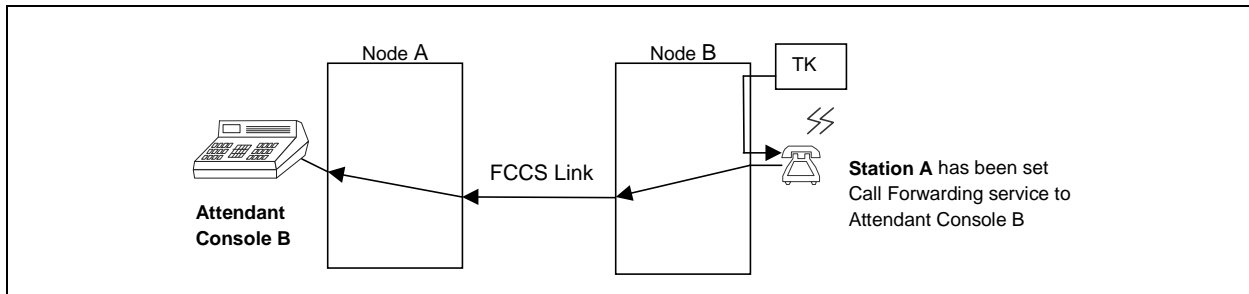
19. When a call is forwarded through FCCS link, the numbering plan of the originally called station must be identical with that of the forwarded Attendant Console.

Interactions

1. If access code for CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING-DON'T ANSWER-D^term^ are the same, only one key needs to be assigned in AKYD.

2. ACFO is applicable to DID, DIT, and TIE Line calls only.

3. A non-controlling UCD station is allowed to activate CALL FORWARDING-DON'T ANSWER-D^term^. When this station sets Call Forwarding, calls directed to this station will be call forwarded. The member station is not removed from the UCD group under the conditions of which the Call Forwarding feature is used. When it is the station's turn to ring, that call is affected by CALL FORWARDING-DON'T ANSWER - D^term^.

4. CALL FORWARDING-DON'T ANSWER-D^term^ to an Attendant Console will not operate when the system is in Night mode. If ATTENDANT NIGHT TRANSFER [A-19] is provided, the call is forwarded to the ATTENDANT NIGHT TRANSFER [A-19] station.

5. If the CALL FORWARDING-DON'T ANSWER-D^term^ target station is a D^term^ and DO NOT DISTURB [D-21D] has been set, Call Forwarding is not activated. The station will ring, and the timer setting in System Data 1, Index 145 is ignored.

Interactions (cont'd)

6. When CALL FORWARDING-DON'T ANSWER-D^{term} is set from Station A to Station B, Station A is idle, Station B is busy, and Station A will ring. The timer setting in System Data 1, Index 145 is ignored.

7. When a call is call forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

8. STATION-TO-STATION CALLING [S-11] must first be provided.

Programming

STEP 1: **ASYD** - System Data 1, Index 5, Bit 0. Access codes for CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING - DON'T ANSWER- D^{term} are same or separate? 0/1: Same/Separate.

System Data 1, Index 69, Bits 1 and 2 use a short tone to alert the person receiving the call that this is a CALL FORWARDING-DON'T ANSWER-D^{term} call? 0/1: No/Yes.

System Data 1, Index 139. Assign the No Answer timer for station-to-station, DID and TIE Line calls. For 30 seconds, assign 00H, (RAM data is 3FH).

System Data 1, Index 141. Assign the No Answer time for incoming calls via the Attendant Console. It will then be forwarded to the next station according to System Data 1, Index 145 timer. For 10 seconds, assign 00H. (RAM data is 3FH).

System Data 1, Index 145. Assign the time an incoming call via the Attendant Console will ring at the CALL FORWARD-DON'T ANSWER-D^{term} station before recalling to the Attendant Console. For 30 seconds, assign 00H. [RAM data is 9FH.] Index 145 must be longer than Index 141.

System Data 2, Index 6, Bit 0. Enable CALL FORWARDING-DON'T ANSWER-D^{term} on a per-tenant basis.

System Data 2, Index 6, Bit 7. Enable CALL FORWARDING-DON'T ANSWER-D^{term} via the Attendant Console.

STEP 2: **ANPD** - Reserve a number level for service feature access and cancel. Assign for Normal (N), Hooking (H) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING - DON'T ANSWER - D^{term} for entry, SID= 12, and to CALL FORWARDING - DON'T ANSWER - D^{term} for cancel, SID = 13. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign the stations a Service Feature Class that allows SFI = 8 to allow CALL FORWARDING-DON'T ANSWER-D^{term}.

STEP 5: **ADSL** - Assign SN=1 (Originating; DT Connection) and FKY=22 (Call Forwarding Don't Answer; FDN).

This command is used for assigning the function to each soft key.

STEP 6: **AKYD** - For D^{term} sets, CALL FORWARDING - DON'T ANSWER -D^{term} may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARD-DON'T ANSWER [22].

STEP 7: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this service feature to be set by the Attendant Console, assign TRI = 3 for Inter and Intra-Tenant connection via the Attendant Console. Also assign TRI = 0, station-to-station calling.

STEP 8: **ACFO** - For tenant-wide CALL FORWARDING-DON'T ANSWER-D^{term}, assign CF = 2 for a destination (CFI) of either the Attendant Console or a station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ASYDL** - This data must be assigned to the node set Call Forwarding service.

System Data 1, Index640: Assign the Fusion Point Code (FPC) of the node providing the attendant console.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The data of the ASFC command is assigned to the node set Call Forwarding service.*

C-5   Call Forwarding - All Calls

General Description

This feature permits all calls destined for a particular station to be routed to another station (or to the Attendant) regardless of the busy or idle status of the called station. Activation and cancellation may be accomplished by either the individual user or the Attendant.

Operating Procedure

To activate CALL FORWARDING - ALL CALLS from an individual station:
1.   Lift the handset; receive dial tone.
2.   Dial the CALL FORWARDING - ALL CALLS access code; receive special dial tone.
3.   Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - ALL CALLS from an individual station:
1.   Lift the handset; receive dial tone.
2.   Dial the CALL FORWARDING - ALL CALLS cancel code; receive service set tone.

To activate CALL FORWARDING - ALL CALLS from the ATTENDANT CONSOLE [A-3]:
1.   Press an idle LOOP key.
2.   Dial the CALL FORWARDING - ALL CALLS access code; receive special dial tone.
3.   Dial the TENANT [T-12] number (2/3 digits).
4.   Dial the originating telephone number.
5.   Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - ALL CALLS from the ATTENDANT CONSOLE [A-3]:
1.   Press an idle LOOP key.
2.   Dial the specific CALL FORWARDING - ALL CALLS cancellation code; receive special dial tone.
3.   Dial the TENANT [T-12] number (3 digits).
4.   Dial the originating telephone number; receive service set tone.

Service Conditions

1.   Stations with this feature set may originate any calls and access the CALL FORWARDING - ALL CALLS cancellation code.
2.   There is no limitation to the number of stations that can set CALL FORWARDING - ALL CALLS simultaneously.
3.   Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
4.   When a call is forwarded to another station, one burst of ringing signal will be sent to the station to indicate that it is Call Forwarded.
5.   Stations activating CALL FORWARDING - ALL CALLS may be restricted from placing any calls, except to the Attendant. (This is an optionally programmable feature).
6.   When the operator answers a forwarded call, System Data programming can provide a called telephone number display on the ATTENDANT CONSOLE [A-3].
7.   CALL FORWARDING - ALL CALLS data remains in the data memory, even if the system is reinitialized or in the event of a power failure.

Service Conditions (cont'd)

8. If the station's own telephone number is set for CALL FORWARDING - ALL CALLS, this feature is changed to CALLING PARTY RECOGNITION SERVICE (CALL FORWARDING - ALL CALLS) [C-103].

9. When the user setting CALL FORWARDING - ALL CALLS goes off-hook, special dial tone can be provided instead of dial tone. (Activation of this service is determined by system data.)

10. The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number except when called from a station or Tie Line trunk.

11. When a destination of CALL FORWARDING-ALL CALLS has already been assigned, even if the feature is restricted by the new office data or changing of Day/Night mode, the assigned data can still be used or cancelled.

12. A telephone number must be set to the call forwarding destination.

13. This feature is not available for stations having a telephone number of seven digits or more.

14. A call can be forwarded to an Attendant Console in the remote node via FCCS link.

15. When a call is forwarded through FCCS link, the numbering plans of the originally called station and the forwarded Attendant Console must be the same.

Interactions

1. Users are unaccustomed to hearing ringback tone when responding to their own station's ring. Inform users when providing ringback tone with CALL FORWARDING-ALL CALLS in System Data 1, Index 69, Bit 1.

2. Call Forwarding can only be activated from an idle station.

3. When CALL WAITING [C-12, 31], ATTENDANT CAMP-ON [A-1], and CALL BACK [C-1]are directed toward Station A, with CALL FORWARDING set to Station B, Station B will receive Call Waiting Tone.

4. When a station in a STATION HUNTING [S-7, 8, 9] Group initiates CALL FORWARDING-ALL CALLS, calls normally destined for this station will not be received. The Hunt Group operates as if the station were busy.

5. A non-controlling UCD station is allowed to activate CALL FORWARDING-ALL CALLS. With this station call forwarded, only calls that are directly dialed to this station are call forwarded. The member station is removed from the UCD group under the conditions of this call forwarding feature.

6. If an Attendant attempts BUSY VERIFICATION [B-3] to Station A, which has CALL FORWARDING-ALL CALLS set to Station B, BUSY VERIFICATION [B-3] proceeds as if the Attendant had attempted to Verify Station B. If Station A has set CALL FORWARDING-ALL CALLS to the Attendant Console, BUSY VERIFICATION [B-3] is allowed at Station A if Station A were busy.

Interactions (cont'd)

7. When CALL FORWARDING-ALL CALLS is in effect, the activating station may be used to originate calls. See System Data 2, Index 6, Bit 4.

8. When a station is call forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

9. CALL FORWARDING-ALL CALLS can be overridden, allowing Station B to initiate or transfer calls back to Station A.

10. STATION-TO-STATION CALLING [S-11] must first be provided.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, Bit 6. One burst of ringing at the forwarding station when CALL FORWARDING-ALL CALLS is in service? 01: No/Yes.

System Data 1, Index 248, Bit 7. Dial tone to be sent out when a station on which CALL FORWARDING-ALL CALLS is set, goes off-hook to place an outgoing call 0/1: Dial Tone/Special Dial Tone.

System Data 1, Index 69, Bit 1 (Bit 2 - Call Forward Recall Tone). A burst of ringback tone to alert the person receiving a call that this is a CALL FORWARDING-ALL CALLS call. In service? 0/1: No/Yes. Normally assigned as data "0".

System Data 2, Index 6, Bit 4. Enable station set for CALL FORWARDING-ALL CALLS be allowed to use phones normally. If data "0" is assigned, the station will only be able to call the Attendant Console. Assign on a per-tenant basis.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Index, (CI) = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-ALL CALLS entry SID = 8, and to CALL FORWARDING-ALL CALLS cancel SID = 9. Assign CI for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 7 to stations that will activate CALL FORWARDING - ALL CALLS.

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-ALL CALLS may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-ALL CALLS [2].

STEP 6: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set by the Attendant Console, assign Inter an Intra-Tenant connection TRI = 3, via the attendant Console. Also allow TRI = 0, station-to-station calling.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDL** - This data must be assigned to the node set Call Forwarding service.

System Data 1, Index640: Assign the FPC of the node providing the attendant console.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The data of the ASFC command is assigned to the node set Call Forwarding service.*

C-5D   Call Forwarding - All Calls - D^term

General Description

This feature permits all calls destined for a particular station to be routed to another station, or to the Attendant, regardless of the busy or idle status of the called station. Activation and cancellation may be accomplished by the user or the Attendant. CALL FORWARDING - ALL CALLS - D^term may be set or cancelled by the user for all multi-line appearances on the D^term. Additionally, a single user may set CALL FORWARDING - ALL CALLS - D^term to all sub-lines on the D^term.

Operating Procedure

To set CALL FORWARDING - ALL CALLS from MY Line:
1.   Lift the handset or press the SPEAKER key; receive dial tone.
2.   Press the CALL FORWARDING - ALL CALLS feature key; receive special dial tone.
3.   Dial the desired target telephone number; receive service set tone. The LED will light. The LCD displays:

Target Station

```
+--------------------------------------+
| FORWARD SET              XXXX        |
|          (Time Display)              |
|                                      |
+--------------------------------------+
```

4.   Replace the handset or press the SPEAKER key.

To monitor CALL FORWARDING - ALL CALLS from MY Line:
1.   Press the CALL FORWARDING - ALL CALLS feature key. The LCD displays:

Target Station

```
+--------------------------------------+
| FORWARD                  XXXX        |
|          (Time Display)              |
|                                      |
+--------------------------------------+
```

OR

Operator

```
+--------------------------------------+
| FWD SET                              |
|          (Time Display)              |
|                                      |
+--------------------------------------+
```

To cancel CALL FORWARDING - ALL CALLS from MY Line:
1.   Lift the handset or press the SPEAKER key; receive dial tone.
2.   Press the CALL FORWARDING - ALL CALLS feature key; receive service set tone. The LED of the associated feature key will go out. The LCD displays:

```
+--------------------------------------+
| FORWARD CANCEL                       |
|          (Time Display)              |
|                                      |
+--------------------------------------+
```

3.   Replace the handset or press the SPEAKER key.

To set CALL FORWARDING - ALL CALLS for a multi-line appearance other than the MY Line:
1.   Lift the handset or press the SPEAKER key.
2.   Press the multi-line appearance; receive dial tone. Then press CALL FORWARDING - ALL CALLS feature key; receive special dial tone.

Operating Procedure (cont'd)

3. Dial the desired target telephone number; receive service set tone. The LED of the associated feature key does not light at the station setting the service. If the multi-line appearance is another D^{term}'s MY Line, that station's feature key LED will light. The setting station's LCD displays:

Target Station

```
┌─────────────────────────────────────┐
│  FORWARD SET                  XXXX   │
│            (Time Display)            │
│                                      │
└─────────────────────────────────────┘
```

4. Replace the handset or press the SPEAKER key.
5. If the target station is the operator, the LCD displays:

```
┌─────────────────────────────────────┐
│  FWD SET OPR                         │
│            (Time Display)            │
│                                      │
└─────────────────────────────────────┘
```

To monitor CALL FORWARDING - ALL CALLS for a multi-line appearance other than the MY Line:

1. Press the multi-line appearance. Then press the CALL FORWARDING - ALL CALLS feature key. The LCD displays:

Target Station

```
┌─────────────────────────────────────┐
│  FORWARD                      XXXX   │
│            (Time Display)            │
│                                      │
└─────────────────────────────────────┘
```

To cancel CALL FORWARDING - ALL CALLS for a multi-line appearance other than the MY Line:

1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the multi-line appearance; receive dial tone. Press the CALL FORWARDING - ALL CALLS feature key; receive service set tone. The LCD displays:

```
┌─────────────────────────────────────┐
│  FORWARD CANCEL                      │
│            (Time Display)            │
│                                      │
└─────────────────────────────────────┘
```

The associated LED that is lit at another station goes out.
3. Replace the handset or press the SPEAKER key.

Service Conditions

1. Stations with this feature set may originate any calls and access the CALL FORWARDING - ALL CALLS - D^{term} cancellation code.
2. All stations may simultaneously activate CALL FORWARDING - ALL CALLS - D^{term}.
3. Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
4. If Station A sets Call Forwarding to Station B, and Station B is set for Call Forwarding to Station C, calls to Station A will be forwarded to Station B but will not be routed to Station C, unless MULTIPLE CALL FORWARDING - ALL CALLS [M-44] has been set in System Data.
5. CALL FORWARDING - ALL CALLS - D^{term} can only be set from the MY Line or sub-line.
6. CALL FORWARDING - ALL CALLS - D^{term} may also be accessed via the dial pad or SPEED CALLING-ONE TOUCH [S-26D]. If this feature is accessed via the dial pad, it must also be cancelled via the dial pad.

Service Conditions (cont'd)

7. A user may set CALL FORWARDING - ALL CALLS - D^{term} for a multi-line appearance based on the CLASS OF SERVICE - INDIVIDUAL [C-15] assigned to the station setting the service. The figure below is a simplified key sheet assignment for stations 200 & 201. The CLASS OF SERVICE - INDIVIDUAL [C-15] for station 200 is allowed CALL FORWARDING - ALL CALLS - D^{term}, but the CLASS OF SERVICE - INDIVIDUAL [C-15] for station 201 is not. Station 200 is able to set CALL FORWARDING - ALL CALLS - D^{term} for station 201. The associated feature button LED on station 201 will illuminate.
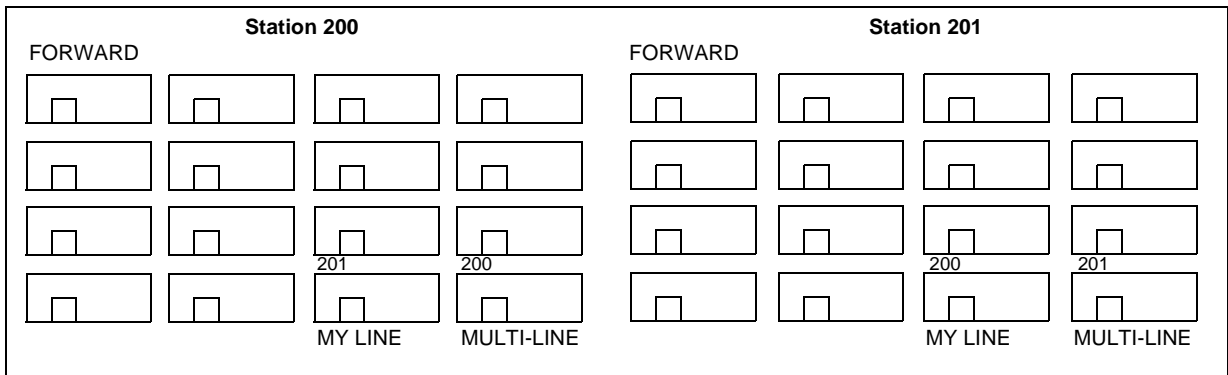
Note: *FORWARD key is same as the CALL FORWARDING - ALL CALLS feature key.*

8. This feature is applicable to CALL FORWARDING - ALL CALLS - OUTSIDE [C-28] and CALL FORWARDING and MULTIPLE CALL FORWARDING - ALL CALLS - CCIS [C-45] [M-40].

9. The display of an intermediate station on a D^{term}'s LCD panel may be allowed or denied according to System Data. This assignment is done on a system basis. The LCD displays:

Intermediate Station   Calling/Called Party

```
CF ALL XXXX              XXXX
         (Time Display)
```
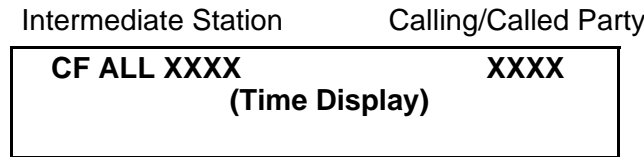
Note: *When the telephone number of the intermediate or calling/called station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of 16 digits calling/called telephone number can be displayed on the middle line of LCD depending on the System Data.*

10. When the user setting CALL FORWARDING - ALL CALLS goes off-hook, the special dial tone can be provided instead of dial tone. (Activation of this service is determined in the System Data.)

11. The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number except when called from a station or Tie Line trunk.

12. When a destination of CALL FORWARDING - ALL CALLS - D^{term} has already been assigned, even if the feature is restricted by the new office data or by changing of the DAY/NIGHT mode, the assigned data can still be used or cancelled.

13. A telephone number must be set to the call forwarding destination.

14. This feature is not available for stations having a telephone number of seven digits or more.

Service Conditions (cont'd)

15. A call can be forwarded to an Attendant Console in the remote node via FCCS link.

16. When a call is forwarded through FCCS link, the numbering plans of the originally called station and the forwarded Attendant Console must be the same.

Interactions

1. Users are unaccustomed to hearing ringback tone when responding to their own station's ring. Inform users when providing ringback tone with CALL FORWARDING-ALL CALLS in System Data 1, Index 69, Bit 1.
2. Call Forwarding can only be activated from an idle station.
3. When CALL WAITING [C-12, 31], ATTENDANT CAMP-ON [A-1], and CALL BACK [C-1] are directed toward Station A, with CALL FORWARDING set to Station B, Station B will receive Call Waiting Tone.
4. When a station in a STATION HUNTING [S-7, 8, 9] Group initiates CALL FORWARDING-ALL CALLS, calls normally destined for this station will not be received. The Hunt Group operates as if the station were busy.
5. A non-controlling UCD station is allowed to activate CALL FORWARDING [C-5]. With this station call forwarded, only calls that are directly dialed to this station are call forwarded. The member station is removed from the UCD group under the conditions of this call forwarding feature.
6. If an Attendant attempts BUSY VERIFICATION [B-3] to Station A, which has CALL FORWARDING-ALL CALLS set to Station B, BUSY VERIFICATION [B-3] proceeds as if the Attendant had attempted to Verify Station B. If Station A has set CALL FORWARDING-ALL CALLS to the Attendant Console, BUSY VERIFICATION [B-3] is allowed at Station A if Station A is busy.
7. When CALL FORWARDING-ALL CALLS is in effect, the call forwarded station may be used to originate calls. See System Data 2, Index 6 Bit 4.
8. When a station is call forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].
9. CALL FORWARDING-ALL CALLS can be overridden, allowing Station B to initiate or transfer calls back to Station A.
10. STATION-TO-STATION CALLING [S-11] must first be provided.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, Bit 6. One burst of ringing at the forwarding station when CALL FORWARDING-ALL CALLS-D^{term} is in service? 01: No/Yes.

Programming (cont'd)

System Data 1, Index 69, Bit 1 (Bit 2 - Burst of Tone for Recall). A burst of ringback tone to alert the person receiving a CALL FORWARDING - ALL CALLS - D^{term} call. In service? 0/1: No/Yes. Normally assigned as data "0".

System Data 2, Index 6, Bit 4. Enables station set for CALL FORWARDING-ALL CALLS-D^{term} to be allowed to use phones normally. If data "0" is assigned, the station will only be able to call the Attendant Console. Assign on a per-tenant basis.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-ALL CALLS-D^{term} entry SID = 8, and to CALL FORWARDING-ALL CALLS-D^{term} cancel SID = 9. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 7 to stations that will activate CALL FORWARDING - ALL CALLS-D^{term}.

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-ALL CALLS-D^{term} may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-ALL CALLS [2].

STEP 6: **ADSL** - Assign SN=1 (Originating) and FKY=2 (Call Forwarding All Calls; FDA).

This command is required only for assigning the function to each soft key.

STEP 7: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this service feature to be set by the Attendant Console, assign Inter an Intra-Tenant connection TRI = 3, via the Attendant Console. Also allow TRI = 0, station-to-station calling.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDL** - This data must be assigned to the node set Call Forwarding service.

System Data 1, Index640: Assign the Fusion Point Code (FPC) of the node providing the attendant console.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The data of the ASFC command is assigned to the node set Call Forwarding service.*

C-6 Call Hold

General Description

This feature permits any user to hold a call in progress by performing a switch hook flash and dialing a preprogrammed CALL HOLD code, thus allowing that line to be used for originating another call or returning to a previously held call.

Operating Procedure

To hold a call in progress:
1. Press the switch hook; receive special dial tone.
2. Dial CALL HOLD code; receive normal dial tone.
3. The call in progress is held; the user may initiate a new call.

To release a new call and return to the held call:
1. Replace the handset, releasing the new call.
2. The original call rings back to station.
3. Lift the handset and continue with the original call.

To hold a new call and return to original call:
1. Press the switch hook; receive special dial tone.
2. Dial the CALL HOLD code; the new call is now held.
3. The original call is automatically returned.

Note: *By repeating the above steps, users can converse alternately with two parties.*

Service Conditions

1. Lines freed through use of this feature may also be used for answering incoming calls via the CALL PICKUP - GROUP [C-7] or TRUNK ANSWER FROM ANY STATION [T-8] features.
2. If the controlling user does not dial any further digits after the CALL HOLD code, removal of dial tone will occur after 12 seconds; reorder tone is then applied for 30 seconds followed by muting of the station set.
3. Calls will remain on hold until the controlling user either replaces the handset, causing the held call to ring back, or flashes the switch hook and redials the Hold code to return to the original call.
4. Only one call at a time may be held per station line, and the held call cannot be added to another call as in THREE-WAY CALLING [T-2].
5. Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
6. There is no limitation to the number of stations that may simultaneously access this feature.
7. CALL WAITING [C-12, 31] cannot be activated if the target station has a call on HOLD.
8. CALL BACK [C-1]:
   a.) A user cannot activate CALL HOLD when CALL BACK [C-1] has already been activated.
   b.) A user cannot use the CALL HOLD feature while CALL BACK [C-1] is in effect toward it.
   c.) A user with a call on HOLD cannot activate the CALL BACK [C-1] feature.
9. CALL PICKUP [C-7, 30]: A user is denied use of the CALL PICKUP [C-7, 30] feature when holding one call and in a talking state with another call.

Service Conditions (cont'd)

10. THREE-WAY CALLING [T-2]: This feature used in conjunction with the CALL HOLD feature, allows the calling user to transfer a second call while holding the first call. After transferring the second call, the calling user is rung back by the party on hold.

11. EXECUTIVE RIGHT-OF-WAY [E-1]: Executive Override of a station that has a call on HOLD and is connected to another call is allowed. However, Executive Override of a station on HOLD is denied (reorder tone is heard).

12. CALL FORWARDING [C-2, 3, 5]: This feature interacts with CALL HOLD as follows: CALL HOLD ringbacks are not forwarded; instead, the calling station is rung back with the held call after going on-hook.

13. BUSY VERIFICATION [B-2]: Busy Verification of a station on HOLD is denied. Busy Verification of a station that has a call on HOLD is allowed if the station is in a talking state with another party.

14. OUTGOING TRUNK QUEUING [O-2, 2D]: A user cannot be placed in a ringback queue while holding another call in hold.

15. Attendant calls cannot be held.

16. ATTENDANT CAMP-ON [A-1]: Call hold cannot be activated when ATTENDANT CAMP-ON has already been set.

Interactions

1. CONSULTATION HOLD [C-17] must be allowed for all features that will operate by using the switch hook to make a connection. This includes CALL TRANSFER [C-11], CALL PICKUP [C-7], THREE-WAY CALLING [T-2], etc.

2. A station can CALL HOLD only one call at a time.

3. CALL WAITING [C-12, 31]: When a station has a call on CALL HOLD, CALL WAITING [C-12, 31] features are denied to both the holding and the held station.

4. CALL BACK [C-1]:
    a.) A user cannot activate CALL HOLD when CALL BACK [C-1] has already been activated.
    b.) A user cannot use the CALL HOLD feature while CALL BACK [C-1] is in effect toward it.
    c.) A user with a call on HOLD cannot activate the CALL BACK [C-1] feature.

5. NON-EXCLUSIVE and EXCLUSIVE HOLD [N-7D, E-4D] are not affected by CALLBACK [C-1].

6. CALL PICKUP [C-7, 30]: A user is allowed use of the CALL PICKUP [C-7, 30] feature when holding Station B to pick up Station C.

7. EXECUTIVE RIGHT-OF-WAY [E-1]: Executive Override of a station that has a call on HOLD and is connected to another call is allowed; however, Executive Override of a station on HOLD is denied (reorder tone is heard).

8. AUTOMATIC RECALL [A-8] of a held call will not be affected by CALL FORWARDING [C-2, 3, 5].

9. BUSY VERIFICATION [B-2]: Busy Verification of a station on HOLD is denied. Busy Verification of a station that has a call on HOLD is allowed if the station is in a talking state with another party.

10. OUTGOING TRUNK QUEUING [O-2]: A user cannot queue a trunk while using CALL HOLD.

11. Calls that include the Attendant Console cannot have access to CALL HOLD.

12. ATTENDANT CAMP-ON WITH TONE INDICATION [A-1]: This feature is denied if a station has a call on CALL HOLD.

13. CALL HOLD cannot be activated if a call has been previously camped-on. A switch hook flash will seize the camped-on call.

Interactions (cont'd)

14. Calls remain on CALL HOLD until the controlling station replaces the handset, causing the held call to ringback. If the controlling station does not answer the recall within the preset time-out interval (System Data 1, Index 139), the connection is released.

Programming

STEP 1: **ASYD** - System Data 1, Index 139. No Answer Timer for CALL HOLD. (When Station A places Station B on HOLD, and hangs up, Station A will ring after a preset period of time has elapsed. If Station A does not answer, then Station B goes from ringback tone to reorder tone.)

System Data 2, Index 1, Bits 0 & 1. CONSULTATION HOLD [C-17] allowed or denied. 00: Denied; Originating and Terminating Calls allowed, Tandem Calls Denied; 11: All calls allowed.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code for CALL HOLD, SID = 1 for Connection Status Index (CI) of Hooking (H).

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 10 to stations that are allowed CALL HOLD.

STEP 5: **AKYD** - Optional. Assign CALL HOLD to a programmable Line/Feature key. Assign Type:Function:CALL HOLD [10]. (The operation of TRANSFER key and access code is also available). Type:Function:FLASH BUTTON [21].

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ANPDL** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code for CALL HOLD, SID = 1 for Connection Status Index (CI) of Hooking (H).

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-6D   Call Hold - D^term

General Description

This feature permits a D^term user to HOLD a call in progress by using CALL HOLD - D^term.

Operating Procedure

To hold a call in progress without using the HOLD key:
1.   Press TRANSFER key; receive special dial tone. The LCD displays:

> **TRANSFER**
>   **(Time Display)**

2.   Dial the CALL HOLD [C-6] code; receive normal dial tone.
3.   The call in progress is held; the user may initiate a new call.

To release a new call and return to the original call:
1.   Go on-hook, releasing the new call; or press the RECALL key.
2.   The original call will ring back to the D^term.

To hold a new call and return to the original call:
1.   Press TRANSFER key; receive special dial tone.
2.   Dial CALL HOLD [C-6] code; the new call is placed on HOLD, the original call is automatically returned.

Note: *By repeating the above steps, user can converse alternately with two parties.*

A feature/line key may be programmed as a HOLD key:
1.   While a call is in progress, press the HOLD key.
2.   The call is placed on HOLD, dial tone is restored.
3.   A new call may be dialed.
4.   To return to the original call, press the RECALL key.

On a D^term, a SPEED CALLING - ONE TOUCH [S-26] may be used to place a call on HOLD:
1.   Press feature key, plus a SPEED CALLING - ONE TOUCH [S-26] key. The LCD will display any previously stored data.
2.   Press the RECALL key. The LCD displays:

> **!**
>   **(Time Display)**

      This acts as a switch hook flash. See FLASH ENTRY - D^term [F-4D].
3.   Dial CALL HOLD [C-6] access code.
4.   Press SPEED CALLING - ONE TOUCH [S-26] key. The LCD displays:

> **SPEED SET**
>   **(Time Display)**

5.   This key may now be used to access the CALL HOLD - D^term feature.
6.   When engaged in a conversation, press the SPEED CALLING - ONE TOUCH [S-26] key with the stored CALL HOLD - D^term access code.
7.   Dial tone is restored to the phone, and user is free to make another call.

Operating Procedure (cont'd)

To operate a D^{term} via the FLASH BUTTON [F-3D]:
1. When engaged in a conversation, press the programmable feature/line key programmed as a FLASH BUTTON [F-3D]. The LCD will display:

> **TRANSFER**
> **(Time Display)**

2. Dial the CALL HOLD [C-6] access code; the LCD goes blank and dial tone is restored to the user.

Service Conditions

1. Lines freed through use of this feature may also be used for answering incoming calls via the CALL PICKUP - GROUP [C-7] or TRUNK ANSWER FROM ANY STATION [T-8] features.
2. Calls will remain on HOLD until the controlling user either replaces the handset, causing the held call to ring back, or will press the TRANSFER key or flash button and redial the HOLD code to return to the original call.
3. Only one call per station may be held at one time, and a held call cannot be added to another party as in THREE-WAY CALLING [T-2].
4. Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
5. There is no limitation to the number of stations that may access this feature simultaneously.
6. Kind of service indication on the LCD display is allowed or denied via System Data programming.
7. The station having a camped-on call cannot activate the CALL HOLD feature.

Interactions

1. CALL WAITING [C-12, 31] cannot be activated if the target station has a call on hold.
2. CALL BACK [C-1]:
    a.) A user cannot activate CALL HOLD - D^{term} when CALL BACK has already been activated.
    b.) A user cannot use the CALL HOLD - D^{term} feature while CALL BACK is in effect toward it.
    c.) A station with a call on HOLD cannot activate the CALL BACK feature.
3. CALL PICKUP [C-7, 30]: A user is denied use of the CALL PICKUP feature when holding one call and in a talking state with another call.
4. THREE-WAY CALLING [T-2]: This feature, used in conjunction with the CALL HOLD - D^{term} feature, allows the calling user to transfer a second call while holding the first call. After transferring the second call, the calling user is rung back by the party on HOLD.
5. EXECUTIVE RIGHT-OF-WAY [E-1]: Executive Override of a station that has a call on HOLD and is connected to another call is allowed. However, Executive Override of a station on HOLD is denied (reorder tone is heard).
6. CALL FORWARDING [C-2, 3, 5]: This feature interacts with CALL HOLD - D^{term} as follows: CALL HOLD ringbacks are not forwarded. Instead, the calling station is rung back with the held call after going on-hook.
7. BUSY VERIFICATION [B-3]: BUSY VERIFICATION of a station on HOLD is denied. BUSY VERIFICATION of a station that has a call on HOLD is allowed if the station is in a talking state with another party.
8. OUTGOING TRUNK QUEUING [O-2]: A user cannot be placed in a Ringback queue while holding another call on HOLD.

Interactions (cont'd)

    9.   Attendant calls cannot be held.

   10.   ATTENDANT CAMP-ON [A-1]: CALL HOLD - D^{term} cannot be activated when ATTENDANT CAMP-ON has already been set.

Programming

STEP 1:   **ASYD** - System Data 1, Index 139. No Answer Timer for CALL HOLD. (When Station A places Station B on HOLD, and hangs up, Station A will ring after a preset period of time has elapsed. If Station A does not answer, then Station B goes from ringback tone to reorder tone.)

               System Data 2, Index 1, Bits 0 & 1. CONSULTATION HOLD [C-17] allowed or denied. 00: Denied; Originating and Terminating Calls allowed, Tandem Calls Denied; 11: All calls allowed.

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code for CALL HOLD, SID = 1 for Connection Status Index (CI) Hooking (H).

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI = 10 to stations that are allowed CALL HOLD.

STEP 5:   **AKYD** - Assign Call Hold to a programmable Line Feature key. Assign Type:Function:CALL HOLD [10]. (The operation of TRANSFER key and access code is also available). Type:Function:FLASH BUTTON [21].

STEP 6:   **ADSL** - Assign SN=5 (Consultation Hold) and FKY=10 (Call Hold; HLD)

               This command is required only for assigning the function to each soft key.

               To operate a D^{term} via the FLASH BUTTON [F-3D], assign SN=4 (Communication is in Progress) and FKY=21 (Flash Button; FLASH).

FCCS Programming

               This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ANPDL** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPAL** - Assign an access code for CALL HOLD, SID = 1 for Connection Status Index (CI) Hooking (H).

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-7 Call Pickup - Group

General Description

This feature permits a user to answer any calls directed to other lines in the user's preset CALL PICKUP - GROUP by dialing a Pickup code.

A user can be assigned to an additional CALL PICKUP GROUP, referred to as EXPANDED CALL PICKUP GROUP.

Operating Procedure

To pick up an incoming call:
1.   A station within the CALL PICKUP GROUP rings.
2.   Lift the handset; receive dial tone.
3.   Dial the CALL PICKUP code; the call is connected to the station.

To pick up an incoming call (Consultation Hold):
1.   A station within the CALL PICKUP GROUP rings.
2.   The station flashes the switch hook; receives special dial tone.
3.   Dial the CALL PICKUP code; the call is connected to the station.
4.   The first party is put on CALL HOLD [C-6] status.

To pick up an incoming call within the EXPANDED CALL PICKUP GROUP:
1.   A station within the EXPANDED CALL PICKUP GROUP rings.
2.   Lift the handset; receive dial tone.
3.   Dial the access code for EXPANDED CALL PICKUP; the call is connected to the station.

Service Conditions

1.   This feature may be provided on a per-line basis via system data.
2.   Any station assigned a fully restricted CLASS OF SERVICE-INDIVIDUAL [C-15] will be unable to answer incoming Central Office calls using this feature.
3.   A CALL PICKUP GROUP is defined as those stations having the ability to pick up each other's calls using the CALL PICKUP feature.
4.   A maximum of 100 stations can be assigned to each group. There is no limit to the number of groups per system.
5.   If the CALL PICKUP GROUP code is dialed while two or more stations within the group are ringing, the switching system will connect the calls in the order of priority assigned to the call pick up chain.
6.   CALL PICKUP GROUP cannot be used to answer OUTGOING TRUNK QUEUING [O-2] or CALL BACK [C-1] from another station.
7.   A busy station can accomplish Call Pickup by flashing the switch hook and then dialing the CALL PICKUP GROUP code. The call in progress will automatically be placed on hold.
8.   CALL TRANSFER - ALL CALLS [C-11]: The ability to pick up the recall of CALL TRANSFER - ALL CALLS when CALL PICKUP - GROUP is activated is not available.
9.   A maximum of 100 stations can be assigned to each EXPANDED CALL PICKUP GROUP. There is no limit to the number of groups per system.
10. A user cannot pick up a call in the EXPANDED CALL PICKUP GROUP when engaged in another call.
11. This feature is available via FCCS.

Service Conditions (cont'd)

12. The allowable station number type for a member of CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP is the telephone number only.

13. When using the FCH card with:

   a.) Stations in up to a maximum of four different nodes can be assigned to a CALL PICKUP GROUP or a CALL PICKUP EXPAND GROUP.

   b.) When a CALL PICKUP GROUP/CALL PICKUP EXPAND GROUP has stations that belong to different nodes, and the multiple Call Pickup/Call Pickup Expand stations are ringing simultaneously, if ringing stations belong to the same node, the user will pick up the call in assigned order. However, if ringing stations belong to different nodes, the user cannot pick up the call in assigned order or terminated order. The user will first pick up the call terminated to the station belonging to the same node of the user's station. See the figures below.

CALL PICKUP GROUP

The number below the station is the assigned order.

Example: All the Stations No. 1 through No. 5 belong to the same CALL PICKUP GROUP. When Stations No.1, No. 3 and No. 5 are ringing:

   • If the user answers via Station No. 4, the user will pick up a call terminated to Station No. 5 first (this feature allows the user to pick up from the next station in assigned order). The user will then pick up Station No. 3, if Station No. 3 is still ringing.

   • If the user answers via Station No. 2, the user will pick up a call terminated to Station No. 1 first.

Service Conditions (cont'd)

CALL PICKUP EXPAND GROUP
The number below the station is the assigned order.
Example: All the stations No.1 through No. 5 belong to the same CALL PICKUP GROUP Expand Group C.
When Stations No. 2 through No. 5 are ringing:
- If the user answers via Station No. 1, the user will pick up a call terminated to Station No. 3 first.
- If the user answers via Station No. 5, the user will pick up a call terminated to Station No. 2 first.

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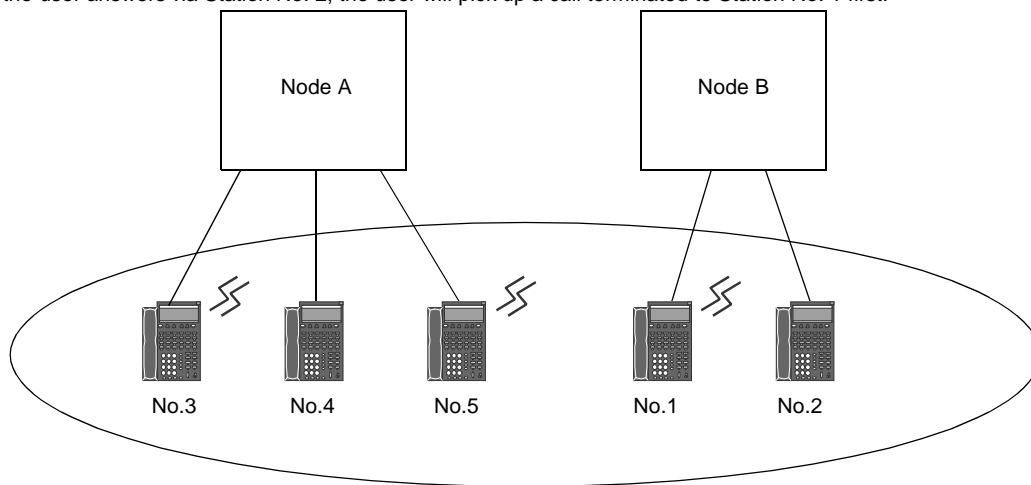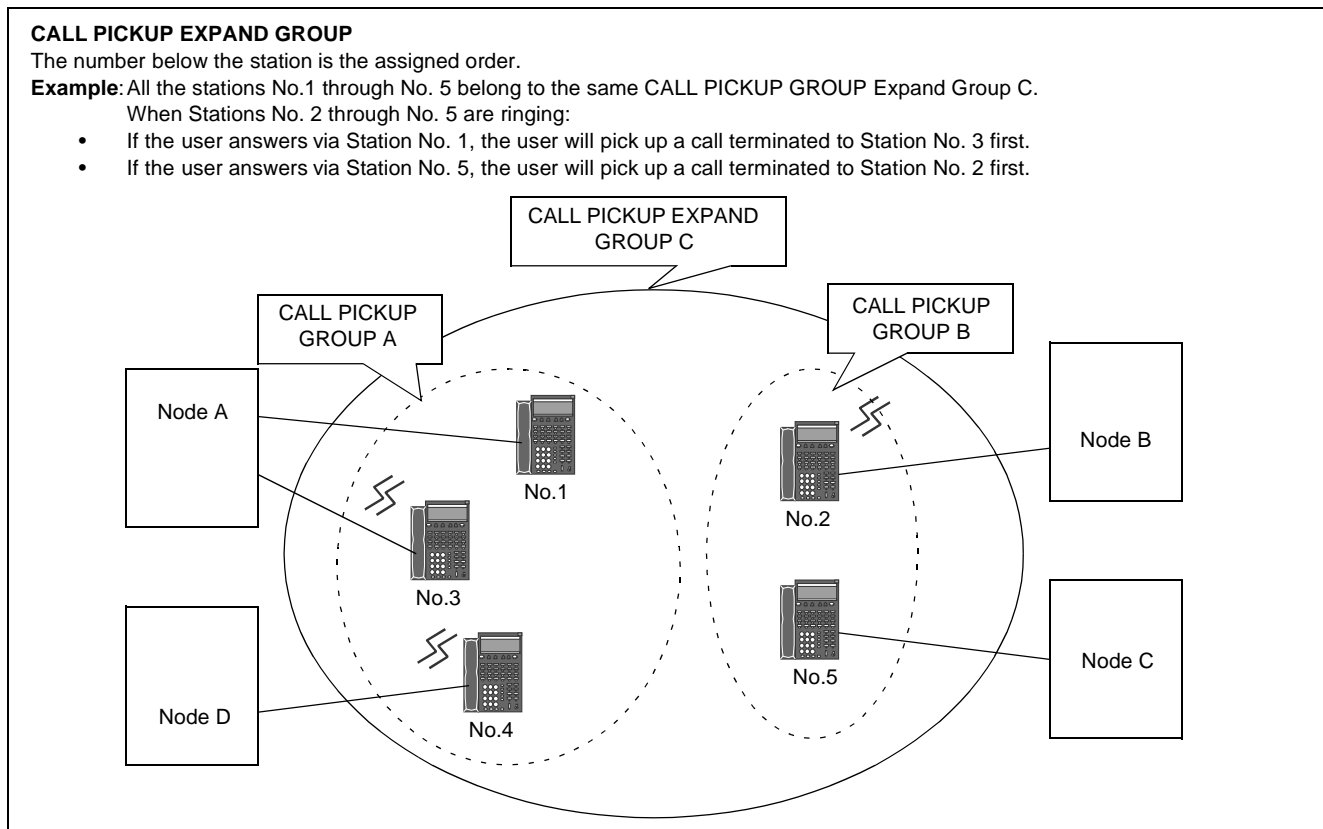
14. The number of CALL PICKUP GROUPs or CALL PICKUP EXPAND GROUPs is not limited.

15. A user cannot answer an incoming call to the station in another CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP.

16. Even if a station has been assigned to the existing CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP by Physical Station Number, the station can also be assigned to the same CALL PICKUP GROUP or a CALL PICKUP EXPAND GROUP via FCCS service.

17. When the station holds a call (switch hook flash or Call Hold) which terminated through FCCS link, the station cannot pick up a call via CALL PICKUP/CALL PICKUP EXPAND.

18. When both stations, a calling station and a station that will picks up a call, place another call on hold, this service is activated on the condition that all the stations (the calling station, the station that picks up the call, the ringing station, and the held stations) belong to the same node. If any of the stations belong(s) to a different node, this service is not activated.

19. The CALL PICKUP - GROUP/CALL PICKUP EXPAND GROUP can be set on a node basis, even in the use of telephone numbers. In other words, the features are available via the data written on the Local Data Memory (LDM), not only on the Data Memory (DM) or the Network Data Memory (NDM). The following are conditions in this case:

    a.) The features are to be programmed by using the telephone number (TELN) of each station.
    b.) A maximum of 100 stations can be assigned per CALL PICKUP GROUP.
    c.) A maximum of 100 stations can be assigned per CALL PICKUP EXPAND GROUP.
    d.) A station can belong to one CALL PICKUP GROUP only.

Service Conditions (cont'd)

e.) A station can belong to one CALL PICKUP EXPAND GROUP only.

f.) No limitation is attached to the number of CALL PICKUP GROUPs/CALL PICKUP EXPAND GROUPs per node.

g.) When multiple stations are ringing in a CALL PICKUP GROUP/CALL PICKUP EXPAND GROUP, the calls won't be picked up in the terminating order or in the assigned order of stations.

h.) A station cannot pick up a call to a member of other CALL PICKUP GROUPs/CALL PICKUP EXPAND GROUPs.

i.) A call to be picked up can be that from a station, a trunk or an Attendant Console.

j.) When there is a restriction on the connection between an incoming call and the answering station, the restriction is applied. As a result of this, the station cannot pick up the call.

k.) The features, though using the telephone numbers, cannot be used together with the same features via FCCS.

l.) Stations denied access to a route via Route Restriction Class may not be able to pick up an incoming trunk call.

m.) A specific attendant number cannot be assigned for these features.

n.) CALL PICKUP GROUPs via DM and groups via LDM cannot coexist in a system.

20. When using the FCCS network, calling back for CALL BACK [C-1] or OUTGOING TRUNK QUEUING [O-2] to the station cannot be picked up.

21. When using the FCCS network, the specific attendant number cannot be assigned to a CALL PICKUP GROUP or a CALL PICKUP EXPAND GROUP, which is activated with NDM data.

22. When programmed on LDM, a call in recall state by CALL BACK [C-1], OUTGOING TRUNK QUEUING [O-2] or CALL HOLD [C-6], cannot be picked up.

23. When programmed on LDM, a call by Automatic Wake-up [A-27] or Timed Reminder [T-62] cannot be picked up.

Interactions

1. CALL HOLD [C-6]: To pick up a call while engaged in a two-party connection, the station can switch hook flash to place the other party on CALL HOLD [C-6] and dial the Call Pickup code. The first party is put on CALL HOLD [C-6].

2. CALL BACK [C-1]: The call back station originator being called back cannot be picked up by a station with the CALL PICKUP - GROUP feature. If the callback is directed to the terminating station, then Call Pickup may be used to answer the call. Any other station attempting to pick up the call will result in the user receiving reorder tone.

3. OUTGOING TRUNK QUEUING [O-2]: The OUTGOING TRUNK QUEUING station being rung back cannot be picked up by a station with the CALL PICKUP - GROUP feature. An attempt to pick up the call will result in the station receiving reorder tone.

4. RESTRICTION: A station assigned as fully restricted or with inward restrictions cannot use the CALL PICKUP feature if assigned to a CALL PICKUP GROUP.

5. THREE-WAY CALLING [T-2]: CALL PICKUP can be used only after a THREE-WAY CONFERENCE has been reduced to a two-party connection or the station has returned to an idle state.

6. STATION MESSAGE DETAIL RECORDING SYSTEM [S-10]: When a call is answered using the CALL PICKUP - GROUP feature, the station dialing the Call Pickup code is recorded.

7. CONSULTATION HOLD-ALL CALLS [C-17] must be provided.

8. Station A will not be able to pick up Station B, if Station A is engaged in any state other than idle or a simple two-party connection.

Interactions (cont'd)

9. Stations denied access to a route via Route Restriction Class may not use CALL PICKUP GROUP to answer restricted incoming trunk calls.

10. CALL PICKUP GROUP is not available for AUTOMATIC/MANUAL INTERCOM [A-30] or DIAL INTERCOM [D-87] calls.

11. If more than one station line in a CALL PICKUP GROUP is ringing, the individual call answered is selected by the system. The system priority is based on a circular chain arrangement with first priority given to the station following the station dialing the pick up code.

12. A call ring in a recall state cannot be picked up with this feature.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code for the CALL PICKUP GROUP, SID = 7 and the CALL PICKUP EXPAND, SIDA=63 (if necessary) for Connection Status Index (CI) of Normal (N) and Hooking (H).

STEP 3: **ACPG** - Assign members of CALL PICKUP GROUP. If two stations are ringing simultaneously, the station that was programmed first will be picked up first.

STEP 4: **ACPE** - Assign the CALL PICKUP EXPAND GROUP (if necessary).

STEP 5: **AKYD** - Optional. Assign a programmable Line/Feature key as a CALL PICKUP key. Assign Type:Function:CALL PICKUP-GROUP [12]. If necessary, assign Type:Function:CALL PICKUP EXPAND [115].

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ANPDN** - This command must be assigned to the NCN.

Reserve a number level for feature access and cancel. Assign for Normal (N).

Assign NND in accordance with a predetermined plan.

STEP 2: **ASPAN** - This command must be assigned to the NCN. Assign access code for CALL PICKUP, CI=N, SRV=SSC, SID=7 (CALL PICKUP - GROUP). If necessary, assign SRV=SSCA, SIDA=63 (CALL PICKUP EXPAND GROUP).

CI=N (Normal)

SRV=SSC

SID=7 (CALL PICKUP GROUP)

STEP 3: **ACPGN** - This command must be assigned to the NCN.

Assign members of CALL PICKUP GROUP.

UGN: User Group Number

TELN: Telephone number in CALL PICKUP GROUP

STEP 4: **ACPEN** - This command must be assigned to the NCN.

Assign the CALL PICKUP EXPAND GROUP (if necessary).

UGN: User Group Number

TELN: Telephone number in CALL PICKUP EXPAND GROUP

FCCS Programming (cont'd)

When Entering Data via LDM:

STEP 1: **ANPDL** - Assign 1st digit code (1st DC) and number of necessary digits (NND) for feature access and cancel. CI = N (Normal).

STEP 2: **ASPAL** - Assign access code for CALL PICKUP, CI=N, SRV=SSC, SID=7 (CALL PICKUP - GROUP). If necessary, assign SRV=SSCA, SIDA=63 (CALL PICKUP EXPAND GROUP).

STEP 3: **ACPGL** - Assign members of CALL PICKUP GROUP.

UGN: User Group Number = 1 (fixed)

TELN: Telephone Number of member stations

STEP 4: **ACPEL** - Assign members of CALL PICKUP EXPAND GROUP (if necessary).

UGN: User Group Number = 1 (fixed)

TELN: Telephone Number of member stations

C-7D   Call Pickup - Group - D^{term}

General Description

This feature permits a user to answer any call directed to another line in his preset CALL PICKUP - GROUP by using a programmable line/feature key.

CALL PICKUP - GROUP - D^{term} may be used by seizing dial tone from any multi-line appearance on the D^{term}. A user can be assigned to an additional CALL PICKUP GROUP, referred to as EXPANDED CALL PICKUP GROUP.

Operating Procedure

To answer an incoming call:
1. A station within the CALL PICKUP GROUP rings.
2. Lift the handset; receive dial tone.
3. Press the CALL PICKUP - GROUP feature key; the call is connected to the station. The LCD displays:

Called Station   Calling Station Trunk

```
┌─────────────────────────────────────────┐
│   PICKUP XXXX                  XXXX       │
│             (Time Display)               │
└─────────────────────────────────────────┘
```

Note: *When the telephone number of the called/calling station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of 16-digit calling telephone number can be displayed on the middle line of the LCD, depending on the System Data.*

To answer an incoming call CALL HOLD [C-6]:
1. A station within the CALL PICKUP GROUP rings.
2. Press the TRANSFER/HOLD feature key; receive special dial tone.
3. Press the CALL PICKUP GROUP feature key; the call is connected to the station.
4. The first party is put on CALL HOLD [C-6] status.

To pick up an incoming call within the EXPANDED CALL PICKUP GROUP:
1. A station within the EXPANDED CALL PICKUP GROUP rings.
2. Lift the handset; receive dial tone.
3. Dial the access code or press the feature key for EXPANDED CALL PICKUP; the call is connected to the station.

Service Conditions

1. A station assigned a fully restricted CLASS OF SERVICE-INDIVIDUAL [C-15] will be unable to answer incoming Central Office calls using this feature.
2. A CALL PICKUP GROUP - D^{term} is defined as those stations having the ability to pick up other station's calls using the CALL PICKUP feature.
3. A maximum of 100 stations can be assigned to each group. There is no limit to the amount of groups per system.
4. If CALL PICKUP GROUP - D^{term} is activated while two or more stations within the group are ringing, the system will connect the calls in the order of priority assigned to the call pick up chain.
5. CALL PICKUP GROUP - D^{term} cannot be used to answer OUTGOING TRUNK QUEUING [O-2], Recall or CALLBACK [C-1] from another station.

Service Conditions (cont'd)

6. CALL TRANSFER - ALL CALLS: The capability to pick up the recall of CALL TRANSFER - ALL CALLS when CALL PICKUP - GROUP is activated, is not available.

7. There is no limit to the number of groups per system.

8. A user cannot pick up a call in the EXPANDED CALL PICKUP GROUP when engaged in another call.

9. The allowable station number type for a member of CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP is the telephone number only.

10. The maximum number of stations per CALL PICKUP GROUP is 100.

11. The maximum number of stations per CALL PICKUP EXPAND GROUP is 100.

12. When both stations, a calling station and a station that picks up a call, place an another call on hold, this service is activated on condition that all stations (the calling station, the station that picks up a call, a ringing station and the held stations) belong to the same node. If any of stations belong(s) to the different node, this feature is not activated.

13. When using the FCH card:

    a.) Stations in four different nodes can be assigned to a CALL PICKUP GROUP or a CALL PICKUP EXPAND GROUP.

    b.) When a CALL PICKUP GROUP/CALL PICKUP EXPAND GROUP has stations that belong to different nodes, and the multiple Call Pickup/Call Pickup Expand stations are ringing simultaneously, if ringing stations belong to the same node, the user will pick up the call in assigned order. However, if ringing stations belong to different nodes, the user cannot pick up the call in assigned order or terminated order. The user will first pick up the call terminated to the station belonging to the node of the user's station.

CALL PICKUP GROUP

The number below the station is the assigned order.

Example: All the Stations No.1 through No. 5 belong to the same CALL PICKUP GROUP. When Stations No. 1, No. 3 and No. 5 are ringing:

- If the user answers via Station No.4, the user will pick up a call terminated to Station No.5 first (this feature allows the user to pick up from the next station in assigned order). The user will then pick up Station No. 3, if Station No. 3 is still ringing.
- If the user answers via Station No. 2, the user will pick up a call terminated to Station No. 1 first.

Service Conditions (cont'd)

CALL PICKUP EXPAND GROUP

The number below the station is the assigned order.

Example: All the Stations No.1 through No.5 belong to the same CALL PICKUP EXPAND GROUP C.

When Stations No.2 through No.4 are ringing simultaneously:
- If the user answers via Station No. 1, the user will pick up a call terminated to Station No. 3 first.
- If the user answers via Station No. 5, the user will pick up a call terminated to Station No. 2 first.
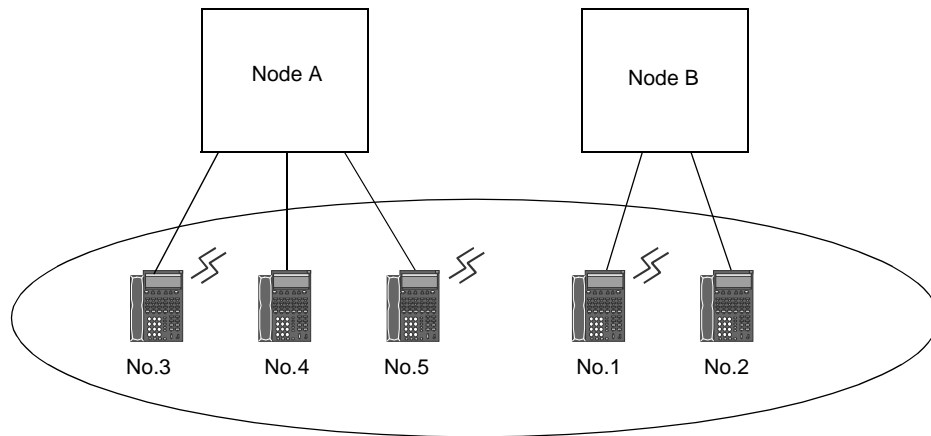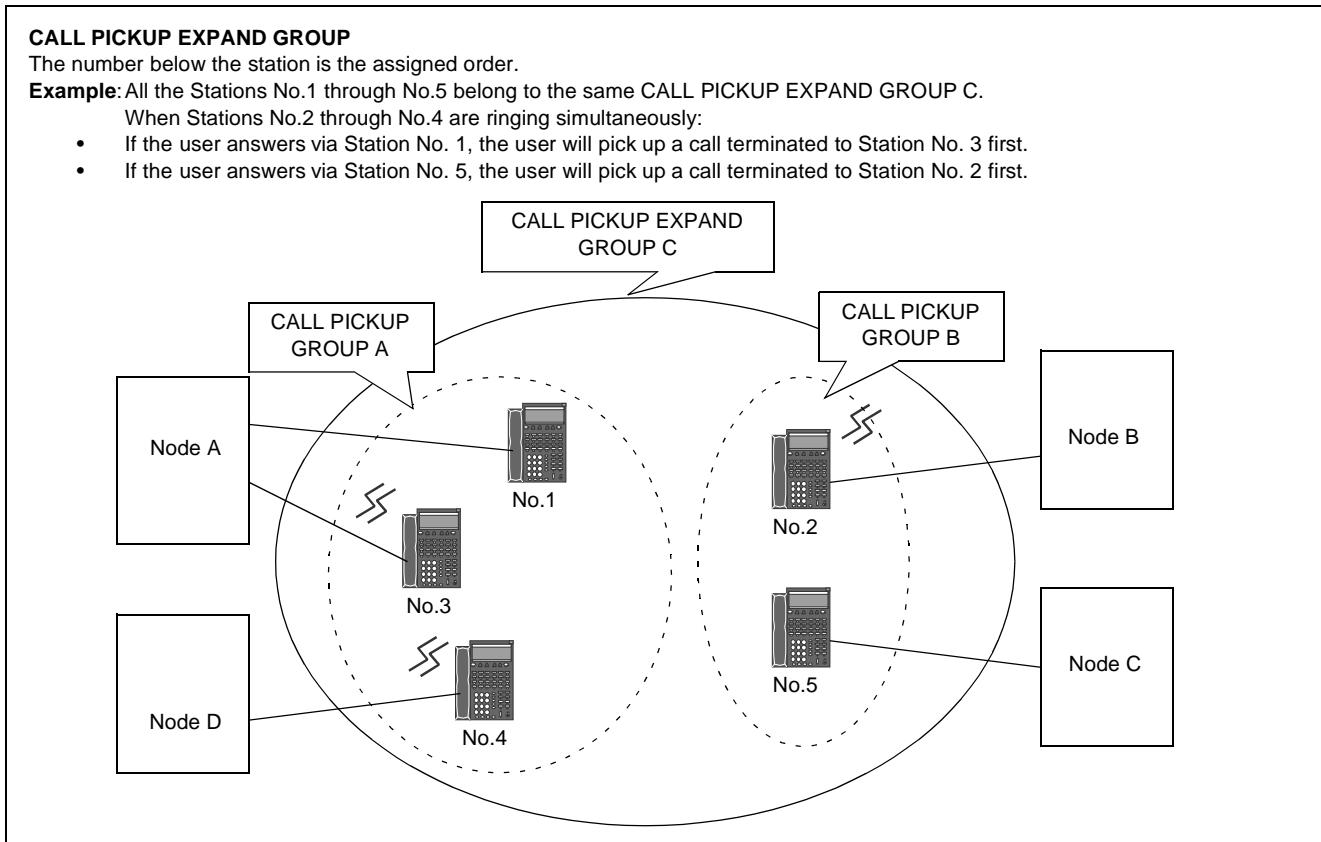
14. The number of the CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP is not limited.

15. A user cannot answer an incoming call to the station in another CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP.

16. Even if a station has been assigned to the existing CALL PICKUP GROUP or CALL PICKUP EXPAND GROUP by Physical Station Number, the station can also be assigned to the same CALL PICKUP GROUP or a CALL PICKUP EXPAND GROUP via FCCS.

17. When the station holds a call (Switch Hook Flash or Call Hold) which terminated through FCCS link, the station cannot pick up a call via CALL PICKUP/CALL PICKUP EXPAND.

18. When both the calling station and the station that will pick up a call hold the call, if one of the held calls is terminated through FCCS link, the call can not be picked up via CALL PICKUP/CALL PICKUP EXPAND.

19. The CALL PICKUP - GROUP/CALL PICKUP EXPAND GROUP can be set on a node basis, even in the use of telephone numbers. In other words, the features are available via the data written on the Local Data Memory (LDM), not only on the Data Memory (DM) or the Network Data Memory (NDM). If this is the case, the conditions are as follows:

   a.) The features are to be programmed by using the telephone number (TELN) of each station.
   b.) A maximum of 100 stations can be assigned per CALL PICKUP GROUP.
   c.) A maximum of 100 stations can be assigned per CALL PICKUP EXPAND GROUP.
   d.) A station can belong to one CALL PICKUP GROUP only.
   e.) A station can belong to one CALL PICKUP EXPAND GROUP only.

Service Conditions (cont'd)

f.) No limitation is attached to the number of CALL PICKUP GROUP/CALL PICKUP EXPAND GROUP per node.

g.) When multiple stations are ringing in a CALL PICKUP GROUP/CALL PICKUP EXPAND GROUP, the calls won't be picked up in the terminated order or in the assigned order of stations on the command ACPGL.

h.) A station cannot pick up a call to a member of other CALL PICKUP GROUP/CALL PICKUP EXPAND GROUP.

i.) A call to be picked up can be that from a station, a trunk or an Attendant Console.

j.) When there is a restriction as to the connection between an incoming call and the answering station, the restriction is applied as-is; the station, as a result of this, cannot pick up the call.

k.) The features, though using the telephone numbers, cannot be used together with the same features via FCCS.

l.) Stations denied access to a route via Route Restriction Class may not be able to pick up an incoming trunk call.

m.) A specific attendant number cannot be assigned for these features.

n.) CALL PICKUP GROUPs via DM and groups via LDM cannot coexist in a system.

20. When using the FCCS network, calling back for CALL BACK [C-1] or OUTGOING TRUNK QUEUING [O-2] to the station cannot be picked up.

21. When using the FCCS network, the specific attendant number cannot be assigned to a CALL PICKUP GROUP or a CALL PICKUP EXPAND GROUP, which is activated with NDM data.

22. When programmed on LDM, a call in recall state by CALL BACK [C-1], OUTGOING TRUNK QUEUING [O-2] or CALL HOLD [C-6], cannot be picked up.

23. When programmed on LDM, a call by Automatic Wake-up [A-27] or Timed Reminder [T-62] cannot be picked up.

Interactions

1. CALL HOLD [C-6]: To pick up a call while engaged in a two-party connection, the station can switch hook flash to place the other party on CALL HOLD [C-6] and dial the Call Pickup code. The first party is put on CALL HOLD [C-6].

2. CALL BACK [C-1]: The call back station originator being called back cannot be picked up by a station with the CALL PICKUP - GROUP feature. If the callback is directed to the terminating station, then Call Pickup may be used to answer the call. Any other station attempting to pick up the call will result in the user receiving reorder tone.

3. OUTGOING TRUNK QUEUING [O-2]: The OUTGOING TRUNK QUEUING station being rung back cannot be picked up by a station with the CALL PICKUP - GROUP feature. An attempt to pick up the call will result in the station receiving reorder tone.

4. RESTRICTION: A station assigned as fully restricted or with inward restrictions cannot use the CALL PICKUP feature if assigned to a CALL PICKUP GROUP.

5. THREE-WAY CALLING [T-2]: CALL PICKUP can be used only after a THREE-WAY CONFERENCE has been reduced to a two-party connection or the station has returned to an idle state.

6. STATION MESSAGE DETAIL RECORDING SYSTEM [S-10]: When a call is answered using the CALL PICKUP - GROUP feature, the station dialing the Call Pickup code is recorded.

7. If more than one station line in a CALL PICKUP GROUP is ringing, the individual call answered is selected by the system. System priority is based on a circular chain arrangement, with first priority given to the station following the station dialing the call pick up code.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code for the CALL PICKUP GROUP, SID = 7 and the CALL PICKUP EXPAND, SIDA=63 (if necessary) for Connection Status Index (CI) of Normal (N) and Hooking (H).

STEP 3: **ACPG** - Assign members of CALL PICKUP GROUP. If two stations are ringing simultaneously, the station that was programmed first will be picked up first.

STEP 4: **ACPE** - Assign the CALL PICKUP EXPAND GROUP (if necessary).

STEP 5: **AKYD** - Optional. Assign a programmable Line/Feature key as a CALL PICKUP key. Assign Type:Function:CALL PICKUP-GROUP [12]. If necessary, assign Type:Function:CALL PICKUP EXPAND [115].

STEP 6: **ADSL** - Assign SN=1 (Originating) and FKY=12 (Call Pick-up Group; PICK).

When answering an incoming call while the user is on the line, assign SN=4 (Communication is in Progress) and FKY=12 (Call Pick-up Group; PICK).

This command is required only for assigning the function of each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ANPDN** - This command must be assigned to the NCN.

Reserve a number level for feature access and cancel. Assign for normal (N).

Assign NND in accordance with a predetermined plan.

STEP 2: **ASPAN** - This command must be assigned to the NCN. Assign access code for CALL PICKUP, CI=N, SRV=SSC, SID=7 (CALL PICKUP - GROUP). If necessary, assign SRV=SSCA, SIDA=63 (CALL PICKUP EXPAND GROUP).

CI=N (Normal)

SRV=SSC

SID=7 (CALL PICKUP GROUP)

STEP 3: **ACPGN** - This command must be assigned to the NCN.

Assign members of CALL PICKUP GROUP.

UGN: User Group Number

TELN: Telephone number in CALL PICKUP GROUP

STEP 4: **ACPEN** - This command must be assigned to the NCN.

Assign the CALL PICKUP EXPAND GROUP (if necessary).

UGN: User Group Number

TELN: Telephone number in CALL PICKUP EXPAND GROUP

Note: *When using a feature key, the feature key data is assigned to all the nodes accommodated in the Call Pickup station by the AKYD command.*

When Entering Data via LDM:

STEP 1: **ANPDL** - Assign 1st digit code (1st DC) and number of necessary digits (NND) for feature access and cancel. CI = N (Normal).

STEP 2: **ASPAL** - Assign access code for CALL PICKUP, CI=N, SRV=SSC, SID=7 (CALL PICKUP - GROUP). If necessary, assign SRV=SSCA, SIDA=63 (CALL PICKUP EXPAND GROUP).

FCCS Programming (cont'd)

STEP 3:   **ACPGL** - Assign members of CALL PICKUP GROUP.

UGN: User Group Number = 1 (fixed)

TELN: Telephone Number of member stations

STEP 4:   **ACPEL** - Assign members of CALL PICKUP EXPAND GROUP (if necessary).

UGN: User Group Number = 1 (fixed)

TELN: Telephone Number of member stations

STEP 5:   AKYD - Optional. Assign a programmable Line/Feature key as a CALL PICKUP key. KYI=1 (Feature Key), FKY=12 (CALL PICKUP - GROUP). If necessary, assign FKY=115 (CALL PICKUP EXPAND GROUP).

Note: *When using a soft key on a D^{term} Series E, use ADSL and ADKS commands for necessary data assignment. At this time, Status Number (SN) of the ADSL command may be 1 DT or 4 Communication in Progress.*

C-8 Call Processing Indication

General Description

This feature provides visual indications at the ATTENDANT CONSOLE [A-3] of all calls being handled by the Attendant.

Operating Procedure

None.

Service Conditions

Each ATTENDANT CONSOLE [A-3] is provided with 6 dedicated switched loop keys. Each loop key is associated with 5 lamp indicators (BUSY, RING, ATND, ANSWER, or HOLD) to display the status of the call on that loop. The indicators may be ON, OFF or flashing (400 ms ON and 400 ms OFF).

Interactions

1. When the ATTENDANT LOOP RELEASE [A-6] feature is activated, the status of the call is removed from the ATTENDANT CONSOLE [A-3] until alerted by the AUTOMATIC RECALL [A-8] feature.

2. See DIGITAL DISPLAY-STATION [D-5], DIGITAL DISPLAY-TRUNK [D-6], and ATTENDANT LOOP RELEASE [A-6].

Programming

No programming is required.

Note: *These indications are generic to the system and are enabled when the Attendant Console is programmed.*

FCCS Programming

No unique programming is required for the FCCS network.

C-9   Call Queueing

General Description

This feature enables an Attendant to handle a series of exchange network calls in the order of their arrival, eliminating unnecessary delays.

Operating Procedure

Press ATTENDANT CONSOLE [A-3] ANSWER key to receive calls in order of queue.

Service Conditions

1. Incoming calls arriving at the Attendant Console will light the CALL WAITING LAMP [C-13].
2. When an incoming call lights an INCOMING CALL IDENTIFICATION [I-2] (LDN, RECALL, etc.) lamp, the Attendant may answer it out of the queueing sequence by pressing the indicated key.
3. Automatic Call Distribution is not used in multi-console operation. All incoming call indications appear at each Attendant Console, so that the call can be answered by any console. See MULTIPLE CONSOLE OPERATION [M-4] and INCOMING CALL IDENTIFICATION [I-2].
4. If an incoming call has been answered simultaneously by multiple Attendants, only the Attendant that operated the ANSWER key first will be connected to the call. The other Attendant's ANSWER key is non-effective when pressed.

Interactions

1. ASYD - System Data 1, Index 64, Bits 1 & 2. Display of Call Waiting Indication; 00 - PA lamp is on 10-Always.
    System Data 2, Index 8 & 9. What kinds of calls are counted as Calls Waiting?
    System Data 2, Index 14, Bits 0 - 3. When CALL WAITING value exceeds a threshold value, the Call Waiting lamp will flash.
    System Data 2, Index 14, Bit 4. Will CALL WAITING - INDICATION flash for all calls? 0/1: All calls/ Pegged calls.
2. NIGHT CONNECTION FIXED/FLEXIBLE [N-1, 2], TRUNK ANSWER ANY STATION [T-8]: If the system is changed from day to night mode, calls waiting in queue will be removed and disconnected.
3. Incoming call indications are common to all the Attendant Consoles.
4. If the NIGHT CONNECTION-FIXED [N-1] station is a pilot number in a STATION HUNTING-TERMINAL [S-9] hunt group, incoming calls will hunt to an idle station in the group. If all stations in the group are busy, the call queues on the pilot number of the hunt group. When any station becomes idle, the call is removed from queue and completed.
5. If the system is changed from night to day mode, incoming calls will be routed to the Attendant Console. A call physically ringing at the night station is not rerouted and is handled by the NIGHT CONNECTION-FIXED [N-1] station.
6. If a power failure occurs, only the calls in queue that have POWER FAILURE TRANSFER [P-3] associated with their trunk will be connected to power failure stations.

Programming

No programming is required. This is generic to the system after programming the Attendant Console.

C-10 Call Transfer - Attendant

General Description

This feature permits a user, while connected to an exchange network call, to signal the Attendant and have the Attendant transfer the call to another station within the system.

Operating Procedure

Calling the Attendant:
1. While engaged in a Central Office trunk call, press the switch hook; receive special dial tone.
2. Dial the operator access code.

    a.) ATTENDANT CONSOLE [A-3] RECALL lamp flashes and buzzer sounds.
    b.) The station receives ringback tone.

Answering by the Attendant:
1. Refer to the NEAX2400 IMX Office Data Specification.

If the station wishes to return to the Central Office trunk call while the Attendant is being called:
1. Press the switch hook; the RECALL lamp goes out; the buzzer stops.
2. Ringback tone ceases; the station returns to Central Office trunk call.

Note: *For all D^term^s, use the TRANSFER key instead of the switch hook.*

Service Conditions

1. This feature is available for incoming and outgoing Central Office trunk calls and station-to-station calls.
2. When the ATTENDANT CONSOLE [A-3] is in the NIGHT CONNECTION [N-1,2] mode, the transferring station will receive reorder tone if ATTENDANT NIGHT TRANSFER [A-19] is not provided.
3. The CALL TRANSFER - ATTENDANT feature allows a user, while participating in a two-party connection (a two-party connection can be comprised of two stations or a station and a trunk), to call the Attendant so that the Attendant may transfer the call or provide other assistance as required.
4. If all registers are busy and the user switch hook flashes, the flash is ignored by the system and the parties remain connected.

Interactions

1. When the HOT LINE [H-1] set is equipped with a dial, the user switch hook flashes to get special dial tone and dials "0". Ringback tone is provided and the Attendant is notified of the call.
2. CALL TRANSFER - ATTENDANT: This feature can be used by a fully restricted station. The Attendant can transfer a fully restricted station to another station only.
3. This feature is not operable when NIGHT CONNECTION - FIXED [N-1] or FLEXIBLE [N-2] is activated. To process a transfer, use CALL TRANSFER - ALL CALLS [C-11] feature. Reorder tone is returned when CALL TRANSFER - ATTENDANT is attempted.
4. If the SPLITTING [S-4] and ATTENDANT LOCKOUT [A-5] features are activated, this feature can be activated.
5. Refer to BLIND TRANSFER TO ATTENDANT [B-17] for blind transfer from station to Attendant Console.
6. A HOTLINE [H-1] station may transfer a call to the Attendant Console.

Interactions (cont'd)

7. A CALL TRANSFER to a station with CALL FORWARDING [C-2, 3, 5] set will forward according to the conditions of the feature set, unless the station is set to CALL FORWARD - ALL CALLS [C-5] to the Attendant Console. CALL FORWARDING-OVERRIDE [C-26] supersedes CALL FORWARDING-ALL CALLS [C-5].

8. A CALL TRANSFER to a station in a STATION HUNTING [S-7, 8, 9] group will hunt according to the conditions of the STATION HUNTING [S-7, 8, 9] group.

9. A CALL TRANSFER to a D^{term} that has DO NOT DISTURB [D-21D] set will receive reorder tone.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, Bits 0 and 1. Assign data "11" to allow CONSULTATION HOLD - ALL CALLS - D^{term} [C-17D] for all types of connections.

STEP 2: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) 0 and 4 on an Inter and Intra-tenant basis.

FCCS Programming

No unique programming is required for the FCCS network.

C-11　　　　　Call Transfer - All Calls

General Description

This feature permits a user to transfer incoming or outgoing Central Office and intra-office calls to another station within the system without Attendant assistance.

(Series 7400 software enhancement) The user can set Camp-on function to the busy destination while transferring an incoming call (Camp-on by Station). With this feature, the trunk party is called back directly, as the destination becomes idle.

Operating Procedure

To transfer a call in progress:
1. While connected with the first party, press the switch hook; receive special dial tone.
2. Dial the third party; receive ringback tone.
3. At this point, the user can either:

   a.) Hang up before the third party answers. The first and third parties will be connected when third party answers.

   b.) Wait for third party to answer and announce the transfer while keeping the first party in CONSULTATION HOLD - ALL CALLS [C-17] condition. When the user hangs up, the first and third parties will be automatically connected.

(Series 7400 software enhancement) To set the Camp-on by Station function to the busy station:
- Manual Operation
1. While connected with the first party, press the switch hook; receive special dial tone. At this time, the calling trunk party hears music on hold.
2. Dial the third party, and the third party is busy; receive busy tone.
3. Press the switch hook; receive special dial tone, and then dial the access code of CALL BACK; receive service set tone.
4. Replace the handset. The station to be set Camp-on by Station (destination) hears Warning Tone. At this time, the calling trunk party hears ringback tone.
5. The target station starts to ring when the target station lifts the handset.
6. The target station (called party) can call back to the trunk party directly by answering.
- Automatic Operation
1. While connected with the first party, press the switch hook; receive special dial tone. At this time, the calling trunk party hears music on hold.
2. Dial the third party, and the third party is busy; receive busy tone.
3. Replace the handset. The station to be set Camp-on by Station hears Warning Tone. At this time, the trunk party hears ringback tone.
4. When the target station becomes available, the target station starts to ring.
5. The target station can call back to the trunk party directly as the station answers.

(Series 7400 software enhancement) To answer the Camp-on by Station call from the busy station:
1. After receiving Warning Tone, the third party in the condition that the communication is in progress can answer the call by pressing the ANSWER key. At this moment, the call connected by the third station is placed on hold.

Service Conditions

1. The station performing the CALL TRANSFER - ALL CALLS can drop off the connection before the called party answers. If the called station does not answer within the predetermined time, ringing signal is returned to the transferring station. See VARIABLE TIMING PARAMETERS [V-1] for other selectable timing choices.

2. In the case of outgoing calls (no answer supervision), this feature may be activated only after 18 seconds have elapsed since the last digit dialed.

3. Outgoing calls with answer supervision may be transferred immediately after call is answered (no time delay).

4. If all registers are busy and the user switch hook flashes, the flash is ignored by the system, and the parties remain connected.

5. When TRUNK-TO-TRUNK CONNECTION [T-10] is provided with the system, an incoming or outgoing network or TIE Line call may be transferred to an outgoing network trunk, if release signal is provided from distant end. The user who transfers the call gives line control to the two remaining parties upon hanging up. If the release signal is not provided, Call Transfer from trunk-to-trunk will not function.

6. The THREE-WAY CALLING [T-2] feature can comprise not more than three parties on one connection. The three parties connected can be as follows:
   a.) three stations
   b.) two stations and one trunk
   c.) one station and two trunks.

7. The maximum number of simultaneous THREE-WAY CALLING [T-2] connections per system is dependent on the quantity of CFT-function circuits equipped (traffic engineered).

8. When transferring a call from a station or trunk (second party) to another station (third party) the control station can transfer the call during ringing. When the control station goes on-hook, the station or trunk on hold is connected to the third party and hears ringback tone. A variable timer is set when the controlling station goes on-hook. If the timer times out before the third party answers, the control station is rung back. When transferring a call from a loop start DIT trunk, the trunk is disconnected if the timer times out before the third party answers.

9. Reorder tone is returned to the user when the following actions occur:
   a.) the user's line is restricted by outward or miscellaneous trunk restrictions by the class of service,
   b.) the user dials the number of an unequipped line or termination is restricted (route restrictions),
   c.) the user dials an invalid first digit.

10. When transferring a call from a station or trunk (second party) to another station (third party), the control station can hang-up during ringing. If the third party's line is busy, the control station will be rung back right away and if the third party does not answer the phone in time (30 seconds), the control station will be rung back after the time expires. In the case of transferring the call from a loop start DIT trunk, if the third party does not answer before the time goes up, the trunk will be disconnected.

11. **(Series 7400 software enhancement)** The Camp-on by Station cannot be set to the station via CCIS.

12. **(Series 7400 software enhancement)** The Camp-on by Station is available when the destination station is in the two-party connection except the following cases:
   a.) When the transferred station is connected with the Attendant Console.
   b.) When the transferred station answers another Camp-on call with the ANSWER key.
   c.) When the transferred station is in Consultation Hold.
   d.) When the station is the D^{term} in Exclusive Hold.
   e.) When the transferred station is set Fixed Connection - Nailed Down Connection.

13. **(Series 7400 software enhancement)** The Camp-on by Station can be set to one station only once.

Service Conditions (cont'd)

14. **(Series 7400 software enhancement)** The Camp-on by Station is restricted when the target station is in the three-party connection.

15. **(Series 7400 software enhancement)** The Camp-on by Station is not available for the target station in LINE LOCKOUT [L-3] condition.

16. **(Series 7400 software enhancement)** The Camp-on by Station is not available in the following cases:
    a.) When the transferred station is dialing the number.
    b.) When a call is terminating to the transferred station (the station is ringing).
    c.) When the transferred station hears busy tone or reorder tone.
    d.) When the transferred station hears special dial tone.

17. **(Series 7400 software enhancement)** The station allowed to set the Camp-on by Station (operating station) is only the D^{term} and the analog station.

18. **(Series 7400 software enhancement)** The station to be set the Camp-on by Station (transferred station) is the analog station, the D^{term} and the ISDN terminal.

19. **(Series 7400 software enhancement)** When the Camp-on by Station is set to the D^{term}:
    a.) The ANSWER key of the D^{term} lights when Warning Tone is received.
    b.) At the station to be set the Camp-on by Station, the LCD displays the service set indication (CAMP) and the trunk kind or the calling number if the Caller ID notification is received.

20. **(Series 7400 software enhancement)** The following conditions should be considered when this service is set by manual operation (see Operating Procedure) because the service becomes effective when the operating station is released from the connection:
    a.) When the operating station is not released within the predetermined time period after receiving service set tone, the service which has been set will be ineffective. And the operating user hears busy tone.
    b.) When the transferred destination station becomes available before the transferring station is released from the connection after the service was set (after the operating user hears service set tone), the trunk incoming call is connected with the destination station after the operating station (mediate party) replaces the handset.
    c.) When the transferred destination station becomes LINE LOCKOUT condition or the destination becomes make busy before the transferring station is released from the connection after the service was set (after the operating user hears service set tone), the called station (mediate party) is recalled even though the station is disconnected.

21. **(Series 7400 software enhancement)** The following are the conditions when the destination station does not answer within the time period of No Answer timer:
    a.) When the timer timeout occurs due to that the destination station has not answered within the predetermined time period after the operating station is disconnected, the operating station is called back.
    b.) When the No Answer timer expires and the destination station has not answered within the predetermined time period, the call management is decided by the system data (recall to the operating station or CALL FORWARDING - DON'T ANSWER activation).

22. **(Series 7400 software enhancement)** The Service Conditions for Warning Tone are as follows:
    a.) The destination station receives Call Waiting tone when Camp-on by Station has been set.
    b.) The amount of time between tones is decided on a system basis.

23. A call can be transferred to a station in the remote node via FCCS link.

24. **(Series 7400 software enhancement)** The Camp-on by Station can be set to the station in the self-office or the self-node in the FCCS network.

Interactions

1. This feature is denied whenever the transferring station is engaged in any state other than a simple two-party connection.

2. See TRUNK-TO-TRUNK CONNECTION [T-10] for additional programming if the call is to be transferred off network.

3. If a station is in an established THREE-WAY CALLING [T-2] connection, that station cannot activate any features. If a station switch hook flashes to activate a feature, the flash is ignored and the three-way connection remains established.

4. Features that cannot be activated if a party is involved in a CONSULTATION HOLD [C-17, 17D] or in an established THREE-WAY CONFERENCE [T-2] connection are:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL FORWARDING (Activate or Cancel)	[C-2, 3, 5]
CALL PICKUP-DIRECT	[C-30]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
MESSAGE REMINDER	[M-19D]
OUTGOING TRUNK QUEUING Cancel	[O-2]
SPEED CALLING-STATION Entry	[S-21]
TRUNK ANSWER FROM ANY STATION (TAS)	[T-8]

5. Upon establishing a CONSULTATION HOLD [C-17, 17D] connection and dialing a third party, if the user receives busy or reorder tone instead of ringback tone, the user flashes once to disconnect the tone and reconnect the second party.

6. Upon establishing a CONSULTATION HOLD [C-17, 17D] connection and dialing a MISCELLANEOUS TRUNK ACCESS [M-2] code, if no dial tone is heard (after the trunk is seized), if a mistake is made in dialing, or if an intercept announcement or a permanent tone is heard, the user must go on-hook and wait for ringback tone.

7. The user, who establishes CONSULTATION HOLD [C-17, 17D], will be reconnected to the party in soft hold when the third party disconnects.

8. A call transfer to a station with CALL FORWARDING [C-2, 3, 5] set will forward according to the conditions of the feature set.

9. A call transfer to a station in a STATION HUNTING [S-7, 8, 9] group will hunt according to the conditions of the STATION HUNTING [S-7, 8, 9] group.

10. A call transfer to a D^{term} that has DO NOT DISTURB [D-21D] set will receive reorder tone.

11. A call transfer call may be answered by CALL PICKUP-GROUP/DIRECT [C-7, 30].

12. **(Series 7400 software enhancement)** The Camp-on by Station is not available when the DO NOT DISTURB - D^{term} [D-11D] has been set to the target station. **(Note)**

Interactions (cont'd)

13. **(Series 7400 software enhancement)** The Camp-on by Station is not available when the target station uses PRIVACY RELEASE [P-18]. **(Note)**

Note: *The operating station hears busy tone when the destination is in the above condition.*

14. **(Series 7400 software enhancement)** When the Camp-on by Station is set by automatic operation and the destination station is the UCD group member, BLIND TRANSFER TO BUSY UCD takes priority over the Camp-on by Station feature if it is available.

Programming

STEP 1: **ASYD** - System Data 1, Index 69, Bit 0. Return transferred call to origin of call transfer after the elapse of the Recall Timer. Only applicable to blind transfers. System Data 1, Index 69, Bit 2. Short tone on recall of CALL TRANSFER - ALL CALLS. Ringback tone is briefly heard by the person answering the recall. Only applicable to blind transfers.

System Data 1, Index 140 if ASFC SFI 103 = 0; Index 247 if ASFC SFI 103 = 1. Assign the Recall Timer for a station-to-station CALL TRANSFER - ALL CALLS. For 30 seconds, assign data 00H. (TC 3 = 2 sec, TC 7 = 8 sec). RAM data 3FH for 30 seconds.

System Data 2, Index 1, Bits 0 & 1. Assign data "11" to allow CONSULTATION HOLD [C-17, 17D].

System Data 1, Index 156 and 157. How long before SHF is possible.

STEP 2: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) 0 and 4 on an Inter and Intra-tenant basis.

STEP 3: **ARSC** - The station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the trunk, if a trunk is involved.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARSCN** - The station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the trunk, if a trunk is involved.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-11D   Call Transfer - All Calls - D^{term}

General Description

This feature permits a D^{term} user to transfer incoming or outgoing calls without Attendant assistance.

(Series 7400 software enhancement) The D^{term} user can set Camp-on function to the busy destination while transferring an incoming call (Camp-on by Station). With this feature, the trunk party is called back directly as the destination becomes idle.

Operating Procedure

To transfer a call in progress:
1. While connected with the first party, press the TRANSFER key; receive special dial tone.
2. Dial the third party; receive ringback tone.
3. At this point, the user can either wait and announce the call or hang up before the transfer is completed. The LCD display for an announced transfer will be:

<div align="center">

Transferred Party

```
┌─────────────────────────────────┐
│  TRANSFER                 XXXX   │
│            (Time Display)        │
│                                  │
└─────────────────────────────────┘
```

</div>

The LCD for an unannounced transfer will be:

<div align="center">

Transferring Party   Transferred Party

```
┌─────────────────────────────────┐
│  TRANSFER XXXX            XXXX   │
│            (Time Display)        │
│                                  │
└─────────────────────────────────┘
```

</div>

Note: *When the telephone number of the transferring/transferred station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of 16 digit transferred telephone numbers can be displayed on the middle line of the LCD, depending on system data.*

(Series 7400 software enhancement) To set the Camp-on by Station function to the busy station:
- Manual Operation
1. While connected with the first party, press the TRANSFER key; receive special dial tone. The calling trunk party hears music on hold. The D^{term} LCD of the mediate party (operating station) displays:

<div align="center">

```
┌─────────────────────────────────┐
│  TRANSFER                        │
│            (Time Display)        │
│                                  │
└─────────────────────────────────┘
```

</div>

2. Dial the third party, and the third party is busy; receive busy tone. The LCD of the operating station displays:

<div align="center">

The extension number of the third party

```
┌─────────────────────────────────┐
│  BUSY                     XXXX   │
│            (Time Display)        │
│                                  │
└─────────────────────────────────┘
```

</div>

Operating Procedure (cont'd)

3. Method of operation:
   a.) When the access code is used, press the FLASH key; receive special dial tone and no indication on the LCD display, then dial the access code of CALL BACK; receive service set tone.

   ```
   CAMP SET
              (Time Display)
   ```

   b.) When the feature key/soft key is used, press the CALL BACK key; receive service set tone. The LCD of the operating station displays as mentioned above in the way of using the access code.

4. Replace the handset. The station to be set Camp-on by Station (destination) hears Warning Tone. The LCD of the operating station displays:

   ```
              (Time Display)
   ```

   The calling trunk party hears ringback tone. The LCD of the target party displays:

   ```
   CAMP                      (TRK)
              (Time Display)
   ```
   (TRK): Trunk kind or the calling number

5. The target station starts to ring when the target station lifts the handset. The LCD of the target party displays:

   ```
   CAMP                      (TRK)
              (Time Display)
   ```
   (TRK): Trunk kind or the calling number

6. The target station (called party) can call back to the trunk party directly by answering the ringing. The LCD of the target party displays:

   ELAPSED TIME for the communication

   ```
   XX:XX (TRK)
              (Time Display)
   ```
   (TRK): Trunk kind or the calling number

- Automatic Operation
1. While connected with the first party, press the switch hook; receive special dial tone. The calling trunk party hears music on hold. The LCD of the operating station displays:

   ```
   TRANSFER
              (Time Display)
   ```

Operating Procedure (cont'd)

2. Dial the third party, and the third party is busy; receive busy tone. The LCD of the operating station displays:

The extension number of the third party

```
BUSY                      XXXX
        (Time Display)
```

3. Replace the handset. The station to be set Camp-on by Station hears Warning Tone. The LCD of the operating party displays:

```
CAMP SET
        (Time Display)
```

The LCD display is changed after the trunk receives ringback tone:

```
        (Time Display)
```

The LCD display of the target party:

```
CAMP                      (TRK)
        (Time Display)
```
(TRK): Trunk
  kind or the
    calling
    number

The trunk party hears ringback tone.

4. When the target station becomes available, the target station starts to ring. The LCD of the target party displays:

```
CAMP                      (TRK)
        (Time Display)
```
(TRK): Trunk
  kind or the
    calling
    number

5. The target station can call back to the trunk party directly as the station answers the ringing. The LCD of the target party displays:

ELAPSED TIME for the communication

```
XX:XX (TRK)
        (Time Display)
```
(TRK): Trunk
  kind or the
    calling
    number

(Series 7400 software enhancement) To answer the Camp-on by Station call from the busy station:

1. After receiving Warning Tone, the third party can answer the call by pressing the ANSWER key. The original call connected by the third station is placed on hold.

Service Conditions

1. The station performing the CALL TRANSFER - ALL CALLS can disconnect before the called party answers. If the called station does not answer within the predetermined time, ringing signal is returned to the transferring station. See VARIABLE TIMING PARAMETERS [V-1] for other selectable timing choices.

2. In the case of outgoing calls (no answer supervision), this feature may be activated only after 18 seconds have elapsed since the last digit dialed.

3. Outgoing calls with answer supervision may be transferred immediately after call is answered (no time delay).

4. The THREE-WAY CALLING [T-2] feature can comprise not more than three parties on one connection. The three parties connected can be as follows:
    a.) three stations
    b.) two stations and one trunk
    c.) one station and two trunks.

5. The maximum number of simultaneous THREE-WAY CALLING [T-2] connections per system is dependent on the quantity of CFT-function circuits equipped (traffic engineered). CFT function is included in the INT and TSW-INT card.

6. When transferring a call from a station (second party) to another station or trunk (third party), the control station can transfer the call during ringing. When the control station goes on-hook, the station on hold is connected to the third party's connection and hears ringback tone. A variable timer is set when the controlling station goes on-hook. If the timer times out before the third party answers, the control station is rung back.

7. When transferring a call from a trunk (second party) to a station (third party), the control station can transfer the call during ringing. If the control station goes on-hook, during the ringing state, the trunk (second party) is connected to the third party's line and hears ringback tone. A variable timer is set when the controlling station goes on-hook. If the timer times out before the third party answers, the control station is rung back.

8. Reorder tone is returned to the user when the following actions occur:
    a.) The user's line is restricted by outward or miscellaneous trunk restrictions by the Class Of Service.
    b.) The user dials the number of an unequipped line or termination is restricted (route restrictions).
    c.) The user dials an invalid first digit.

9. When transferring a call from a station or trunk (second party) to another station (third party), the control station can hang-up during ringing. If the third party's line is busy, the control station will be rung back right away and if the third party does not answer the phone in time (30 seconds), the control station will be rung back after the time expires. In the case of transferring the call from a loop start DIT trunk, if the third party does not answer before the time goes up, the trunk will be disconnected.

10. **(Series 7400 software enhancement)** The Camp-on by Station cannot be set to the station via CCIS.

11. **(Series 7400 software enhancement)** The Camp-on by Station is available when the destination station is in the two-party connection except in the following cases:
    a.) When the transferred station is connected with the Attendant Console.
    b.) When the transferred station answers another Camp-on call with the ANSWER key.
    c.) When the transferred station is in Consultation Hold.
    d.) When the station is the D^{term} in Exclusive Hold.
    e.) When the transferred station is set Fixed connection - Nailed Down Connection.

12. **(Series 7400 software enhancement)** Only one Camp-on per station is allowed.

Service Conditions (cont'd)

13. **(Series 7400 software enhancement)** The Camp-on by Station is restricted when the target station is in the three-party connection.
14. **(Series 7400 software enhancement)** The Camp-on by Station is not available for the target station in LINE LOCKOUT [L-3] condition.
15. **(Series 7400 software enhancement)** The Camp-on by Station is not available in the following cases:
    a.) When the transferred station is dialing the number.
    b.) When a call is terminating to the transferred station (the station is ringing).
    c.) When the transferred station hears busy tone or reorder tone.
    d.) When the transferred station hears special dial tone.
16. **(Series 7400 software enhancement)** The stations allowed to set the Camp-on by Station (operating station) are D^term^s and analog stations.
17. **(Series 7400 software enhancement)** The station to be set the Camp-on by Station (transferred station) is analog, D^term^ station and ISDN terminal.
18. **(Series 7400 software enhancement)** When the Camp-on by Station is set to the D^term^:
    a.) The ANSWER key of the D^term^ lights when Warning Tone is received.
    b.) At the station to be set the Camp-on by Station, the LCD displays the service set indication (CAMP) and the trunk kind or the calling number if the Caller ID notification is received.
19. **(Series 7400 software enhancement)** This service is set by manual operation (see Operating Procedure) because the service becomes effective when the operating station is released from the connection:
    a.) When the operating station is not released within the predetermined time period after receiving service set tone, the service which has been set will be ineffective. And the operating user hears busy tone.
    b.) When the transferred destination station becomes available before the transferring station is released from the connection after the service was set (after the operating user hears service set tone), the trunk incoming call is connected with the destination station after the operating station (mediate party) replaces the handset.
    c.) When the transferred destination station becomes LINE LOCKOUT condition or the destination becomes make busy before the transferring station is released from the connection after the service was set (after the operating user hears service set tone), the called station (mediate party) is recalled even though the station is disconnected.
20. **(Series 7400 software enhancement)** The following are the conditions when the destination station does not answer within the time period of No Answer timer:
    a.) When the No Answer timer expires, the operating station is called back.
    b.) When the No Answer timer expires, call management is decided by the system data (recall to the operating station or CALL FORWARDING - DON'T ANSWER activation).
21. **(Series 7400 software enhancement)** The service conditions for Warning Tone are as follows:
    a.) The destination station receives the tone used in CALL WAITING service when Camp-on by Station has been set.
    b.) The number of times that the tone is sent is decided on a system basis.
22. A call can be transferred to a station in the remote node via FCCS link.
23. **(Series 7400 software enhancement)** The Camp-on by Station can be set to the station in the self-office or the self-node in the FCCS network.

Interactions

1. This feature is denied whenever the transferring station is engaged in any state other than a simple two-party connection.

2. See TRUNK-TO-TRUNK CONNECTION [T-10] for additional programming if the call is to be transferred off network.

3. If a station is in an established THREE-WAY CALLING [T-2] connection, that station cannot activate any features. If a station switch hook flashes to activate a feature, the flash is ignored and the three-way connection remains established.

4. Features that cannot be activated if a party is involved in a CONSULTATION HOLD [C-17, 17D] or in an established THREE-WAY CONFERENCE [T-2] connection are:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL FORWARDING (Activate or Cancel)	[C-2, 3, 5]
CALL PICKUP-DIRECT	[C-30]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
MESSAGE REMINDER	[M-19D]
OUTGOING TRUNK QUEUING (Cancel)	[O-2]
SPEED CALLING-STATION (Entry)	[S-21]
TRUNK ANSWER FROM ANY STATION (TAS)	[T-8]

5. Upon establishing a CONSULTATION HOLD [C-17, 17D] connection and dialing a third party, if the user receives busy or reorder tone instead of ringback tone, the user flashes once to disconnect the tone and reconnect the second party.

6. Upon establishing a CONSULTATION HOLD [C-17, 17D] connection and dialing a MISCELLANEOUS TRUNK ACCESS [M-2] code, if no dial tone is heard (after the trunk is seized), if a mistake is made in dialing, or if an intercept announcement or a permanent tone is heard, the user must go on-hook and wait for ringback tone.

7. The user, who establishes CONSULTATION HOLD [C-17, 17D], will be reconnected to the party in soft hold when the third party disconnects.

8. A call transfer to a station with CALL FORWARDING [C-2, 3, 5] set will forward according to the conditions of the feature set.

9. A call transfer to a station in a STATION HUNTING [S-7, 8, 9] group will hunt according to the conditions of the STATION HUNTING [S-7, 8, 9] group.

10. A call transfer to a D^{term} that has DO NOT DISTURB [D-21D] set will receive reorder tone.

11. A call transfer call may be answered by CALL PICKUP-GROUP/DIRECT [C-7, 30].

12. The TRANSFER key is used in place of the switch hook.

13. **(Series 7400 software enhancement)** The Camp-on by Station is not available when the DO NOT DISTURB - D^{term} [D-11D] has been set to the target station. **(Note)**

14. **(Series 7400 software enhancement)** The Camp-on by Station is not available when the target station uses the PRIVACY RELEASE [P-18]. **(Note)**

Note: *The operating station hears busy tone when the destination is in the above condition.*

15. **(Series 7400 software enhancement)** When the Camp-on by Station is set by automatic operation and the destination station is the UCD group member, BLIND TRANSFER TO BUSY UCD takes priority over the Camp-on by Station feature if it is available.

Programming

STEP 1: **ASYD** - System Data 1, Index 69, Bit 0. Return transferred call to origin of call transfer after the elapse of the Recall Timer. Only applicable to blind transfers.

System Data 1, Index 69, Bit 2. Short tone on recall of CALL TRANSFER - ALL CALLS. Ringback tone is briefly heard by the person answering the recall. Only applicable to blind transfers.

System Data 1, Index 140 if ASFC SFI 103 = 0; Index 247 if ASFC SFI 103 = 1. Assign the Recall Timer for a station-to-station CALL TRANSFER - ALL CALLS. For 30 seconds, assign data 00H. (TC 3 = 2 sec, TC 7 = 8 sec). RAM data 3FH for 30 seconds.

System Data 2, Index 1, Bits 0 & 1. Assign data "11" to allow CONSULTATION HOLD [C-17, 17D].

System Data 1, Index 156 and 157. How long before SHF is possible.

STEP 2: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) 0 and 4 on an Inter and Intra-tenant basis.

STEP 3: **ARSC** - The station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the trunk, if a trunk is involved.

The TRANSFER key is used in place of the switch hook.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARSCN** - The station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the trunk, if a trunk is involved.

The TRANSFER key is used in place of the switch hook.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-12 Call Waiting - Terminating

General Description

This feature enables a busy station to receive a second incoming call. A Camp-On Indication Tone is sent to the busy station, the user can use a switch hook flash to answer the second call. A switch hook flash may be used to alternate between the two calls.

Operating Procedure

To activate CALL WAITING - TERMINATING from a station:
1. Dial the desired telephone number.
2. If the called station is busy, CALL WAITING - TERMINATING is automatically set; the calling station receives Call Waiting ringback tone. Call Waiting Tone (1 beep) is sent to the busy station.

To activate CALL WAITING - TERMINATING on a Direct-In trunk call:
1. The NEAX2400 IMX receives the called telephone number.
2. If the called station is busy, CALL WAITING - TERMINATING is automatically set; the calling party receives Call Waiting ringback tone. Call Waiting Tone (2 beeps) is sent to the busy station.

To answer a CALL WAITING - TERMINATING call:
1. Call Waiting Tone is heard during the call in progress.
2. A switch hook flash or pressing the ANSWER key on the D^{term} will hold the existing call.
3. CALL WAITING - TERMINATING call is automatically connected.
4. Another switch hook flash or pressing the ANSWER key on the D^{term} will return to the original call and hold the second call.

<div align="center">**OR**</div>

5. Call Waiting Tone is heard during the call in progress.
6. The called station hangs up; priority ringing is sent.
   Priority ringing =   0.4 sec. ON   0.2 sec. OFF   0.8 sec. ON
   0.2 sec. OFF   0.4 sec. ON   0.4 sec. OFF
   Lift the handset to answer.

Service Conditions

1. Call Waiting Tone is one beep for a station call and two beeps for a trunk call. A beep is 200 milliseconds ON/OFF.
2. Periodic Call Waiting Tone can be eliminated by System Data programming on a per-tenant basis.
3. CALL WAITING - TERMINATING must be allowed in the call originator's CLASS OF SERVICE - INDIVIDUAL [C-15] programming to be activated.
4. There is no limit to the number of stations that can receive this feature simultaneously.
5. CALL WAITING - TERMINATING is denied when the called station is connected to the ATTENDANT CONSOLE [A-3].
6. CALL WAITING - TERMINATING can be set only when the called station is busy on a two-party call with another station or trunk.
7. Call Waiting ringback tone changes to normal ringback tone for the calling party when the called station goes on-hook.
8. CALL WAITING - TERMINATING cannot be activated while in the CONSULTATION HOLD [C-17] mode.

Service Conditions (cont'd)

9. CALL WAITING - TERMINATING cannot be used in conjunction with DIAL ACCESS TO ATTENDANT [D-2].

10. CALL WAITING - TERMINATING cannot be activated if the target station has accessed, entered, or is engaged in any of the following features or modes:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS - SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10, C-11, C-11D]
CALL WAITING - ORIGINATING	[C-31]
CONSULTATION HOLD - ALL CALLS	[C-17, C-17D]
DATA LINE SECURITY	[D-12]
DATA PRIVACY ON DEMAND	[D-17]
DIAL ACCESS TO ATTENDANT	[D-2]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1]
LINE LOCKOUT	[L-3]
NON - EXCLUSIVE HOLD - D^{term}	[N-7D]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL - D^{term}	[V-2D]

11. The following service features take precedence over CALL WAITING - TERMINATING:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-3]
STATION HUNTING - CIRCULAR	[S-7]
STATION HUNTING - SECRETARIAL	[S-8]
STATION HUNTING - TERMINAL	[S-9]

Interactions

1. This feature is allowed whenever the destination telephone set is in any state other than:
   a.) Engaged in three-way connection,
   b.) A PRIVACY feature is activated,
   c.) Connected to a route programmed to have Line/Trunk, Privacy, CDN 44:PRV,
   d.) Listening to a tone (dial tone, reorder tone, service set tone, busy tone, ringback tone).
   e.) Connected to the Attendant Console.

2. To answer a CALL WAITING-TERMINATING call, System Data 2, Index 1, Bits 0 & 1, CONSULTATION HOLD [C-17]; assign data "11" to allow CONSULTATION HOLD.

3. To answer a CALL WAITING - TERMINATING call from a D^{term}, press the ANSWER key. The answering party can alternate between the calls by pressing the ANSWER key.

4. Enabling ATTENDANT LOOP RELEASE [A-6] (System Data 2, Index 6, Bit 7), a call Camped-On to a station via the Attendant Console will wait at that station for the time set in Index 145. When the preset time has elapsed, the call will return to the Attendant Console.

Interactions (cont'd)

5. If ATTENDANT LOOP RELEASE [A-6] is not provided and CALL FORWARDING - DON'T ANSWER [C-3] via the Attendant Console is provided, a call extended to a station via the Attendant Console will wait at the station for the time set in Index 141 and will then be forwarded to the destination station for the time set in Index 145. Index 145 is the total time before recall. When that time expires, the call will return to the Attendant Console.

6. When CALL FORWARDING [C-2, 3, 5] is in effect, the forwarding operation occurs before CALL WAITING-TERMINATING is allowed, unless the CALL FORWARDING - OVERRIDE [C-26] feature is applicable. If CALL FORWARDING-OVERRIDE [C-26] is used, the call will wait. After a call has been forwarded, the call may wait at the new station if CALL WAITING-TERMINATING is allowed.

7. BUSY VERIFICATION [B-3]: This feature is denied to a station that is in a CALL WAITING-TERMINATING state.

8. EXECUTIVE RIGHT-OF-WAY [E-1]: This feature is denied to a two-party connection that is in a CALL WAITING-TERMINATING state.

9. STATION HUNTING [S-7, 8, 9]: This feature takes precedence over CALL WAITING-TERMINATING.

10. LINE LOCKOUT [L-3]: CALL WAITING-TERMINATING is not allowed to a station in LINE LOCKOUT [L-3]

11. OUTGOING TRUNK QUEUING [O-2]: CALL WAITING-TERMINATING is not allowed on any station involved in THREE-WAY CALLING [T-2].

Programming

STEP 1:   **ASYD** - System Data 1, Index 64, Bit 6. Leave as data "0".

System Data 1, Index 145. Assign the Recall Timer for a call extended by the Attendant Console that is not answered. Normally assign data 00H for 30 seconds. (RAM data 9F for 30 seconds).

System Data 2, Index 10, Bit 6. Assign 1H for automatic.

STEP 2:   **ASFC** - Assign a Service Feature Index (SFI) of 11 to the station. SFI 5 & 6, RES = 1.

STEP 3:   **ARTD** - For CALL WAITING - TERMINATING to operate automatically for TIE Lines and DID routes, assign CDN 46:CW, Call Waiting, as data "1".

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ARTDN** - For CALL WAITING - TERMINATING to operate automatically for TIE Lines and DID routes, assign CDN 46:CW, Call Waiting, as data "1".

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-13 Call Waiting Lamp

General Description

This feature provides a visual indication to the Attendant when one or more calls are waiting to be answered.

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

1. All incoming calls to the ATTENDANT CONSOLE [A-3] that have to be answered will signal the Attendant via the CALL WAITING LAMP.
2. The CALL WAITING LAMP can be set to flash at 60IPM only after "X" number of calls are waiting. "X" can be anywhere from 1 to 15 calls waiting per TENANT [T-12].
3. In the case of MULTIPLE CONSOLE OPERATION [M-4], the CALL WAITING LAMP will light on all consoles until one of the positions has processed the call(s).
4. Where TENANT SERVICE [T-12] is provided, the CALL WAITING LAMP will light only on the console(s) of the called tenant.
5. In addition to the CALL WAITING LAMP indication, each console is provided with a two-digit display that shows the number of calls waiting.

Interactions

1. The CALL WAITING LAMP lights if any of the following incoming calls are waiting to be answered at the ATTENDANT CONSOLE [A-3]:

LDN	Listed Directory Number
ATND	Attendant Dial "0" Calls, CALL FORWARDING - ALL CALLS [C-5]
RECALL	Attendant Recall Calls
FX	Foreign Exchange
WATS	Wide Area Telephone Service
TIE	TIE Line Calls
BUSY	Call Forwarding - Busy Line to Attendant
NANS	Call Forwarding - Don't Answer to Attendant
TF	Inter Position Transfer
ICPT	Call Forwarding - Intercept
CCSA	Common Channel Switching Arrangement

2. In addition to the CALL WAITING LAMP, an audible buzzer is sounded whenever a call is waiting and the Attendant is available to answer calls. The buzzer volume can be adjusted and silenced by operation of a Volume Control key. If the Attendant is on a loop, a buzzer can be activated.
3. An indication of the type of calls waiting is given by the INCOMING CALL IDENTIFICATION [I-2] feature.
4. When TENANT SERVICE [T-12] is used, the CALL WAITING LAMP will flash only on the console(s) assigned to the called Tenant. The Tenant console is assigned in ATRK. The Route of the Tenants of the individual trunks are assigned in ATRK as well.

Programming

STEP 1: **ASYD** - System Data 1, Index 64, Bits 1 & 2. When will the number of calls waiting appear on the Attendant Console? 00: When Position Available Lamp is on (Attendant Console is not actively processing a call); 01: When BUSY LAMP FIELD is off; 10: Continuously.

System Data 2, Indexes 8 & 9. These bits flag types of incoming calls to the Attendant Console to be counted as calls waiting. This is assigned on a per-tenant basis.

Index 8:

Bit 0 - Is an LDN call counted as a call waiting? 0/1: No/Yes.

Bit 1 - Is an incoming station call counted as a call waiting? 0/1: No/Yes.

Bit 2 - Is an Attendant Console Recall counted as a call waiting? 0/1: No/Yes.

Bit 3 - Is an FX call counted as a call waiting? 0/1: No/Yes.

Bit 4 - Is a WATS call counted as a call waiting? 0/1: No/Yes.

Bit 5 - Is a CCSA (DID) call counted as a call waiting? 0/1: No/Yes.

Bit 6 - Is a TIE Line call counted as a call waiting? 0/1: No/Yes.

Bit 7 - Is a CALL FORWARDING-BUSY LINE [C-2] call counted as a call waiting? 0/1: No/Yes.

Index 9:

Bit 0 - Is a CALL FORWARDING-DON'T ANSWER [C-3] call counted as a call waiting? 0/1: No/Yes.

Bit 1 - Is a CALL FORWARDING - INTERCEPT [C-25, 25D] call counted as a call waiting? 0/1: No/Yes.

Bit 2 - Will this key (type of call is assigned in AAKP) be counted as a call waiting? 0/1: No/Yes.

Bit 3 - Is an INTERPOSITION TRANSFER [I-5] call counted as a call waiting? 0/1: No/Yes.

Note: *The types of calls listed above are the default types of incoming calls. System Data 2, Index 8, Bits 6 - 7, and Index 9, Bits 0 - 3 only turn ON or OFF the ability to count an incoming call to a specific key as a call waiting. A different type of incoming call may be assigned via AAKP.*

System Data 2, Index 14, Bits 0 - 3. When CALL WAITING value exceeds a threshold value, the Call Waiting lamp will flash.

System Data 2, Index 14, Bit 4. Will CALL WAITING-INDICATION flash for all calls? 0/1: All calls/Pegged calls.

Note: *This data is required only when assigning "X" number of calls waiting.*

STEP 2: **ARTD** - Flag the type of route in CDN 6:TCL, Trunk Class.

STEP 3: **AAKP** - This command may be used to change the meaning of the top six Call Identification keys of the Attendant Console. (See System Data 2, Indexes 8 & 9). The following functions may be assigned to L1 - L6:

Function:

(1)   CAS

(2)   Off-Hook Alarm

(3)   Priority Call 1

(4)   Priority Call 2

(5)   Priority Call 3

C-14 CCSA Access

General Description

This feature enables connection to a CCSA network. CCSA networks provide customers with the use of a completely private inter-facility dial system. They use individual facilities for dedicated access lines and trunks that terminate in common control switching equipment and in various types of telephone equipment at customer locations.

Operating Procedure

To place an outgoing CCSA call:
1. Lift the handset; receive dial tone.
2. Dial the CCSA ACCESS code; receive second dial tone.
3. Dial the desired number.
4. Wait for the call to be processed.

To answer an incoming CCSA call:
1. The Attendant presses either the CCSA or ANSWER key.
2. The call is extended to the desired station in normal fashion.

Service Conditions

1. CCSA trunks are physically the same as those used for tie trunks. The CCSA trunks may be push-button or rotary in either direction.
2. Careful consideration should be given to system numbering plans before assigning CCSA ACCESS codes to avoid numbering conflicts.
3. CCSA ACCESS codes can be either one or two digits.
4. Pad control can be used on a CCSA call. Refer to TIE LINE CONNECTION WITH PAD CONTROL [T-5].
5. LEAST COST ROUTING - 3/6-DIGIT [L-5] may access a CCSA trunk group for off-net calling only.
6. Tandeming through on a CCSA network requires an Attendant and TRUNK-TO-TRUNK CONNECTION [T-10].

Programming

ARTD - For CCSA TIE Line routes, assign CDN 6:TCL, TRUNK CLASS as a CCSA route:

RT:1

1-OSGS	:2/7	2-ONSG	:3	3-ISGS	:2/7	4-INSG	:3	5-TF	:3
6-TCL	:5	7-L/T	:1	8-RLP	:2	15-LSG	:5/8*		

Note: *Assign "5" for TIE Lines and "8" for DID trunks. For all other programming, see TIE LINE ACCESS [T-3].*

C-15 Class Of Service - Individual

General Description

This feature permits all NEAX2400 IMX stations to be assigned a Class of Service in accordance with the degree of system use desired. Each station is assigned one class from each of three groups.

Operating Procedure

CLASS OF SERVICE - INDIVIDUAL is assigned via system data entry. Thereafter, each station is automatically provided with the desired degree of service.

Service Conditions

1. The CLASS OF SERVICE - INDIVIDUAL feature in the NEAX2400 IMX contains three categories: Telephone Equipment Class (TEC), Service Feature Class (SFC), and Route Service Class (RSC).
2. TEC determines the type of terminal and the signalling arrangement necessary.
3. Trunk Route Restriction Class provides 15 groups. Separate restriction patterns for each group are programmed in system data. Group RSC0 is reserved for ATTENDANT CONSOLE use only.
4. Fifteen types of Service Feature Classes are available for access to the following special service features. These classes are assigned to each station in order to determine which features a particular station will be permitted to use.

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
CALL BACK	[C-1]
CALL FORWARDING	[C-2, C-3, C-5]
CALL HOLD	[C-6]
DATA LINE SECURITY	[D-12]
EXECUTIVE RIGHT-OF-WAY	[E-1]
OUTGOING TRUNK QUEUING	[O-2]
SMDR	[S-10]
SPEED CALLING - SYSTEM	[S-3]
TRUNK ANSWER FROM ANY STATION (TAS)	[T-8]

   For details, refer to the NEAX2400 IMX Office Data Specification.
5. Stations may be programmed to change SFC and RSC when the Attendant has set NIGHT CONNECTION [N-1, 2]. This is accomplished via system data entry. For further information, refer to DAY/NIGHT CLASS OF SERVICE [D-15].
6. TEC, RSC, and SFC are independent, with no interaction between them.
7. RSC and SFC can be assigned independently on a TENANT [T-12] basis.
8. The system software is capable of eliminating 5dB loss on station-to-station calls on a per-station basis.
9. The system software is capable of eliminating DISTINCTIVE RINGING [D-10] on a per-station basis (for OPX stations).
10. RSC can be overridden by a new RSC, using the AUTHORIZATION CODE [A-20] feature.

Interactions

The following features interact with the fully restricted station:
1. CALL TRANSFER - ALL CALLS [C-11]: A fully restricted station can be transferred to a station or the Attendant by another party using the CALL TRANSFER - ALL CALLS [C-11] feature. The fully restricted station may transfer a station-to-station call to a station or the Attendant.

Interactions (cont'd)

2. CALL FORWARDING [C-2, 3, 5]: Station-to-station calls can be forwarded to a fully restricted station. An attempt to forward an incoming trunk call to a fully restricted station will result in reorder tone.

3. STATION HUNTING [S-7, 8, 9]: Any call directed to a busy, fully restricted station will hunt to an alternate station. Careful consideration is required when assigning a fully restricted station to a hunt group, since incoming trunk calls directed to a fully restricted station will result in returning reorder tone.

4. TRUNK ANSWER FROM ANY STATION (TAS) [T-8]: An attempt by a fully restricted station to answer a call via the TAS feature will result in reorder tone.

The following features interact with inward route restricted stations:

1. THREE-WAY CALLING [T-2]: When a user is restricted from receiving direct calls from a trunk group, the user cannot be added to an established connection that includes the restricted trunk group.

2. CALL FORWARDING [C-2, 3, 5]: Incoming trunk calls cannot be forwarded to an inward route restricted station.

3. CALL PICKUP [C-7, 30]: Incoming trunk calls cannot be answered by an inward route restricted station.

4. ATTENDANT CAMP-ON [A-1]: This feature is denied on calls extended to an inward route restricted station. Attempts will be routed to reorder tone.

5. STATION HUNTING [S-7, 8, 9]: Hunting of an incoming trunk call to an inward route restricted station is not allowed.

6. TRUNK ANSWER FROM ANY STATION [T-8]: A user restricted from receiving direct incoming calls via a given trunk group cannot use the TAS feature to answer calls received via that trunk group.

7. NIGHT SERVICE [N-1, 2]: Restrictions can be changed for a given station when the system is switched to the night mode of operation; therefore, the assignment of an inward route restricted station as a night station can be allowed (see DAY/NIGHT CLASS OF SERVICE [D-15].)

8. CODE CALLING ACCESS [C-21]/MEET ME PAGING [M-1]: Connection of an inward route restricted line to an answer-back channel is not denied when the call is an incoming exchange call.

Programming

Day/Night Class

STEP 1:   **ASYD** - System Data 1, Index 75. Should the following commands be developed for Day/Night. 0/1: No/Yes

Note: *DAY/NIGHT CLASS OF SERVICE [D-15]. If Day/Night operation is to remain the same, the following bits should be assigned as data "0". Only those restrictions that will change between Day and Night should be assigned as data "1". Further assignments MUST be made in the corresponding command.*

> Bit 0 - Develop ARSC command for Day/Night?
> Bit 1 - Develop ASFC command for Day/Night?
> Bit 2 - Develop ATNR command for Day/Night?
> Bit 3 - Develop ATDP command for Day/Night?

Telephone Class

STEP 2:   **ASDT** - Assign Tenant No., Station No., LENS, and the TEC to the station. This is used in regular business systems. Assign the SFC and RSC.

> TN: Tenant Number
> STN: Station Number
> LENS: Line Equipment Number (6 digits)

Programming (cont'd)

TEC: Telephone Class (1-31)

1: DP (10pps)

2: PB

3: DP/PB

12: D^{term}

13: Data terminal via D^{term}

14: Hotline

15: CAS Line

16: Data terminal via Data Module

18: Virtual Circuit

23: ISDN Terminal

27: Eight Conference Equipment

RSC: Route Restriction Class (0-15). For assignment of RSC, ARSC command.

SFC: Service Feature Class (0-15). For assignment of SFC, ASFC command.

STEP 3: **ASCL** - This command may be used to change the CLASS OF SERVICE - INDIVIDUAL for existing stations. The RSC, SFC, and TEC may all be changed.

Service Feature Class

STEP 1: **ASFC** - A possible 16 (0-15) different SFCs may be constructed allowing or denying access to the various features.

Route Restriction Class

STEP 1: **ASYD** - System Data 2, Index 1, Bits 4 & 5. Should a restricted station be routed to the Attendant Console or receive reorder tone? Reorder tone: Bit 4 = 0, Bit 5 = 0. ATTENDANT CONSOLE: Bit 4=1, Bit 5=0.

STEP 2: **ARSC** - A possible 16 (0* - 15) different Route Restriction Classes may be constructed, either allowing a call or subjecting the call to TOLL DENIAL/DIVERSION [T-7] or TOLL RESTRICTION - 3/6 DIGIT [T-7].

STEP 3: **ATDP** - Assignment of Toll Distinctive Pattern command is assigned when Toll Restriction is required. When Toll Restriction changes from Day to Night, then ATDP must be assigned for both Day mode and Night mode.

* RSC 0 is reserved for Attendant Console use only.

Note: *If a restricted station is routed to the ATT, all RRI 3 must be RES = 2.*

C-17   Consultation Hold - All Calls

General Description

This feature permits a user to hold any incoming or outgoing public network or TIE Line call, or any intra-office call, while originating a call to another station within the system.

Operating Procedure

Holding the original call and placing the second call:
1. Press the switch hook; receive special dial tone.
2. The original call is held.
3. Dial the second telephone number; receive ringback tone.
4. The second station answers; the CONSULTATION HOLD state has been entered.

To return to the original call:
1. In any of the following cases, the calling station can return to the original call by pressing the switch hook:
   - a.) The second station called for CONSULTATION HOLD is busy.
   - b.) The calling station cannot gain access to second station because of restriction or any other reason.
   - c.) The second station does not answer.
2. If the second station hangs up, the calling station will be returned to the original call.

   If the originating station flashes the switch hook, a THREE-WAY CALL [T-2] will be initiated.

Service Conditions

1. When TRUNK-TO-TRUNK CONNECTION [T-10] is provided with the system, an outgoing public network or TIE Line call can be made by the user.
2. For outgoing calls, this feature may be activated only after 18 seconds have elapsed since the last digit dialed.
3. CALL PICKUP - GROUP [C-7] is available on CONSULTATION HOLD.
4. A call can be forwarded to a station in the remote node via FCCS link.

Interactions

1. This feature is denied whenever the destination telephone set is engaged in any state other than a simple 2-party connection.
2. CONSULTATION HOLD-ALL CALLS must always be made available when service features require switch hook flashing.
3. Indexes 156 and 157 also are used for SMDR, establishing an arbitrary connection timing.
4. If a party is involved in a CONSULTATION HOLD-ALL CALLS state or in an established THREE-WAY CALLING [T-2] connection, attempts to override the connection are denied. These features are:

EXECUTIVE RIGHT-OF-WAY	[E-1]
CALL WAITING - TERMINATE	[C-12]
BUSY VERIFICATION	[B-3]
ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]

Interactions (cont'd)

5. Features that cannot be activated while a user has a party in CONSULTATION HOLD-ALL CALLS are:

EXECUTIVE RIGHT-OF-WAY	[E-1]
TRUNK ANSWER FROM ANY STATION	[T-8]
CALL BACK, Activate or Cancel	[C-1]
CALL PICKUP-DIRECT	[C-30]
CALL FORWARDING, Activate or Cancel	[C-2, 3, 5]
OUTGOING TRUNK QUEUING, Cancel	[O-2]
SPEED CALLING-INDIVIDUAL, Entry	[S-21]
MESSAGE REMINDER	[M-19D]

6. All other features may be activated as long as the user's line CLASS OF SERVICE-INDIVIDUAL [C-15] allows that feature.

7. Upon establishing a CONSULTATION HOLD-ALL CALLS connection and dialing a third party, if the user receives busy or reorder tone instead of ringback tone, the user flashes once to disconnect the tone and reconnect the second party.

8. Upon establishing a CONSULTATION HOLD-ALL CALLS connection and dialing a MISCELLANEOUS TRUNK ACCESS [M-2] code, if no dial tone is given (after the trunk is seized), or if a mistake is made in dialing, or if intercept announcement or a permanent tone is given, the user must go on-hook and wait for ringback tone.

9. A user, who established CONSULTATION HOLD-ALL CALLS, is reconnected to the party in soft hold when the third party disconnects.

10. When using CALL TRANSFER-ALL CALLS [C-11] from a station (second party) to another station or trunk (third party), the control station can transfer the call during ringing (blind transfer). When the control station goes on-hook, the station in soft hold is connected to the third party's connection and hears ringback tone. A 30-second timer is set when the controlling station goes on-hook. If the timer times out before the third party answers, the control station will receive ringback tone.

11. Reorder tone is returned to the station using CONSULTATION HOLD-ALL CALLS when the following actions occur:

    *   The user attempts to place an off-net call using MISCELLANEOUS TRUNK ACCESS [M-2] on a restricted route.
    *   The user dials the number of an unassigned station or station residing in an inaccessible tenant via Tenant Service.
    *   The user dials vacant or invalid first digit (no assignment in the ANPD command either for level or connection status).
    *   The TRANSFER key or FLASH BUTTON-D$^{\text{term}}$ [F-3D] is used instead of momentarily pressing the switch hook. A FLASH BUTTON-D$^{\text{term}}$ [F-3D] is required for a Connection Index of B, Busy.

Programming

ASYD - System Data 1, Index 156. Trunk Soft Hold Timer A, used with second dial tone trunks. Assign data 00H for 30 seconds. (Data 31H may be used for a value of two seconds if CALL TRANSFER-ALL CALLS [C-11] is to be used immediately after connecting to the trunk.) This is the time between trunk connection and when switch hook flash is allowed on a non-senderized trunk connection.

Programming (cont'd)

System Data 1, Index 157. Trunk Soft Hold Timer A, used with senderized trunks. Assign data 00H for a value of 18 seconds. (Data 31H may be used for a value of two seconds, if CALL TRANSFER-ALL CALLS [C-11] is to be used immediately after connecting to the trunk.). This is the time between trunk connection and when switch hook flash is allowed on a senderized trunk connection. It is also used to determine when SMDR billing will begin.

System Data 2, Index 1, Bits 0 & 1. CONSULTATION HOLD allowed or denied? 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call denied; 11: All calls allowed. Normally assign data "11".

System Data 3, Index 2, Bits 0-3. Switch hook flash starts timer. To calculate this value: (1 ~ FH) x 120 msec = Timer.

System Data 3, Index 2, Bits 4-7. Switch hook flash ends timer. To calculate this value: (1 ~ FH) x 120 msec = Timer. For both beginning and ending timers, assign 91H for 120 - 1080 msec.

FCCS Programming

No unique programming is required for the FCCS network.

Note: *System timers may be set on a network basis in ASYDN.*

C-17D   Consultation Hold - All Calls - D^{term}

General Description

This feature permits a D^{term} user to hold any incoming or outgoing public network or TIE Line, or any Intra-office calls, while originating a call to another station within the system.

Operating Procedure

To hold original call and place second call from a D^{term}:
1.　　Press the TRANSFER key; receive special dial tone.
2.　　The original call is held.
3.　　Dial the second telephone number; receive ringback tone.
4.　　The second station answers; the CONSULTATION HOLD state has been entered.

To return to the original call from a D^{term}:
1.　　In any of the following cases, the calling station can return to the original call by pressing the TRANSFER key:
   　　a.) Second station called for consultation is busy.
   　　b.) Calling station cannot gain access to the second station because of a restriction or some other reason.
2.　　If the second station hangs up, the calling station will be returned to the original call.
3.　　If the second station stays on, pressing the TRANSFER key returns the original call to the D^{term} while the second call is being held.
   　　By pressing the CONF key, a THREE-WAY CALL [T-2] will be initiated.

Service Conditions

1.　　When TRUNK-TO-TRUNK CONNECTION [T-10] is provided with the system, an outgoing public network or TIE Line call may be made by the user.
2.　　With outgoing calls, this feature may be activated only after 18 seconds have elapsed since the last digit was dialed.
3.　　CALL PICKUP-GROUP [C-7] is available on CONSULTATION HOLD.
4.　　A call can be forwarded to a station in the remote node via FCCS link.

Interactions

1.　　This feature is denied whenever the destination telephone set is engaged in any state other than a simple 2-party connection.
2.　　CONSULTATION HOLD-ALL CALLS must always be made available when service features require switch hook flashing.
3.　　Indexes 156 and 157 also are used for SMDR, establishing an arbitrary connection timing.
4.　　If a party is involved in a CONSULTATION HOLD-ALL CALLS state or in an established THREE-WAY CALLING [T-2] connection, attempts to override the connection are denied. These features are:

EXECUTIVE RIGHT-OF-WAY	[E-1]
CALL WAITING - TERMINATE	[C-12]
BUSY VERIFICATION	[B-3]
ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]

Interactions (cont'd)

5. Features that cannot be activated while a user has a party in CONSULTATION HOLD-ALL CALLS are:

EXECUTIVE RIGHT-OF-WAY	[E-1]
TRUNK ANSWER FROM ANY STATION	[T-8]
CALL BACK, Activate or Cancel	[C-1]
CALL PICKUP-DIRECT	[C-30]
CALL FORWARDING, Activate or Cancel	[C-2, 3, 5]
OUTGOING TRUNK QUEUING, Cancel	[O-2]
SPEED CALLING-INDIVIDUAL, Entry	[S-21]
MESSAGE REMINDER	[M-19D]

6. All other features may be activated as long as the user's line CLASS OF SERVICE-INDIVIDUAL [C-15] allows that feature.

7. Upon establishing a CONSULTATION HOLD-ALL CALLS connection and dialing a third party, if the user receives busy or reorder tone instead of ringback tone, the user flashes once to disconnect the tone and reconnect the second party.

8. Upon establishing a CONSULTATION HOLD-ALL CALLS connection and dialing a MISCELLANEOUS TRUNK ACCESS [M-2] code, if no dial tone is given (after the trunk is seized), or if a mistake is made in dialing, or if intercept announcement or a permanent tone is given, the user must go on-hook and wait for ringback tone.

9. A user, who established CONSULTATION HOLD-ALL CALLS, is reconnected to the party in soft hold when the third party disconnects.

10. When using CALL TRANSFER-ALL CALLS [C-11] from a station (second party) to another station or trunk (third party), the control station can transfer the call during ringing (blind transfer). When the control station goes on-hook, the station in soft hold is connected to the third party's connection and hears ringback tone. A variable timer is set when the controlling station goes on-hook. If the timer times out before the third party answers, the control station will receive ringback tone.

11. Reorder tone is returned to the station using CONSULTATION HOLD-ALL CALLS when the following actions occur:

    •   The user attempts to place an off-net call using MISCELLANEOUS TRUNK ACCESS [M-2] on a restricted route.

    •   The user dials the number of an unassigned station or station residing in an inaccessible tenant via Tenant Service.

    •   The user dials vacant or invalid first digit (no assignment in the ANPD command either for level or connection status).

    •   The TRANSFER key or FLASH BUTTON-D^term [F-3D] is used instead of momentarily pressing the switch hook. A FLASH BUTTON-D^term [F-3D] is required for a Connection Index of B, Busy.

Programming

ASYD - System Data 1, Index 156. Trunk Soft Hold Timer A, used with second dial tone trunks. Assign data 00H for 30 seconds. (Data 31H may be used for a value of two seconds if CALL TRANSFER-ALL CALLS [C-11] is to be used immediately after connecting to the trunk.) This is the time between trunk connection and when switch hook flash is allowed on a non-senderized trunk connection.

Programming (cont'd)

System Data 1, Index 157. Trunk Soft Hold Timer A, used with senderized trunks. Assign data 00H for a value of 18 seconds. (Data 31H may be used for a value of two seconds, if CALL TRANSFER-ALL CALLS [C-11] is to be used immediately after connecting to the trunk.). This is the time between trunk connection and when switch hook flash is allowed on a senderized trunk connection. It is also used to determine when SMDR billing will begin.

System Data 2, Index 1, Bits 0 & 1. CONSULTATION HOLD allowed or denied? 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call denied; 11: All calls allowed. Normally assign data "11".

System Data 3, Index 2, Bits 0-3. Switch hook flash starts timer. To calculate this value: (1~FH) x 120 msec = Timer.

System Data 3, Index 2, Bits 4-7. Switch hook flash ends timer. To calculate this value: (1~FH) x 120 msec = Timer. For both beginning and ending timers, assign 91H for 120 - 1080 msec.

f (t)	Bit 0-3	Bit 4-7
0 ms	120 ms	1080 ms Disconnection
No Detection		

FCCS Programming

No unique programming is required for the FCCS network.

Note: *System timers may be set on a network basis in ASYDN.*

C-20   Centralized Attendant Service (CAS)

General Description

For applications requiring multiple sites, but having common interests or operation, the NEAX2400 IMX can operate in a Main (attended) or Satellite (unattended) configuration. Typically, incoming calls to the satellite are routed to the main location for processing by the Central Attendant(s) within the CAS network. This service feature can be used to improve overall communication efficiency.

Operating Procedure

Listed Directory Number (LDN) Call:
1. Upon arrival of an LDN call at a satellite system, the LDN call is automatically directed to the main system via a release link trunk.
2. Upon receiving the incoming CAS call, the ATTENDANT CONSOLE(s) [A-3] will display the incoming CAS call by flashing the CAS lamp.
3. The Attendant answers the incoming CAS call by pressing the CAS or ANSWER key; hears the Incoming Call Tone (480 Hz - 440 Hz - 480 Hz) for 300 msec.
4. The Attendant presses the SHF key causing a switch hook flash; hears special dial tone from the satellite system.
5. The Attendant dials the required telephone number in the satellite system.
6. Upon hearing ringback tone, the Attendant presses the RELEASE key to make the release link trunk available to serve another call.

Recall on Don't Answer Call:
1. A satellite system is arranged to re-establish a connection from a calling party via a release link trunk to an Attendant in the main system, if the called station does not answer within a prefixed time.
2. Upon receiving the recall on a No Answer Call, the ATTENDANT CONSOLE(s) [A-3] will display the incoming CAS call by flashing the CAS lamp.
3. The Attendant answers the incoming CAS call by pressing the CAS or ANSWER key; hears continuous ringback tone (440Hz - 480 Hz) for 300 msec.
4. After hearing the burst of continuous ringback tone, the Attendant and the calling party converse over ringback tone because of ringing the called station continuously during recall connection.
5. If the calling party desires to hold the connection, the Attendant presses the RELEASE key to make the release link trunk available to serve another call.

Camp-on:
1. If the Attendant directs the satellite system to connect a call to a busy station, the satellite system transmits a Camp-On confirmation tone (100 msec burst of 440 Hz) to the Attendant, also a Camp-On Indication Tone (200 msec burst of 480 Hz) to the called station, and reconnects the calling party to the Attendant.
2. If the calling party desires to wait, the Attendant presses the RELEASE key to make the release link trunk available to serve another call.
3. If the Camped-On station remains busy for longer than the prefixed time, the satellite system reconnects the calling party via a release link trunk.
4. Upon receiving the recall on a Camped-On call, the ATTENDANT CONSOLE(s) [A-3] will display the incoming CAS call by flashing the CAS lamp.
5. The Attendant answers the incoming CAS call by pressing the CAS or ANSWER key; hears the Camp-On Identification Tone (100 msec burst of 440 Hz).
6. When the Camped-On station becomes idle, the satellite system rings the camped-on station.

Operating Procedure (cont'd)

Remote Hold:
1. The Attendant converses with a central office party.
2. The Attendant operates the SHF key; hears special dial tone.
3. The Attendant dials the Remote Hold access code (one or two digits); the central office party is placed in the hold state at the satellite system, and the Attendant hears the hold confirmation tone (five, 50 msec. bursts of 440 Hz).
4. The Attendant presses the RELEASE key to make the release link trunk available to serve another call.
5. If the central office party remains in the hold state for longer than the prefixed time, the satellite system reconnects the central office party via the release link trunk.
6. Upon receiving the recall on the hold call, the ATTENDANT CONSOLE(s) [A-3] will display the incoming CAS call by flashing the CAS lamp.
7. The Attendant answers the incoming CAS call by pressing the CAS or ANSWER key; hears the hold recall identification tone (five, bursts of 440 Hz).
8. The Attendant is now able to complete the call.

Operator Call:
1. When an operator call code (one or two digits) is received from a station or TIE Line trunk in the satellite system, an operator call is directed to the main system via release link trunks.
2. Upon receiving the incoming CAS call, the ATTENDANT CONSOLE(S) [A-3] will display the incoming CAS call by flashing the CAS lamp.
3. The Attendant answers the incoming CAS call by pressing the CAS or ANSWER key; hears the operator call identification tone (two, 100 msec. bursts of 440 Hz).
4. At the expiration of this tone, the Attendant converses with the calling party.
5. The Attendant's procedure for serving this call is similar to that for an LDN call.

Call Transfer - Attendant:
1. After any call is completed to a satellite station, the called party station can call the Attendant in the main system to transfer the calling party to another station in the satellite system. The operation of this feature is similar to that of an operator call.
2. The Attendant answers the incoming CAS call by pressing the CAS or ANSWER key; hears the operator call identification tone (two, 100 msec. bursts of 440 Hz).
3. After answering the call, the Attendant presses the SHF key, causing the satellite system to disconnect the station that dialed the operator call code and connects to the calling party.

Night Service for the Incoming CAS Call in the Main System:
1. In night mode, the incoming CAS call is directed to a night station to be answered.
2. When the night station answers that call, the night station hears the identification tone depending on the call.
3. The night station momentarily switch hook flashes; hears the special dial tone from the main system.
4. Dials the Flash Signal Sending access code (one or two digits); hears special dial tone.
5. After this, the operation of the night station is similar to that of the Attendant.
6. The night station must be provided with DTMF signaling.

Service Conditions

The following applies to a NEAX2400 IMX used at the main CAS location (Attendant location):
1. The number of Release Link Trunks (RLT's) is determined by overall satellite to main location traffic requirements.

Service Conditions (cont'd)

2. RLT's can be seized in one direction only; from the satellite PBX to the main PBX.
3. The Attendant cannot originate or INTER-POSITION TRANSFER [I-5] a call on an RLT.
4. The Attendant cannot extend an incoming CAS call to a station, trunk, or another Attendant in the main system.
5. CALL PROCESSING INDICATION [C-8] is not provided to the Attendant serving the incoming CAS call.
6. The Attendant at the main PBX cannot connect RLT calls to main PBX station users.
7. The main PBX Attendant cannot busy verify a station in the satellite system.

The following applies to a NEAX2400 IMX used as a satellite location:
1. The number of station ports used will equal the number of RLTs required.
2. A call extended by an Attendant in the main system can be recorded on SMDR [S-10].
3. An optional ATTENDANT CONSOLE [A-3] may be provided at a satellite PBX to allow a local Attendant to control access to WATS or FX trunks.
4. CAMP-ON [A-1] and Remote Hold are not provided for an operator call.
5. The NIGHT CONNECTION - FIXED [N-1] / FLEXIBLE [N-2] and TAS feature can be provided at the branch location.
6. A NEAX2400 IMX can be equipped with 100 RLTs per hunt group.
7. FCCS link is not available for this service.

Interactions

1. Release Link Trunks are not used for voice calls between PBXs. Release Link Trunks cannot be transferred to a station in the main system. TIE Lines must be installed for regular voice connection between systems.
2. CAS systems have no effect on tandem connection, LCR(6)/LCRS(7), or any other trunking application.
3. The following applies to a system used at the main CAS location (attendant location): The Attendant Console cannot originate or INTERPOSITION TRANSFER [I-5] a call on an RLT. The Attendant Console at the main PBX cannot connect RLT calls to main PBX station users.
4. A NEAX2400 IMX can be equipped with 100 RLTs per STATION HUNTING [S-7, 8, 9] group. This is a constraint of STATION HUNTING [S-7, 8, 9] and UNIFORM CALL DISTRIBUTION [U-1], not CAS.
5. Listed Directory Numbers (LDN) may be provided for the various satellite systems. Because these LDNs will ring in only at the CAS key of the Attendant Console, indications to distinguish among the multiple LDNs are not specifically available. However, the route number is displayed and can be used to distinguish satellite systems.
6. During the Day mode of operation, if all RLTs are busy, incoming COT calls will wait and ringback tone is sent to the calling party.
7. If the Attendant Console at the main system should switch hook flash to get dial tone from the satellite and all ports are busy, reorder tone is sent to the Attendant Console. The Attendant can switch hook flash COT party.
8. The CAS feature allows Attendant Console to be located at both the main and satellite locations. When the satellite location goes to the Night mode, translations are available to connect incoming C.O. calls to the RLT circuits. This is accomplished by the ACSI command and the NIGHT CONNECTION FIXED/FLEXIBLE [N-1, 2] feature.

Interactions (cont'd)

9.   When the Night stations are located at the satellite PBX and no Attendant Console is provided, a Night key must be installed at the satellite location to activate night service. When the key is operated, the CAS operations are suspended, and incoming calls are terminated at the NIGHT CONNECTION FIXED/ FLEXIBLE station(s) [F-1, 2] or via TRUNK ANSWER FROM ANY STATION [T-8]. When answered, the Night station can transfer the call to the main location via the TIE trunks but not the RLT circuits. A PA-D07 (Attendant Console) circuit card must be supplied to the satellite system.

10.   PAGING ACCESS [P-1]: This feature allows the CAS Attendant to access paging equipment located at the branch location upon answering an RLT call. See PAGING ACCESS [P-1] and MEET-ME PAGING [M-1].

11.   CODE CALLING ACCESS [C-21]: This feature allows the CAS Attendant Console to access CODE CALLING equipment located at the satellite location upon answering an RLT call.

12.   STATION MESSAGE DETAIL RECORDINGS [S-10]: SMDR is provided for calls extended by a CAS Attendant Console.

Programming

Main System

STEP 1:   **ASYD** - System Data 1, Index 150. Assign data 00H. This is the guard timer between the Attendant Console switch hook flash and the dialing of digits.

System Data 1, Index 151. Assign data 00H. This allows a 480 msec. SHF. Timer Class is given as 32 msec. For variable Hooking values, adjust the Miscellaneous Timer Class in Bit 0-3.

System Data 2, Index 13, Bit 1. Assign a data "0" for a Main system. This Bit applies to the PFT circuit card. This application is not common.

STEP 2:   **ARTD** - Assign the CAS routes (Release Link Trunks, RLT) in ARTD as follows. Be sure to assign CDN 6:TCL as data "7", CA line.

RT:1

1-OSGS	:2	2-0NSG	:3	5-TF	:3	6-TCL	:7*	7-L/T	:1
15-LSG	:5**								

STEP 3:   **ATRK** - Program the LEN of the RLT trunks. These trunks must be 16COT circuit cards.

STEP 4:   **MBTK** - Make idle the Release Link Trunk.

Note 1: *This Bit will provide a D^{term} trunk display when used as a Night Station.*

Note 2: **This Bit is used when the 8TLT card, Issue 14 circuit card is used at the Main PBX location for the Release Link Trunks. At the satellite location, an 8TLT card is used for Release Link Trunk (RLT). If a 16COT card is used as the RLT at the main location, assign LSG as data 0 Loop.*

STEP 3:   **AAKP** - To provide the Attendant Console with a FLASH key, the assignment of Attendant Console Key Pattern (AAKP) must be programmed. Assign the ATN: Attendant Number (TRK No. for RTE 901); KYN = 5; and FUNC = 1, CAS Line. (If this data is not assigned, CAS trunks will not ring into the Attendant Console.)

STEP 4:   **ANND** - For the outgoing connection parameter, OG; assign Route Number and the Number of Necessary Digits. The NND is the number of digits in the satellite switches' station numbering plan.

Night Station - CAS

STEP 1:   **ANPD** - Reserve a number level for feature access.

STEP 2:   **ASPA** - Assign an access code to the (Hooking (H)), SRV = SSC (Service Code); SID = 43. Assign for a Connection Status Index (CI) of Hooking (H).

STEP 3:   **ACFR** - Assignment of Call Forwarding Restriction. Allow Call Class Index (CCI) 14, CAS Trunk Main, a Transfer Service Feature Index (TSFI) of 5, TAS.

Programming (cont'd)

STEP 4: **ACSI** - Assign the Incoming CAS Route and Trunk to the Night Station and Tenant number. Assign the CSI = 4 for Night Connection.

TAS
STEP 1: **ANPD** - Reserve a number level for feature access.

STEP 2: **ASPA** - Assign an access code to TRUNK ANSWER ANY STATION, SRV = SSC (Service Code); SID = 16. Assign for a Connection Status Index (CI) of Normal (N).

STEP 3: **ACFR** - Assignment of Call Forwarding Restriction. Allow Call Class Index (CCI) 14, CAS Trunk Main, a Transfer Service Feature Index (TSFI) of 5, TAS.

STEP 4: **ATAS** - Assign the TAS circuit to the system. Refer to TRUNK ANSWER FROM ANY STATION [T-8] for details.

Note: *A second call will go to TRUNK ANSWER FROM ANY STATION if the first call is being answered by the Night station.*

Satellite System
STEP 1: **ASYD** - System Data 1, Index 149. Assign 00H for Recall Timer to Attendant Console at the main system location. This value is 30 seconds.

System Data 2, Index 11, Bit 7. Will DIT park in a busy station Queue? 0/1: Yes/No, it will be rerouted to the Attendant Console. Assign data "0" for Queuing.

System Data 2, Index 13; Bit 1. Assign data "1" for satellite system.

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan. Reserve a number level for station numbers. If the satellite system does NOT have an Attendant Console, 0 can be used as a station number. If not, consider a numbering plan for the Release Link Trunks that will be assigned to the stations assigned a TEC = 15.

STEP 3: **ARSC** - Construct a Route Restriction Class that allows a direct connection to all incoming trunks that will be served by the Attendant Console at the main system location. Assign via Route Restriction Index, RRI 1, Direct Connection on Incoming Trunks.

STEP 4: **ASFC** - Construct a Service Feature Class that allows Station Message Detail Service SFI = 14. Do not provide CALL FORWARDING [C-2, 3, 5].

STEP 5: **ASDT** - Assign ports of the 8TLT card, Issue 7* that receive the Release Link Trunks as TEC 15. The RSC assignment should allow a direct connection with all required incoming trunks. Allow these trunks via Route Restriction Index (RRI) = 0 & 1. The SFC assigned is separately constructed and can include SFI: 14, SMDR. See STATION MESSAGE DETAIL RECORDING (SMDR) [S-10]. When assigning station numbers, keep in mind that one of these stations will be the lead station in a UCD group and that station number will be used by the satellite stations to access the Attendant Console at the main system location. To keep the user from becoming confused when a different number appears on the LCD display than the one dialed, make the station numbers appear as sequential circuit numbers such as 100, 101, 102, etc.

Note: *If a 16COT card is used at the main location for the RLTs, 16LC cards are used at the satellite location.*

STEP 6: **ASHU** - Assign the Release Link Trunk stations to a UCD group. See UNIFORM CALL DISTRIBUTION [U-1]. One station number will be designated as the lead station. This number will simulate Dial Access to Attendant. Also, incoming trunk calls will be distributed among the available Release Link Trunks evenly. ASHC command may also be used, STATION HUNTING-CIRCULAR [S-7].

STEP 7: **ACSI** - Assign the Incoming Satellite trunks to be answered at the Main system CSI = 3, Direct In Termination, Day and Night Mode. Then assign the stations programmed above. This ties incoming trunks to the PA-4ODTs.

Programming (cont'd)

STEP 8: **ACFR** - Assignment of Call Forwarding Restriction. Upon determining which types of Call Class Indexes (CCI) will be answered at the Main system, such as LDN (DDD), WATS, FX; allow those CCI a Transfer Service Feature Index of 15, CAS Line.

STEP 9: **ACSA** - (Optional) Use this command rather than ACSI if CAS operation is desired in Day mode, and if incoming trunks are to stay at the satellite and be answered by TAS or a NIGHT CONNECTION - FIXED/FLEXIBLE [F-1/2] station in Night mode.

C-21   Code Calling Access

General Description

This feature provides the ATTENDANT CONSOLE [A-3] and users dial access to Code Calling equipment.

Operating Procedure

1. Go off hook; receive dial tone.
2. Dial the CODE CALLING ACCESS code.
3. Dial the code number for the unit desired.

Service Conditions

1. Amplifiers, speakers, and Code Calling units must be provided by the customer.
2. Loop Start Central Office trunks are used for interfacing Code Calling equipment. One Central Office trunk circuit is required per paging port and per answer back port.
3. Fully Restricted Stations: A fully restricted station may make only dial "0" and station-to-station calls; therefore, the CODE CALL ACCESS is denied.
4. HOTLINE [H-1]: A hotline station user can be programmed to connect to a Code Call Unit when the station goes off-hook.
5. ROUTE RESTRICTION: A station that is Code Calling route restricted is denied dial access to the Code Call unit. Restricted calls are routed to reorder tone. If allowed by the user's Class of Service, Attendant assistance can be used to complete a code call for a route-restricted station.
6. Attendants, users and TIE trunk users can dial an access code and a 2 or 3-digit called party code to activate a coded signal.
7. The D^{term} display will indicate the elapsed call time and trunk number.

Interactions

PAGING TRANSFER [P-10] may be used along with CODE CALLING ACCESS. Refer to PAGING TRANSFER [P-10] for additional programming.

Programming

STEP 1:   **ANPD** - Reserve a number level for miscellaneous trunk access. Assign for Normal (N) and Hooking (H). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPA** - Assign the access code in the level as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the route number associated with this access code.

STEP 3:   **ARTD** - Assign the CODE CALLING ACCESS route in ARTD as follows:

RT:1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:9	7-L/T	:1
8-RLP	:2						

STEP 4:   **ATRK** - Program the LENs of the paging trunks. These trunks must be 16COT or 8TLT cards.

STEP 5:   **MBTK** - Make idle the Paging Trunk.

C-22D   Called Station Status Display - D^{term}

General Description

This feature provides for the status of a called station to appear on the LCD display of a calling D^{term}.

Operating Procedure

Lift handset or press SPEAKER key; dial desired station. The LCD display indicates the status of the called station.

Service Conditions

1. If the called station is idle, the display flashes its number until the call is answered. If the called station is busy, the LCD displays:

    Called Station

    ```
    BUSY                          XXXX
              (Time Display)


    ```
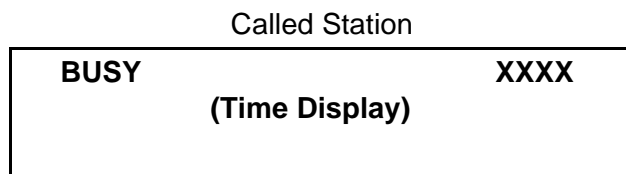
2. If the called station is in DO NOT DISTURB - D^{term} [D-11D], the LCD displays:
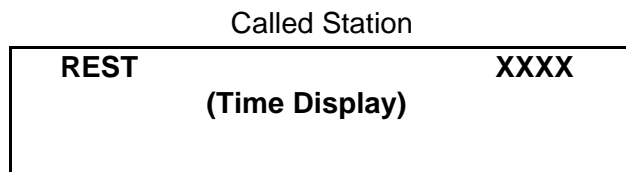
    Called Station

    ```
    REST                          XXXX
              (Time Display)


    ```

3. If the calling station encounters a restricted station, the LCD displays:

    Called Station

    ```
    REST                          XXXX
              (Time Display)


    ```
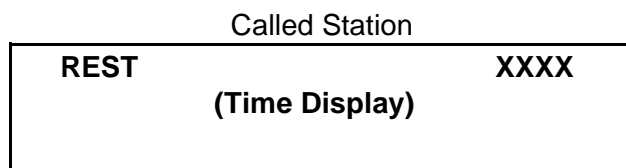
4. CALLED STATION STATUS DISPLAY - D^{term} can be restricted on a system-wide basis. The LCD displays:

    ```
                                  XXXX
              (Time Display)


    ```

Programming

ASYD - System Data 1, Index 78, Bit 1. Is the Service Feature Display in service? 0/1: No/Yes.

FCCS Programming

No unique programming is required for the FCCS network.

C-24D   Calling Number Display - D^{term}

General Description

This feature provides for the station and trunk number of an incoming call to appear on the D^{term}'s LCD display. This display will flash while the call is ringing, then appear steady when the call is answered.

Operating Procedure

No manual operation is required.

Service Conditions

1. When a call terminates on a line other than the PRIME LINE [P-13D], the LCD displays the incoming station determined by LINE PRE-SELECTION - D^{term} [L-9D].
2. LINE PRE-SELECTION - D^{term} [L-9D] is governed by a timer.

Programming

No programming is required.

FCCS Programming

No unique programming is required for the FCCS network.

C-25 Call Forwarding-Intercept / Announcement

General Description

This feature provides for interception of STATION-TO-STATION [S-11], DIRECT INWARD DIALING [D-8], Attendant-to-Station and CCSA [C-14] calls that cannot be completed (unassigned station, level, etc.). These calls are automatically routed to a recorded announcement informing the caller that an inoperative number was reached and giving the Listed Directory Number for information.

This feature permits a station-originated call, upon encountering a restricted outgoing number, to automatically be routed to a recorded announcement informing the caller that the dialed number is restricted for this station.

This feature permits a station-originated call, upon encountering a trunk busy condition, to automatically be routed to a recorded announcement informing the caller that all the outgoing trunks are busy.

Operating Procedure

No manual operation is required, once this feature has been programmed in system data.

Service Conditions

1. CALL FORWARDING-INTERCEPT / ANNOUNCEMENT requires one of the following hardware alternatives:

   a.) Central Office Trunk (COT) or 2W E&M trunk and an announcement machine, or
   b.) Digital Announcement Trunk (DAT).

2. If the outside party or Attendant forgets to hang up, the system will automatically disconnect in 30 seconds (provided this is programmed in system data). If no disconnect timing is programmed, the outside party will control disconnect.

3. This feature is provided on a per-tenant basis.

4. The following call conditions, which cannot be completed, can be routed to intercept:

   a.) vacant level,
   b.) unassigned telephone number.

5. Only one common message can be provided for the different intercept conditions.

6. There is no method by which to exempt individual DID, CCSA, and TIE Trunks from intercept.

7. A station dials the LEAST COST ROUTING [L-5] access code and then an outside number. If that outside number is not listed in LEAST COST ROUTING [L-5] tables (Outgoing Routing Patterns, OPR), the call will be routed to an intercept announcement.

8. If a different message is required for each of the three intercept conditions, three trunks or three announcement machines must be provided.

When encountering a Restricted Route:

9. This service feature is valid when station to outgoing trunk connection is restricted.

10. This feature is applied equally to all trunk routes in the system. It cannot be denied to some routes and available to other routes.

11. This service is valid when a call is redirected to an OG trunk via CALL FORWARDING-OUTSIDE [C-28]. The announcement will be heard when the calling station is also a restricted station.

12. This service is not valid for TRUNK-TO-TRUNK CONNECTION [T-10] when the called station has set CALL FORWARDING - OUTSIDE [C-28] via DID or TIE Trunk.

13. This service is not valid for outgoing calls that do not go out when all trunks or senders are busy.

When encountering all trunks busy:

14. This service feature is valid for outgoing station-to-trunk or tandem trunk-to-trunk connections.

Service Conditions (cont'd)

15. Automatic OUTGOING TRUNK QUEUING [O-2], OFF-HOOK QUEUING [O-7] and ROUTE ADVANCE [R-6] are mutually exclusive with this feature. These features take priority over OUTGOING TRUNK BUSY - ANNOUNCEMENT [O-21].

16. ANNOUNCEMENT SERVICE is provided to FCCS nodes that have no announcement trunk using the trunk in the remote node.

17. When CALL FORWARDING - INTERCEPT/ANNOUNCEMENT [C-25] or CALL FORWARDING - INTERCEPT / ANNOUNCEMENT - ATTENDANT [C-75] is used in an FCCS network, the additional data shown below is required.

    a.) the logical route number should be applied to the physical route that is provided the service.
    b.) the restriction of route-to-route connection between FCCS nodes should be released.

18. When using the FCCS network, CALL FORWARDING-INTERCEPT / ANNOUNCEMENT [C-25] or CALL FORWARDING - INTERCEPT / ANNOUNCEMENT-ATTENDANT [C-75] is not provided for the incoming call using AUTOMATED ATTENDANT [A-82], DIRECT-IN TERMINATION [D-7], or REMOTE ACCESS TO SYSTEM [R-2].

19. When using the FCCS network, the call forwarding for an incoming call routed to a dead level or an unused number has priority over the announcement service for the incoming call.

Interactions

1. Each route connected to an announcement machine is also an EQP. The same route can be assigned as different EQP's. However, it is best to separate EQP functions by route.

2. 8TLT, 16 COT, or 4DAT card may be used.

Programming

STEP 1:   **ACFO** - Enable this feature by allowing CF = 3: CALL FORWARDING - INTERCEPT/ ANNOUNCEMENT. The CFI parameter will come up for assignment. An Attendant Console may be programmed so that intercepted calls will terminate at the CALL FORWARD INTERCEPT key. If no assignment is made, the NEAX2400 IMX program goes to the AAED command for announcement trunk information because the destination of the transfer is a trunk and not a station or Attendant Console.

STEP 2:   **ARTD** - Assign the announcement route as shown below:

RT:1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:1	7-L/T	:1
8-RLP	:2	15-LSG	:0*						

Note: *If a PA-8TLTR is used, assign as 5, E & M.*

STEP 3:   **ATRK** - Assign the LENs, Announcement Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4:   **MBTK** - Assign the Make Idle status to the Announcement Trunk.

Note: *If supervision is required, use the first two circuits of the 16COT circuit card. Move the switch on the 16COT to PGT.*
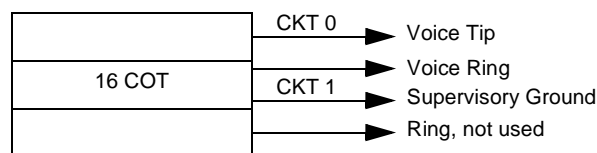
STEP 5:   **ARRC** - If TIE Line or REMOTE ACCESS TO PBX [R-2] connection to the ANNOUNCEMENT SERVICE Trunk is required, allow trunk-to-trunk connection using ARI-D-RES, Direct Connection.

Programming (cont'd)

STEP 6:   **AAED** - Used to assign Announcement equipment. Assign:

TN: Tenant Number

EQP: Announcement Equipment Number

> 0:   Dead Level
>
> 1:   Unused Number (LCR OPR not programmed)
>
> 2:   Available
>
> 3:   Available
>
> 4:   Outgoing Trunk Group Busy Announcement
>
> 5:   Available
>
> 6:   Available
>
> 7:   Outgoing Route Restriction Announcement
>
> 8 ~ 15: Available for ANNOUNCEMENT SERVICE [A-15] applications.

RT, TK: Route & Trunk number of the trunk connected to the Announcement Equipment.

C: Duration of Connection, 0/1: Disconnection occurs in 30 seconds / the connection is held until the station releases. See the requirements of the announcement equipment.

R: Sending RBT, 0/1: Sending/Not sending. Normally assign data "0".

A: Answer Signal Sending, 0/1: No answer from Incoming trunk / Answer from Incoming trunk. Normally assign data "0". No answer signal is sent to the CO. Therefore the calling party will not be billed for the call.

M: Multiple Connection, 0/1: Single Connection / Multiple Connection. See the requirements of the announcement equipment.

STEP 7:   **ACFR** - Assignment of Call Forwarding Restriction. Upon determining which types of Call Class Indexes (CCI) will be answered via CALL FORWARDING - INTERCEPT, for example, CCSA and DID calls: allow those CCIs a Transfer Service Feature Index of 1, for CALL FORWARDING - ALL CALLS, NO ANSWER, BUSY.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   **ALRTN** - This data must be assigned to the NCN.

Assign the logical route number to the physical route.

STEP 2:   **AAEDN** - This data must be assigned to the NCN.

Assign the announcement equipment data.

UGN: User Group Number

EQP: Announcement Equipment Number

> 0 = Dead Level
>
> 1 = Unused Number
>
> 2-15 = Announcement service

C: Duration of Connection

> 0 = Disconnection occurs in 30 seconds
>
> 1 = Connection is held until the station is released. See the requirements of the application for the announcement equipment. For Dead level applications, assign data "0".

FCCS Programming (cont'd)

R: Sending RBT

0/1 = Yes/No

A: Answer Signal Sending (Answer from the incoming trunk)

0 = No/Yes Normally assign data "1".

M: Multiple Connection

0/1 = Single Connection/Multiple Connection

LGRT: Logical Route Number

TK: Trunk Number *Not necessary for "M = 1"

STEP 3: **ARRCN** - This data must be assigned to the NCN.

Release the restriction between the terminating trunk and the announcement trunk.

STEP 4: **ARSCN** - This data must be assigned to the NCN.

Release the restriction between the announcement trunk and the station.

Note: *The current command data shown is set to all nodes using the service: ASTD, ARTD, ATRK, MBTK*

C-26 Call Forwarding - Override

General Description

This feature allows a target user (Station A) to call the station (Station B) which has set CALL FORWARDING - ALL CALLS [C-5] to it. If the called station (Station B) has set the CALL FORWARDING - BUSY LINE [C-2] to the calling station (Station A), the calling station (Station A) hears busy tone and can activate CALL BACK [C-1], EXECUTIVE RIGHT-OF-WAY [E-1], or CALL WAITING - ORIGINATING [C-31].

Operating Procedure

Station A presses EXECUTIVE RIGHT-OF-WAY [E-1] or CALL WAITING [C-31] after hearing busy tone.

Service Conditions

1. This service feature is allowed to all stations in the NEAX2400 IMX, except the ATTENDANT CONSOLE [A-3].
2. Any station that has set CALL FORWARDING - ALL CALLS [C-5] can activate any feature, if the station is allowed the feature via CLASS OF SERVICE [C-15].
3. When Station A (D^{term}) calls Station B (D^{term}), or if Station A places an incoming call into hold condition and calls Station B, each D^{term} LCD displays as shown below:
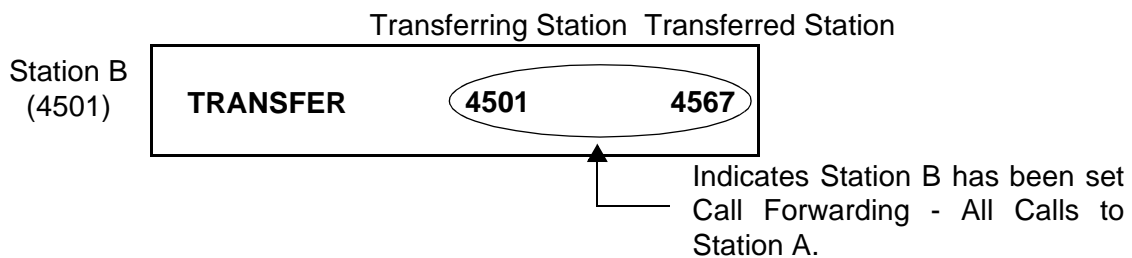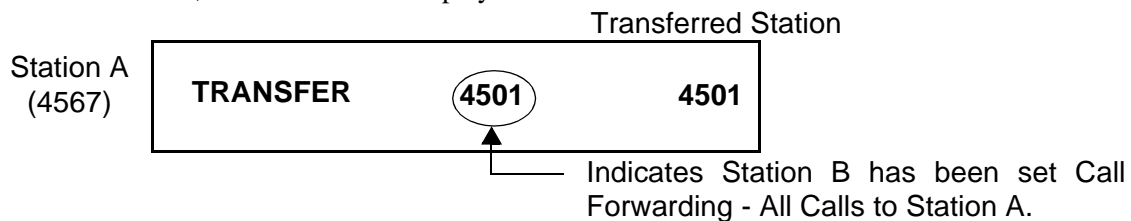
Programming

ASFC - Assign Service Feature Class that allows SFI = 156 (Call Forwarding - Override Indication) to the D^{term} stations allowed LCD indication of this service.

C-27D   Call Waiting - Answer - D$^{\text{term}}$

General Description

This service feature allows a D$^{\text{term}}$ user to answer a CAMPED-ON [A-1] or CALL WAITING [C-12, 31] call while putting an existing call on HOLD [C-6], by pressing the ANSWER key.

Operating Procedure

CAMP-ON [A-1] or CALL WAITING [C-12, 31] to a busy D$^{\text{term}}$ is activated:

1. The user hears Camp-On Indication Tone or Call Waiting Tone during a call in progress; the LCD of the D$^{\text{term}}$ displays:

    Trunk/Telephone Number

    ```
    CAMP ON                    XXXXXX
              (Time Display)
    ```

    Trunk/Telephone Number

    ```
    C WAIT                     XXXXXX
              (Time Display)
    ```
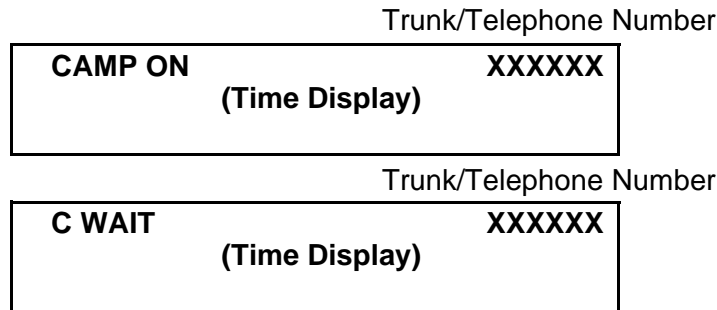
2. The user presses ANSWER key and is connected to the waiting call.
3. To return to the original call, the D$^{\text{term}}$ user re-presses ANSWER key.

Service Conditions

1. Service conditions are essentially the same as those of CALL WAITING - TERMINATING [C-12] for ordinary telephone sets.
2. Pressing RECALL will disconnect the party presently engaged in conversation.

Interactions

1. This feature is allowed whenever the destination telephone is engaged in any state other than:
    a.) engaged in a 3-way connection,
    b.) a Privacy feature is activated,
    c.) connected to a route programmed to have Line/Trunk, Privacy, CDN 44:PRV,
    d.) listening to a tone (dial tone, reorder tone, service set tone, busy tone, ringback tone).
2. CALL WAITING-ANSWER-D$^{\text{term}}$ is operated by pressing the ANSWER key located on the D$^{\text{term}}$ instrument. This feature is used for ATTENDANT CAMP-ON [A-1] and CALL WAITING-ORIGINATING [C-31].
3. Periodic Call Waiting Tones will not operate for ATTENDANT CAMP-ON WITH TONE INDICATION [A-1].

Programming

STEP 1:   **ASYD** - System Data 1, Index 152. Timer class 3 = 2 seconds. MTC x TC = Interval for CALL WAITING. MTC assigned in hexadecimal to bits 0 ~ 3 of this index. Default value is 10 seconds.

System Data 2, Index 10, bit 6. Should CALL WAITING - ORIGINATING [C-31] operation be automatic upon encountering a busy station? 0/1: No/Yes. Assign on a per tenant basis.

Programming (cont'd)

System Data 2, Index 10, bit 7. Should the warning tone set in System Data 1, Index 152 be periodically sent? 0/1: No/Yes. Assign on a per tenant basis.

STEP 2:   **ASFC** - Assign a Service Feature Class that allows SFI's 5, 6, and 11. This allows the ability to originate a CALL WAITING - ORIGINATE (SFI 5), to terminate a CALL WAITING - ORIGINATING [C-31] (SFI 6), and to receive Camp-On Tone (SFI 11).

Commands related to CALL WAITING - ORIGINATING [C-31]:

STEP 3:   **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 4:   **ASPA** - Assign an access code to CALL WAITING - ORIGINATING [C-31], SRV = SSC (Service Code), SID = 5 for Connection Status Index (CI) of Busy (B). Assign the NND value as equal to the digits in the feature access code.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ANPDL** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPAL** - Assign an access code to CALL WAITING - ORIGINATING [C-31], SRV = SSC (Service Code), SID = 5 for Connection Status Index (CI) of Busy (B). Assign the NND value as equal to the digits in the feature access code.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-28 Call Forwarding - All Calls - Outside

General Description

This feature allows a call, which originates from a station or trunk and is destined for a station, to be routed to another station outside the NEAX2400 IMX via the appropriate trunk line. This feature can also be activated from a D^{term} multi-line.

Operating Procedure

To set CALL FORWARDING - ALL CALLS - OUTSIDE:
1. Lift the handset; receive dial tone.
2. Dial the CALL FORWARDING - ALL CALLS - OUTSIDE access code (same as CALL FORWARDING - ALL CALLS [C-5]); receive special dial tone.
3. Dial the desired target telephone number (or Speed Calling access code and abbreviated code). If the ATTENDANT CONSOLE [A-3] is setting this feature, dial the access code, tenant number, originating telephone number, and then the desired outside number; receive service set tone.

To cancel CALL FORWARDING - ALL CALLS - OUTSIDE:
1. Lift the handset; receive dial tone.
2. Dial the CALL FORWARDING - ALL CALLS - OUTSIDE cancel code, (same as CALL FORWARDING - ALL CALLS [C-5] cancel code); receive service set tone.

To set CALL FORWARDING - ALL CALLS - OUTSIDE from a multi-line D^{term}:
1. Press the multi-line feature key to be used for CALL FORWARDING - ALL CALLS - OUTSIDE.
2. Lift the handset or press the SPEAKER key; receive dial tone.
3. Press CALL FORWARDING - ALL CALLS - OUTSIDE feature key; receive special dial tone.
4. Dial the desired target telephone number (or Speed Calling access code and abbreviated code); receive service set tone. The LED will light. The LCD displays:

```
┌─────────────────────────────────┐
│ FORWARD SET                     │
│          (Time Display)         │
│                                 │
└─────────────────────────────────┘
```

5. Replace the handset or press the SPEAKER key.

To monitor CALL FORWARDING - ALL CALLS - OUTSIDE from a multi-line D^{term}:
1. Press the multi-line appearance, then press the CALL FORWARDING - ALL CALLS FORWARD feature key. The LCD displays:

```
                          Outside Number*
┌─────────────────────────────────┐
│ FORWARD              XXXXXXXX    │
│          (Time Display)         │
│                                 │
└─────────────────────────────────┘
```

Note: *A dialed abbreviated number is transferred into the forwarding number, and the first eight digits are displayed, even if a maximum of 24 digits can be stored.*

Operating Procedure (cont'd)

To cancel CALL FORWARDING - ALL CALLS - OUTSIDE from a multi-line D^{term}:

1.   Lift the handset or press the SPEAKER key; receive dial tone. Press the CALL FORWARDING - ALL CALLS FORWARD feature key; receive service set tone. The LED of the associated feature key will go out. The LCD displays:

> **FORWARD CANCEL**
> **(Time Display)**

2.   Replace the handset or press the SPEAKER key.

Service Conditions

1.   CALL FORWARDING - ALL CALLS - OUTSIDE may be set or cancelled by either a user or the Attendant.

2.   Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in system data.

3.   For CALL FORWARDING - ALL CALLS - OUTSIDE, Speed Call List numbers may be programmed as the destination telephone number. This permits the sent digits to exceed the 12-digit maximum.

4.   When using this feature, either the calling station or the forwarding station is recorded by SMDR [S-10] as the originating station of calls forwarded. The selection between the above stations is decided by system data.

5.   The calling D^{term} display for CALL FORWARDING - ALL CALLS and BUSY LINE - OUTSIDE appear as regular outgoing CO calls. The calling D^{term} display for CALL FORWARDING - DON'T ANSWER - OUTSIDE appears as a STATION-TO-STATION CALLING - CCIS [S-57] call.

6.   CALL FORWARDING - ALL CALLS - OUTSIDE can be restricted by the Trunk Route Restriction Class (RSC) of the originating station.

7.   There is no limit to the number of stations that may activate this feature simultaneously.

8.   Restrictions for outgoing connection by CALL FORWARDING - ALL CALLS - OUTSIDE are as follows:
      a.)   When originating a call from a station: RSC is verified when this service is in effect.
      b.)   When originating a call from a trunk: Restriction for tandem connections between the incoming trunk and the outgoing trunk is selected for the call where CALL FORWARDING - ALL CALLS service occurs.

9.   When a caller places a call via Outgoing Call Alternative (OGCA) and when the first outgoing route and the calling party are restricted, this service cannot be set. In this case, the service can be set via the following procedure:
      a.)   assign a dummy route,
      b.)   clear the restriction between the dummy route and all the stations,
      c.)   assign the dummy route as the first route of OGCA.

10.   When a destination of CALL FORWARDING - ALL CALLS - OUTSIDE has already been assigned, even if the feature is restricted by the new office data or changing of Day/Night mode, the assigned data can still be used or cancelled.

11.   A maximum of 24 digits, including trunk access code, can be stored.

12.   This feature allows a call to terminate to a trunk outside of the FCCS network. Accordingly, the access code + office code or the access code including office code is required before dialing the telephone number to recognize the terminating node.

Service Conditions (cont'd)

13. When the incoming call is forwarding to the public network, be sure to add the outgoing access code + destination area code or the outgoing access code including destination area code number before dialing subscriber number.

14. A call can be forwarded to a trunk in the remote node via FCCS link.

Interactions

1. A 24-digit limitation exists in memory for CALL FORWARDING-OUTSIDE.

2. CALL FORWARDING-OUTSIDE is an enhancement of the CALL FORWARDING-ALL CALLS [C-5] feature.

3. This feature may be set from the Attendant Console.

4. A call may be CALL FORWARDED-OUTSIDE to a SPEED CALLING-SYSTEM [S-3] or SPEED CALLING-STATION/GROUP [S-21, 23] number. This will allow a long-distance number that exceeds 12 digits.

5. A user can verify that CALL FORWARDING-OUTSIDE has been properly activated and can inform the designated outside party of the activation by dialing the forwarded station from any station in the system.

6. If a station is restricted from outside calling, CALL FORWARDING-OUTSIDE will be denied. TOLL RESTRICTION-3/6 DIGIT [T-7] will be applied to CALL FORWARDING-OUTSIDE via SPEED CALLING-SYSTEM, STATION, GROUP [S-3, 21, 23], if tenant data assigned in System Data 2 applies Toll Restriction to speed calling.

7. Upon activation of this feature, STATION MESSAGE DETAIL RECORDING [S-10] will record the outside exchange number whenever a call is forwarded.

8. A station can use the OUTGOING TRUNK QUEUING [O-2] feature to queue an outgoing trunk and a call that is being forwarded via the CALL FORWARDING-OUTSIDE feature. The call will be outpulsed when a trunk becomes available.

9. A station assigned to a STATION HUNTING [S-7, 8, 9] Group will be temporarily removed from the Hunt Group if it initiates CALL FORWARDING-OUTSIDE.

10. If a call using the CALL BACK [C-1] feature is placed from a station that has activated CALL FORWARDING-OUTSIDE, the Call Back will ring at the forwarding station, not the outside station.

11. When OUTGOING TRUNK QUEUING [O-2] (on-hook) is initiated by the forwarding station, the ringback will be to the forwarding station and not to the outside station.

12. A DIRECT-IN TERMINATION [D-7] call may be sent through CALL FORWARDING-OUTSIDE.

13. The number of digits (maximum 12) that will be accepted before forwarding is set is determined by AMND.

14. This feature allows a call to terminate to a trunk outside of the FCCS network. Accordingly, "the access code + office code" or "the access code including office code" is required before dialing a telephone number to recognize the terminating node.

15. When forwarding the incoming call to the public network, be sure to add "the outgoing access code + destination area code" or "the outgoing access code including destination area code number" before dialing a subscriber number.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, bit 6. One burst of ringing all CALL FORWARDING - ALL CALLS [C-5] in service? 0/1: No/Yes. System Data 1, Index 20, bit 7. Calling or forwarded party show on SMDR? 0/1: Calling/forwarded.

Programming (cont'd)

System Data 2, Index 6, bit 4. Call-forwarded station restricted from making calls? 0/1:Yes/No.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING - ALL CALLS [C-5] set SID = 8, and to CALL FORWARDING - ALL CALLS [C-5] cancel SID = 9. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign the station a Service Feature Class that allows SFI = 7 CALL FORWARDING - ALL CALLS [C-5]. And also assign either SFI 25 CALL FORWARD outside-Local or SFI 26 CALL FORWARD outside-Long Distance. Assign SFI = 151 when CF-OUTSIDE is performed, RSC of the forwarding station is used.

STEP 5: **ARRC** - Allow a trunk-to-trunk connection between the incoming trunks and the outgoing trunks that will be involved with this application. The incoming trunks include calls extended by the Attendant Console and DID calls. The outgoing trunks would be DDD or trunks seized when using SPEED CALLING - GROUP [S-23] or SPEED CALLING - SYSTEM [S-3]. If LCR is used, allow trunk-to-trunk connection to the outgoing LCR flag route, usually Route 31.

STEP 6: **AKYD** - For D^{term} sets, CALL FORWARDING - OUTSIDE may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-ALL CALLS [2].

STEP 7: **ADSL** - Assign SN=1 (Originating; DT Connection) and FKY=2 (Call Forwarding - All Calls; FDA).

STEP 8: **ATNR** - Allow tenant-to-tenant connection for inter- and intra-tenant connections. TRI = 1. For this feature to be set by the Attendant Console, assign inter- and intra-tenant connection via the Attendant Console, TRI = 3.

STEP 9: **AMND** - Local outgoing Destination Codes (DC) must be programmed to allow local outgoing calls such as 92, 93, 94, etc.

STEP 10: **ACFS** - Call Forwarding can also be assigned, displayed, or deleted by this command.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ANPDL** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to CALL FORWARDING - ALL CALLS [C-5] set SID = 8, and to CALL FORWARDING - ALL CALLS [C-5] cancel SID = 9. Assign Connection Status Index (CI) for Normal (N) service.

STEP 3: **ARRCN** - Allow a trunk-to-trunk connection between the incoming trunks and the outgoing trunks that will be involved with this application. The incoming trunks include calls extended by the Attendant Console and DID calls. The outgoing trunks would be DDD or trunks seized when using SPEED CALLING - GROUP [S-23] or SPEED CALLING - SYSTEM [S-3]. If LCR is used, allow trunk-to-trunk connection to the outgoing LCR flag route, usually Route 31.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-29 Call Park

General Description

This feature enables the Attendant(s) or users to "Park" calls against their own extension numbers. Calls can easily be retrieved from any station within the system.

Operating Procedure

To park a call from the ATTENDANT CONSOLE [A-3]:
1. The Attendant presses the CALL PARK key; the CALL PARK number (individual Attendant number) is automatically selected and displayed at the ATTENDANT CONSOLE [A-3].
2. The Attendant receives service set tone.
3. The Attendant presses either the RELEASE or CANCEL key.

To retrieve a parked call from any station within the system:
1. Dial the CALL PARK remote retrieval code and the individual Attendant number that has parked a call; the parked call is reconnected.

Note: *An Attendant cannot retrieve a parked call.*

To park a call from a station:
1. Momentarily press the switch hook; receive special dial tone.
2. Dial the CALL PARK access code; receive service set tone.
3. Replace the handset.

To retrieve a parked call from the originating station:
1. Dial the CALL PARK local retrieval code; the parked call is reconnected.

To retrieve a parked call from a different station:
1. Dial the CALL PARK remote retrieval code and the number of the station that parked the call; the parked call is reconnected.

Service Conditions

1. Calls parked by a station are automatically parked on that station's extension number. The My-line number is used for a D^{term}.
2. CALL PARK may be activated only during calls involving two parties.
3. The system provides one Attendant CALL PARK number for each Attendant. The individual Attendant number is the CALL PARK number. See INDIVIDUAL ATTENDANT ACCESS [I-6].
4. A station or Attendant can only park one call at a time. If a station or Attendant attempts to park a second call, reorder tone will be heard.
5. This feature may be assigned to stations via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
6. The dedicated key (for parking calls) on the Attendant Console is located between the HOLD and Busy Verification (BV) keys. An Attendant cannot use a CALL PARK access code.
7. A user can park a call only by dialing a CALL PARK access code.
8. Stations can originate and receive calls while having a call parked.
9. The following features cannot be activated to a station that has set CALL PARK:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BUSY VERIFICATION	[B-3]

Service Conditions (cont'd)

CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]

10. A station in an ATTENDANT-CONTROLLED CONFERENCE [A-2] cannot be parked.

11. There is no limit to the number of calls that can be parked simultaneously within a system.

12. A parked call will recall to the station that has set the CALL PARK. The recall timer is preprogrammed into System Data. A call parked by the Attendant will not recall.

13. CALL PARK is denied for the following station status:

ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3, B-9]
CALL TRANSFER	[C-10, C-11, C-11D]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-58]
DATA LINE SECURITY	[D-12, D-66]
DIAL ACCESS TO ATTENDANT	[D-2, D-71]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-8]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2]
VOICE CALL	[V-2, V-7]

14. CALL PARK is denied for the following Attendant Console status:

ATTENDANT OVERRIDE	[A-7]
BUSY VERIFICATION	[B-3]
CALL TRANSFER - ATTENDANT	[C-10]
Call on Hold	
THREE-WAY CALLING	[T-2]

15. An Attendant Console cannot be parked.

16. A CALL PARK connection remains parked until retrieved or until the party disconnects.

17. It is not possible to park a call that is on the "DEST" side of the Attendant connection. It must be on the "SRC" side of the Attendant Console.

Interactions

Only calls directly terminated to the Attendant Console can be parked. This includes calls transferred to the Attendant from another station or Attendant Console.

Programming

STEP 1:   **ASYD** - System Data 1, Index 142. For CALL PARK recall, the Miscellaneous Timer Counter is assigned in bits 0-3. The Timer Class is assigned in bits 4-6. Timer Class of 3=2 seconds. Timer Counter of 4=30 seconds.
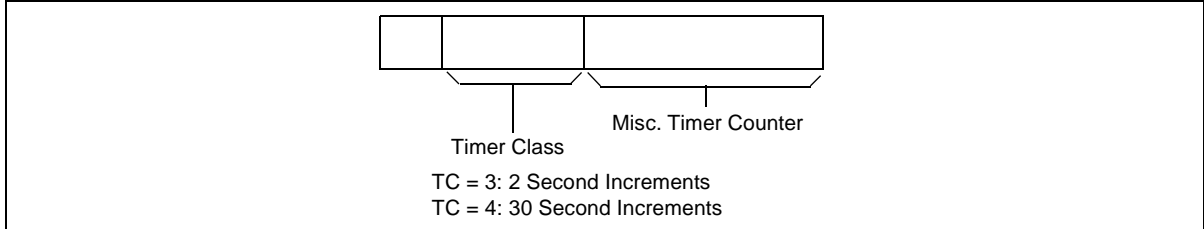
System Data 2, Index 1, bit 0 & 1. CONSULTATION HOLD - ALL CALLS [C-17] allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call Denied; 11: All calls allowed.

STEP 2:   **ANPD** - Reserve a number level for feature access and retrieval. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to:

CALL PARK access code, SRV = SSC (Service Code), SID = 61, Connection Index of Hooking (H), CI = H.

CALL PARK local retrieval code, SRV = SSC (Service Code), SID = 62, Connection Index of Normal (N).

CALL PARK remote retrieval code, SRV = SSC (Service Code), SID = 63, NND = number of digits in the access code, and assign a Connection Index of Normal (N).

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI 67 to the applicable stations. This allows the station to park a call and to retrieve a parked call. Assign stations a Service Feature Class that allows SFI 68, CALL PARK called. This allows a station to be parked by another station or Attendant Console.

STEP 5:   **ASAT** - This command must be assigned to designate a specific station number to the Attendant Console. This number is used to identify the Attendant Console when parking a call.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ANPDL** - Reserve a number level for feature access and retrieval. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPAL** - Assign an access code to:

CALL PARK access code, SRV = SSC (Service Code), SID = 61, FPC = "x", Connection Index of Hooking (H), CI = H.

CALL PARK local retrieval code, SRV = SSC (Service Code), SID = 62, FPC = "x", Connection Index of Normal (N).

CALL PARK remote retrieval code, SRV = SSC (Service Code), SID = 63, FPC = "x", NND = number of digits in the access code, and assign a Connection Index of Normal (N).

FCCS Programming (cont'd)

STEP 3:   **ASATN** - This command must be assigned to designate a specific station number to the Attendant Console. This number is used to identify the Attendant Console when parking a call.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-30   Call Pickup - Direct

General Description

This feature allows a user to pick up a call to any other station in the system by dialing a specific CALL PICKUP-DIRECT code.

Operating Procedure

To pick up an incoming call:
1. Lift the handset; receive dial tone.
2. Dial the CALL PICKUP - DIRECT code; receive special dial tone.
3. Dial the specific telephone number to be picked up; incoming call is connected to user station.

Service Conditions

1. This feature is provided on a per-line basis, based on the station CLASS OF SERVICE - INDIVIDUAL [C-15].
2. A station in a fully restricted class cannot answer a central office incoming call using CALL PICKUP - DIRECT.
3. If the ringing call is a result of CALL BACK [C-1], CALL HOLD [C-6] recall, or OUTGOING TRUNK QUEUING [O-2] recall, it cannot be picked up by any station.
4. This feature cannot be accessed from the ATTENDANT CONSOLE [A-3].
5. The stations in this procedure can belong to the different TENANT [T-12] groups. A TN2 can pick up a TN1 call.
6. A busy station can accomplish CALL PICKUP - DIRECT by placing an existing call on CALL HOLD [C-6].
7. CALL PICKUP - DIRECT cannot be accessed while in the CONSULTATION HOLD-ALL CALLS [C-17] mode.
8. When a station holds a call (CALL HOLD) terminated through FCCS link, the station cannot pick up a call.
9. When both the calling station and the station that will pick up a call hold the call, if one of the held calls is terminated through FCCS link, the station cannot pick up the call.
10. The call terminated through FCCS link cannot be picked up from the other station in the system by dialing the Physical Station Number.

Interactions

1. After answering via CALL PICKUP-DIRECT, the CALL TRANSFER-ALL CALLS [C-11] feature can be used.
2. A STATION MESSAGE DETAIL RECORDING [S-10] CALL PICKUP-DIRECT record is created showing the station dialing the CALL PICKUP-DIRECT code and the call picked up.

Programming

STEP 1:   **ASYD** - System Data 2, Index 1, bits 0 & 1. CONSULTATION HOLD-ALL CALLS [C-17] allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed, Tandem call Denied; 11: All calls allowed.

Programming (cont'd)

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B).

STEP 3: **ASPA** - Assign an access code to CALL PICKUP-DIRECT, SRV = SSC (Service Code), SID = 35 for Connection Status Index (CI) of Normal (N).

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 29 to the stations.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B).

STEP 2: **ASPAL** - Assign an access code to CALL PICKUP-DIRECT, SRV = SSC (Service Code), SID = 35 for Connection Status Index (CI) of Normal (N).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-31   Call Waiting - Originating

General Description

This feature provides selected stations with Camp-On capability to a busy internal station.

Operating Procedure

To activate CALL WAITING - ORIGINATING:
1. Dial the desired telephone number; receive busy tone.
2. Switch hook flash, receive special dial tone, dial the CALL WAITING - ORIGINATING code; or press the CW key on the D^{term}.
3. Receive Call Waiting ringback tone. Call Waiting Tone (3 beeps) is sent to the busy station.

OR
1. Dial the CALL WAITING - ORIGINATING access code; receive dial tone.
2. Dial the desired telephone number.
3. If the called station is busy, CALL WAITING - ORIGINATING is automatically set; receive Call Waiting ringback tone. Call Waiting Tone (3 beeps) will be sent to the busy station.

Note: *Soft key can be used for the D^{term} Series E.*

To answer a CALL WAITING - ORIGINATING call:
1. Call Waiting Tone is heard during a call in progress.
2. Switch hook flash, or press the ANSWER key on the D^{term} to hold the existing call.
3. The CALL WAITING - ORIGINATING call is automatically connected.
4. Another switch hook flash or pressing the ANSWER key can be used to return to the original call, and the second call will be held.

OR
1. Call Waiting Tone is heard during the call in progress.
2. The called station hangs up; priority ringing is sent.
3. Lift the handset to answer.

Service Conditions

1. Once CALL WAITING - ORIGINATING is activated to a given station, other stations attempting CALL WAITING - ORIGINATING to this station will receive reorder tone.
2. Call Waiting Tone is 3 bursts, 200 ms ON and 200 ms system data. The repetition rate can be programmed in system data.
3. Periodic Call Waiting tone can be eliminated by system data programming on a per-tenant basis.
4. The ability to activate this feature must be assigned in the call originators CLASS OF SERVICE - INDIVIDUAL [C-15] programming.
5. CLASS OF SERVICE - INDIVIDUAL [C-15] for the called station must be programmed for CALL WAITING - TERMINATING [C-12].
6. There is no limit to the number of stations that may access this feature simultaneously.
7. CALL WAITING - ORIGINATING is denied when the called station is connected to the ATTENDANT CONSOLE [A-3].
8. CALL WAITING - ORIGINATING can be set only if the called station is busy on a two-party call with another station or trunk.

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Service Conditions (cont'd)

9. When the called station goes on-hook, the Call Waiting ringback tone changes to normal ringback tone to the calling station.

10. CALL WAITING-ORIGINATING cannot be activated while in CONSULTATION HOLD [C-17] mode.

11. CALL WAITING-ORIGINATING cannot be used in conjunction with DIAL ACCESS TO ATTENDANT [D-2].

12. CALL BACK [C-1] activation is denied if a call is waiting at the calling or called station line.

13. If a station has set CALL FORWARDING [C-2, 3, 5], a call will wait at the target station if CALL WAITING - TERMINATING is provided via CLASS OF SERVICE [C-15].

14. CALL WAITING - TERMINATING [C-12] at the called station can be restricted by CLASS OF SERVICE [C-15]. In this case, the calling station receives busy tone and can set CALL BACK [C-1].

15. ATTENDANT CAMP-ON [A-1] Tone is 1-burst tone and Call Waiting Tone from the incoming trunk call is 2-burst tones to the busy station.

16. EXECUTIVE RIGHT-OF-WAY [E-1] is denied a two-party connection that has a call waiting.

17. STATION HUNTING [S-7, 8, 9] takes precedence over Call Waiting.

18. Priority ringing is:

0.4 sec. ON	0.2 sec. OFF	0.8 sec. ON
0.2 sec. OF	0.4 sec. ON	0.4 sec. OFF

19. These features are denied if a call is waiting at the calling or called station:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL TRANSFER	[C-10, C-11, C-11D]
CALL WAITING - TERMINATING	[C-12]
DIAL ACCESS TO ATTENDANT	[D-2]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-8]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2]

20. CALL WAITING - ORIGINATING cannot be activated if the target station has accessed, entered, or is engaged in any of the following features or modes:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3, B-9]
CALL BACK	[C-1]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10, C-11, C-11D]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-17D]
DATA LINE SECURITY	[D-12]
DATA PRIVACY ON DEMAND	[D-17]
DIAL ACCESS TO ATTENDANT	[D-2, D-71]
DICTATION ACCESS	[D-3]

Service Conditions (cont'd)

EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-8]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL - D^{term}	[V-2D]

21.   The following service features take precedence over CALL WAITING - ORIGINATING:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-3]
STATION HUNTING - CIRCULAR	[S-7]
STATION HUNTING - SECRETARIAL	[S-8]
STATION HUNTING - TERMINAL	[S-9]

Interactions

1.   When Station A directs the second CALL WAITING-ORIGINATING to a given station, Station A will receive reorder tone.

2.   A CALL WAITING-ORIGINATING call is answered by flashing the switch hook of a single-line set or pressing the ANSWER or TRANSFER keys of a D^{term}. CALL TRANSFER-ALL CALLS [C-11] is not allowed. If the TRANSFER key on a D^{term} or the switch hook is flashed on a single-line set, the SPLITTING-D^{term} [S-4D] feature is being used.

3.   CALL WAITING-ORIGINATING is denied toward a TIE Line.

Programming

STEP 1:   **ASYD** - System Data 1, Index 152. Interval for CALLWAITING-ORIGINATING. Indication Tone to be sent to the destination telephone. Timer Class 3 = 2 seconds. MTC x TC = Interval for CALL WAITING-ORIGINATING. MTC assigned in hexadecimal to Bits 0-3 of this Index. Default value is 10 seconds.

Example: Data 36H is assigned.

2 x 6 = 12 second intervals

TC x MTC = Timer

System Data 2, Index 10, Bit 4. Is CALL WAITING-ORIGINATING access code to be dialed before the station number? This will activate the feature automatically upon encountering a busy station. 0/1: No/Yes.

Note: *Index 10, Bits 4 and 6 are mutually exclusive. Once Bit 6 is assigned data "1", Bit 4 is not needed.*

System Data 2, Index 10, Bit 6. Should CALL WAITING-ORIGINATING operation be automatic upon encountering a busy station? If yes, no access code is required for operating the feature. 0/1: No/Yes. Assign on a per-tenant basis.

System Data 2, Index 10, Bit 7. Should the Warning Tone set in System Data 1, Index 152 be periodically sent? 0/1: No/Yes.

System Data 3, Index 3, Bit 5. Enable ringer pattern 5.

System Data 3, Index 7. Default data provides for four seconds ON, two seconds OFF for DISTINCTIVE RINGING [D-10].

Programming (cont'd)

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL WAITING-ORIGINATING, SRV = SSC (Service Code), SID = 5 for Connection Status Index (CI) of Busy (B) and Normal (N).

STEP 4: **ASFC** - Assign to the stations a Service Feature Class that allows SFIs 5, 6, & 11. This allows the ability to originate a CALL WAITING-ORIGINATING (SFI 5), to terminate a CALL WAITING-ORIGINATING (SFI 6), and to receive Camp-On Tone (SFI 11).

STEP 5: **AKYD** - Optional. Assign CALL WAITING-ORIGINATING to a programmable Line/Feature key. Assign Type:Function:CALL WAITING [4].

STEP 6: **ADSL** - SN=5 (Consultation Hold) and FKY=4 (Call Waiting; CW).

This command is used for assigning the function of each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to CALL WAITING-ORIGINATING, SRV = SSC (Service Code), SID = 5 for Connection Status Index (CI) of Busy (B) and Normal (N).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-33   Consecutive Dialing - Attendant

General Description

This feature gives the ATTENDANT CONSOLE [A-3] the ability to generate DTMF signals while engaged in a station/trunk connection. These DTMF signals are generated via the dial key pad of the ATTENDANT CONSOLE [A-3].

Operating Procedure

No manual operation is required.

Service Conditions

1. The ATTENDANT CONSOLE [A-3] can transmit DTMF signals under the following conditions:
    a.) When the ATTENDANT CONSOLE [A-3] originates a trunk call while an internal station is holding, DTMF signals can be transmitted to the trunk or station but not to both in a three-way connection.
    b.) When the ATTENDANT CONSOLE [A-3] originates a trunk call while another trunk call is on hold, DTMF signals can be transmitted to either trunk but not to both in a three-way connection.
    c.) When the ATTENDANT CONSOLE [A-3] originates an internal station call while holding a station or trunk, DTMF signals can be transmitted to either station or trunk but not to both in a three-way connection.
    d.) When the ATTENDANT CONSOLE [A-3] originates/answers an internal station or trunk call and remains engaged in the connection. If the START key is pressed, DTMF signals cannot be transmitted from the ATTENDANT CONSOLE [A-3] (even when DTMF signal sending is selected in the System Data).
2. All digits (DTMF signals) generated by the ATTENDANT CONSOLE [A-3] will not appear on the ATTENDANT CONSOLE [A-3] display.
3. Additional digits can be dialed after the trunk soft-hold timer has timed out or after the trunk answer signal has been received.
4. If the ATTENDANT CONSOLE [A-3] overrides a connection between a station/trunk and a station/trunk, the ATTENDANT CONSOLE [A-3] may generate DTMF signals.
5. After answering any of the following calls: the Attendant can send DTMF signal to the calling party by pressing key pad while connected with the call; or the Attendant can hold the answered call and transfer it to a specific destination. Either function can be selected through the System Data.

Ring-down	Operator call
Individual Attendant Call	Listed Directory Number
Recall	CALL FORWARDING [C-2, 3, 5] to Attendant
OFF-HOOK ALARM [O-6]	CALL FORWARDING - INTERCEPT [C-25] to Attendant
PRIORITY CALL [P-9]	CCIS Incoming Call
HOUSE PHONE [H-2] (Hot Line)	

6. If the Attendant answers an incoming call transferred from one ATTENDANT CONSOLE to another, by INTER-POSITION TRANSFER [I-5], DTMF signals cannot be generated from the ATTENDANT CONSOLE on which the transferred call has been answered.

Programming

ASYD - System Data 1, Index 229, Bit 2. DTMF signal sending with the keypad pressed after the attendant has answered an incoming call 0/1: Out/In Service.

System Data 3, Index 11. Assign a Miscellaneous Timer counter for the duration of the DTMF Sender Tone. 128ms X (PBST + 1) = Duration of Sender Tone. Maximum value is 2.048 seconds.

7	6	5	4	3	2	1	0
						PBST	
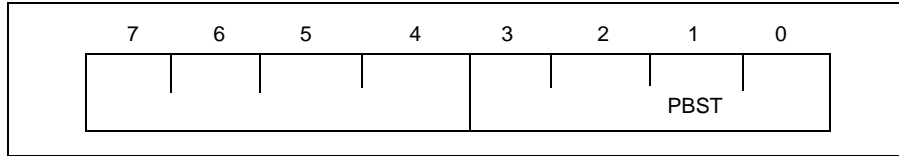
C-59 Called Number Display - Attendant

General Description

If a call is transferred to the ATTENDANT CONSOLE [A-3] as a result of:

DO NOT DISTURB	[D-11]
CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
CALL FORWARDING - DON'T ANSWER	[C-3]
CALL FORWARDING - INTERCEPT/ ANNOUNCEMENT	[C-25]

Information pertaining to the called station is displayed on the Attendant Console.

Operating Procedure

1. The Attendant answers an incoming call.
   a.) The DEST lamp lights.
   b.) The Called telephone number is displayed.
2. The Attendant presses the SRC button.
   a.) The DEST lamp goes off, and the SRC lamp lights.
   b.) Either the calling party's tenant number is displayed, or RSC number and telephone number are displayed.

Service Conditions

1. This service is effective when a station-to-station call or a DID call has been routed to an Attendant Console as a result of:

DO NOT DISTURB	[D-11],
CALL FORWARDING - ALL CALLS	[C-5],
CALL FORWARDING - BUSY LINE	[C-2],
CALL FORWARDING - DON'T ANSWER	[C-3], or
CALL FORWARDING - INTERCEPT/ANNOUNCEMENT	[C-25], and is answered by the Attendant.

2. If the Attendant presses the SRC button while the called telephone number is displayed, the display changes to the number of the calling party. The called telephone number cannot be displayed again.
3. While the called telephone number is displayed, the Attendant can transfer the call to a desired station by keying the destination number on the keypad. In this case, the called telephone number of that call cannot be displayed again.
4. While the called telephone number is displayed, the Attendant can place the call on hold by pressing the HOLD key. The called telephone number is displayed again when the Attendant picks up the call again.
5. While the called telephone number is displayed, the Attendant can set CALL PARK [C-29] service. The called telephone number cannot be displayed again.

Programming

ASYD - System Data 1, Index 70, Bit 0. Called Number Display when Call Forwarding to ATTCON 0/1: Out/In Service.

C-60 Call Forwarding - Busy Line - Outside

General Description

This feature allows a call that originates from a station or trunk, and is destined for a station to be routed to another station outside the NEAX2400 IMX via the appropriate trunk line. This service feature can also be activated from a D^{term} multi-line.

Operating Procedure

To set CALL FORWARDING - BUSY LINE - OUTSIDE:
1. Lift the handset; receive dial tone.
2. Dial the CALL FORWARDING - BUSY LINE - OUTSIDE access code (same as CALL FORWARDING - BUSY LINE [C-2]); receive special dial tone.
3. Dial the desired target telephone number (or Speed Calling access code and abbreviated code). If the ATTENDANT CONSOLE [A-3] is setting this feature, dial the access code, tenant number, originating telephone number, and then the desired outside number; receive service set tone.

To cancel CALL FORWARDING - BUSY LINE - OUTSIDE:
1. Lift the handset; receive dial tone.
2. Dial the CALL FORWARDING - BUSY LINE - OUTSIDE cancel code, (same as CALL FORWARDING - BUSY LINE [C-2] cancel code); receive service set tone.

To set CALL FORWARDING - BUSY LINE - OUTSIDE from a multi-line D^{term}:
1. Press the multi-line feature key to be used for CALL FORWARDING - BUSY LINE - OUTSIDE.
2. Lift the handset or press the SPEAKER key; receive dial tone.
3. Press CALL FORWARDING - BUSY LINE - OUTSIDE feature key; receive special dial tone.
4. Dial the desired target number (or Speed Calling access code and abbreviated code); receive service set tone. The LED will light. The LCD displays:

```
┌─────────────────────────────────┐
│  FORWARD SET                    │
│        (Time Display)           │
│                                 │
│                                 │
└─────────────────────────────────┘
```

5. Replace the handset or press the SPEAKER key.
6. The LED of the associated feature key lights on the D^{term} for which this multi-line is the MY Line.

To monitor CALL FORWARDING - BUSY LINE - OUTSIDE from a D^{term} MY Line:
1. Press the multi-line key of the station CALL FORWARDING - BUSY LINE - OUTSIDE is to monitor.
2. Press CALL FORWARDING - BUSY LINE - OUTSIDE feature key.
3. The LCD displays:

```
                    Target Number*
┌─────────────────────────────────┐
│  FORWARD           XXXXXXXX     │
│        (Time Display)           │
│                                 │
└─────────────────────────────────┘
```

Note: *An entered abbreviated number is translated into the forwarding number and the first eight digits are displayed even if a maximum of 24 digits can be stored.*

To cancel CALL FORWARDING - BUSY LINE - OUTSIDE from a multi-line D^{term}:
1. Press the multi-line key of the station to which CALL FORWARDING - BUSY LINE-OUTSIDE is to be cancelled.

Operating Procedure (cont'd)

2. Lift the handset or press the SPEAKER key; receive dial tone.

3. Press the CALL FORWARDING - BUSY LINE - OUTSIDE feature key; receive service set tone. The LED of the associated feature key will go out. The LCD displays:

```
┌─────────────────────────────────┐
│ FORWARD CANCEL                  │
│                  (Time Display) │
│                                 │
└─────────────────────────────────┘
```

4. Replace the handset or press the SPEAKER key.

Service Conditions

1. CALL FORWARDING - BUSY LINE - OUTSIDE may be set or cancelled by either a user or the ATTENDANT CONSOLE [A-3].

2. Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.

3. CALL FORWARDING - BUSY LINE - OUTSIDE data remains in the data memory, even if the system is reinitialized or in the event of a power failure.

4. A maximum of 24 digits, including trunk access code, can be stored.

5. For CALL FORWARDING - BUSY LINE - OUTSIDE, Speed Call List numbers may be programmed as the destination telephone number. This permits the sent digits to exceed the 24-digit maximum.

6. When using this feature, either the calling station or the forwarding station is recorded by SMDR [S-10] as the originating station of calls forwarded. The selection between the above stations is determined through System Data.

7. CALL FORWARDING - BUSY LINE - OUTSIDE can be restricted by the RSC of the originating station.

8. ROUTE PEG COUNT [P-7] is used for CALL FORWARDING - BUSY LINE - OUTSIDE.

9. This feature can be restricted according to the D^{term} MY Line service restriction class. Incoming CALL FORWARDING - BUSY LINE - OUTSIDE calls to the D^{term} multi-line cannot be transferred if the service restriction class of the D^{term} MY Line restricts this feature.

D^{term} My Line Service Restriction Class	D^{term} Multi-Line Service Restriction Class	Activation from D^{term} Multi-Line	Remarks
Non-Restricted	Non-Restricted	Possible	
Restricted	Restricted	Not Possible	
	Non-Restricted		
	Restricted		

10. There is no limit to the number of stations which may activate this feature simultaneously.

11. Restriction for outgoing connection by CALL FORWARDING - BUSY LINE - OUTSIDE are as follows:

   a.) When originating a call from a station, Route Restriction data assignment is verified when this service is in effect.

   b.) When originating a call from a trunk Restriction for Tandem connections between the incoming trunk and the outgoing trunk selected for the call where CALL FORWARDING - BUSY LINE service occurs.

Service Conditions (cont'd)

12. When a caller places a call via OGCA (Outgoing Call Alternative) and when the first outgoing route and the calling party are restricted, this service cannot be set. In this case, the service can be set via the following procedure:

    a.) assign a dummy route,
    b.) clear the restriction between the dummy route and all the stations, and
    c.) assign the dummy route as the first route of OGCA.

13. When a destination of CALL FORWARDING - ALL CALLS - OUTSIDE has already been assigned, even if the feature is restricted by the new office data or changing of Day/Night mode, the assigned data can still be used or cancelled.

14. This feature allows a call to terminate to a trunk outside of the FCCS network. Accordingly, the access code + office code or the access code including office code is required before dialing the telephone number to recognize the terminating node.

15. When the incoming call is forwarding to the public network, be sure to add the outgoing access code + destination area code or the outgoing access code including destination area code number before dialing subscriber number.

16. A call can be forwarded to a trunk in the remote node via FCCS link.

Programming

STEP 1:   **ASYD** - System Data 1, Index 5, Bit 0. Are access codes for CALL FORWARDING-BUSY LINE and CALL FORWARDING-DON'T ANSWER the same or separate? 0/1: Same/Separate.

System Data 1, Index 69, Bit 7, and System Data 1, Index 5, Bits 1~3 for MULTIPLE CALL FORWARDING.

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Index, CI = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to CALL FORWARDING-BUSY LINE Entry, SID = 10 and to CALL FORWARDING-BUSY LINE Cancel, SID = 11. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4:   **ASFC** - Assign the stations to receive CALL FORWARDING-BUSY LINE a Service Feature Class that allows SFI = 9.

Assign either SFI 25 CALL FORWARD outside-Local or SFI 26 CALL FORWARD OUTSIDE-Long Distance. And assign SFI = 151 when CALL FORWARDING-OUTSIDE is performed, RSC of the forwarding station is used.

STEP 5:   **AKYD** - For D^term sets, CALL FORWARDING-BUSY LINE may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-BUSY LINE [1].

STEP 6:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set by the Attendant Console assignment, assign TRI = 3 for Inter and Intra-Tenant connection via the Attendant Console. This allows a station in one tenant to be Call Forwarded to a station in the same or different tenant. Also assign TRI = 0, station-to-station calling.

STEP 7:   **ACFO** - For tenant-wide CALL FORWARDING-BUSY LINE of an incoming DID and DIT calls, assign CF = 1 for a destination (CFI) of either the Attendant Console or station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ANPDL** - Reserve a number level for feature access and cancel. Assign Connection Index, CI = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to CALL FORWARDING-BUSY LINE Entry, SID = 10 and to CALL FORWARDING-BUSY LINE Cancel, SID = 11. Assign Connection Status Index (CI) for Normal (N) service.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *System timers may be set on a network basis in ASYDN.*

C-62 Consecutive Speed Calling - System

General Description

This feature allows a user to call frequently dialed DID numbers using fewer digits (abbreviated call codes) than would normally be required. The stored digits would include route access code, area code and office code. The caller would then manually enter the called telephone number.

Operating Procedure

1. Dial the Speed Calling access code (1 to 3 digits).
2. Dial the abbreviated call code (maximum of 4 digits).
3. Dial the 4 digit telephone number. The call is completed.

Service Conditions

1. SPEED CALLING codes programmed in System Data are accessible to all stations with a CLASS OF SERVICE - INDIVIDUAL [C-15] that allows CONSECUTIVE SPEED CALLING-SYSTEM.
2. Each abbreviated call code can consist of a maximum of 24 digits, including access codes.
3. The maximum number of CONSECUTIVE SPEED CALLING - SYSTEM codes that can be stored in the system is 1,000.

Note: *The capacity depends on the system configuration due to memory requirements.*

4. Speed Calling numbers are programmed via System Data entry on the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
5. Stations may be denied access to Speed Calling via CLASS OF SERVICE - INDIVIDUAL assignment in System Data. Speed Calling may also be allowed or denied on a system or tenant basis.
6. TOLL DENIAL/TOLL DIVERSION [T-6] and TOLL RESTRICTION - 3/6-DIGIT [T-7] may be applied to Speed Calling, if desired.
7. LEAST COST ROUTING - 3/6-DIGIT [L-5] may be provided for Speed Calling access.
8. This feature cannot be used for an outgoing call that uses OUTGOING TRUNK QUEUING [O-2].
9. CONSECUTIVE SPEED CALLING-SYSTEM may not be accessed via CONSULTATION HOLD.
10. Digits dialed after the abbreviated call codes are not recorded on SMDR.

Programming

STEP 1: **ASYD** - System Data 1, Index 93, bit 3. Tenant Data 0/1: Separate/Common

System Data 2, Index 1, bit 4, 5 Toll Restriction

b5	b4	
0	0:	Toll Denial (ROT connection)
0	1:	Toll Diversion (Terminated to Attendant Console)
1	0:	-
1	1:	-

STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

Programming (cont'd)

STEP 3: **ASPA** - Assign an access code to SPEED CALLING-SYSTEM, assign SRV = SSC (Service Code), SID = 15. Program for Normal (N). NND = Access code plus Abbreviated Digit Code (ADC). See ASPD.

Example: 6 + 010

1 digit + 3 digits = NND = 4

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 12 to stations that will have SPEED CALLING-SYSTEM.

STEP 5: **ASPD** - Assign the Tenant Number, ADC, and CD **(Note)**. For details, see the NEAX2400 IMX Command Manual.

Note: *Enter the necessary numbers of letter "M(s)" instead of the digits for the station number.*

Example: If the destination numbers are: 9 3300 1111 ~ 9 3300 9999

4 digits   4 digits

The required number and letter "Ms" to be assigned in the CD is: 9 3300 MMMM

4 digits (4Ms)

C-69 Call Forwarding - All Calls - Announcement

General Description

This feature permits all calls destined for a particular station to be routed to a recorded announcement. Activation and cancellation may be accomplished by either the individual user or the ATTENDANT CONSOLE [A-3].

Operating Procedure

To activate CALL FORWARDING - ALL CALLS - ANNOUNCEMENT from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the CALL FORWARDING - ALL CALLS - ANNOUNCEMENT access code (same as CALL FORWARDING - ALL CALLS [C-5]); receive special dial tone
3. Dial the desired announcement trunk access code (same as ANNOUNCEMENT SERVICE [A-15]); receive service set tone.

To cancel CALL FORWARDING - ALL CALLS - ANNOUNCEMENT from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the CALL FORWARDING - ALL CALLS - ANNOUNCEMENT cancel code (same as CALL FORWARDING - ALL CALLS [C-5]); receive service set tone.

Service Conditions

1. This service feature requires one of the following hardware alternatives:

    a.) Central Office Trunk (COT) or TIE Line Trunk (TLT) and an announcement machine.
    b.) Digital Announcement Trunk (DAT).
2. Stations with this feature set may originate calls and access the CALL FORWARDING - ALL CALLS - ANNOUNCEMENT cancellation code.
3. Stations activating CALL FORWARDING - ALL CALLS - ANNOUNCEMENT can be restricted from placing any calls, except to the Attendant, depending upon System Data.
4. There is no limitation to the number of stations which can simultaneously set CALL FORWARDING - ALL CALLS - ANNOUNCEMENT.
5. Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
6. For CALL FORWARDING - ALL CALLS - ANNOUNCEMENT, announcement trunk access numbers may be programmed as the destination number.
7. When a call is directed to a forwarded station, one burst of ringing signal will be sent to the station to indicate that it is call forwarded.
8. Call forwarding data remains programmed, even if the system is reinitialized or a power failure occurs.
9. CALL FORWARDING - ALL CALLS - ANNOUNCEMENT can be provided for a maximum of 127 trunks, which include the announcement trunks for:

ANNOUNCEMENT SERVICE	[A-15]
ANNOUNCEMENT SERVICE - ATTENDANT	[A-59]
CALL FORWARDING - INTERCEPT /ANNOUNCEMENT	[C-25]
10. This service feature is available with the following connections:

DIRECT INWARD DIALING (DID	[D-8]
DIRECT-IN TERMINATION (DIT)	[D-7]
STATION-TO-STATION CALLING	[S-11]
Station calls from a TIE Line Trunk	

Service Conditions (cont'd)

11. When a designation of CALL FORWARDING - ALL CALLS - ANNOUNCEMENT has already been assigned, even if the feature is restricted by the new office data or changing of Day/Night mode, the assigned data can still be used or cancelled.

Programming

Call Forwarding-All Calls

STEP 1: **ASYD** - System Data 1, Index 4, Bit 6. One burst of ringing at forwarding station when CALL FORWARDING-ALL CALLS [C-5] is in service? 0/1: No/Yes. (For a single line station only).

System Data 1, Index 69, Bit 1. A burst of ringback tone to alert the person receiving a call that this is a CALL FORWARDING-ALL CALLS [C-5] call. In service? 0/1: No/Yes. Normally assigned as data "0".

System Data 2, Index 6, Bit 4. enable station set for CALL FORWARDING-ALL CALLS [C-5] be allowed to use their phones normally. If data "0" is assigned, the station will only be able to call the Attendant Console. Assign on a per-tenant basis.

STEP 2: **ANPD** - Reserve a number level for service feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-ALL CALLS [C-5] entry SID = 8, and to CALL FORWARDING-ALL CALLS [C-5] cancel SID = 9. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign the stations to activate CALL FORWARDING-ALL CALLS [C-5] a Service Feature Class that allows SFI = 7.

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-ALL CALLS [C-5] may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-ALL CALLS [2].

STEP 6: **ADSL** - Assign SN=1 (Originating; DT Connection) and FKY=2 (Call Forwarding - All Calls; FDA).

This command is used for assigning the function for each soft key.

STEP 7: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-Tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this service feature to be set by the Attendant console, assign Inter and Intra-Tenant connection via the Attendant Console TRI = 3. Also allow TRI = 0, station-to-station calling.

Announcement Service

STEP 1: **ANPD** - Reserve a number level for Trunk, Access. Assign for Connection Indexes for Normal (N) and Hooking (H). Assign NND values in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code to the announcement trunk. Assign SRV = ANNC (Announcement Service) and the EQP number assignment should be as assigned with the AAED command.

STEP 3: **ARTD** - Assign the announcement route as shown below. Be sure to provide Privacy by programming CDN 44:PRV as data "1".

RT:1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:1	7-L/T	:1
8-RLP	:2	15-LSG	:4						

STEP 4: **ATRK** - Assign the LENs. Announcement Trunk Route Number, Trunk Number, and Tenant Number. Assign one or more trunks to a specific route used to connect to an announcement machine.

STEP 5: **MBTK** - Assign the Make Idle status to the announcement trunk.

STEP 6: **ADSL** - Assign SN=1 (Originating; DT Connection) and FKY=2 (Call Forwarding - All Calls; FDA).

This command is used for assigning the function for each soft key.

Programming (cont'd)

STEP 7: **ARRC** - If a TIE Line, DID or REMOTE ACCESS TO PBX [R-2] connection to the Announcement Service trunk is required, allow trunk-to-trunk connection using ARI-D-RES, Direct Connection.

STEP 8: **AAED** - Used to assign announcement equipment.

Assign:

TN: Tenant Number

EQP: Announcement Equipment Number

0:	Dead Level
1:	Unused Number (LCR OPR not programmed)
2:	Available
3:	Available
4:	Outgoing Trunk Group Busy Announcement
5:	Available
6:	Available
7:	Outgoing Route Restriction Announcement
8-15:	Available for ANNOUNCEMENT SERVICE [A-15] applications

RT, TK: Route and trunk number of the trunk connected to the announcement equipment

C: Duration of Connection, 0/1: Disconnection occurs in 30 seconds/ the connection is held until the station releases. See the requirements of the announcement equipment.

R: Sending RBT, 0/1: Sending RBT/Not Sending RBT. Normally assign data "0".

A: Answer Signal Sending, 0/1: No answer from Incoming trunk/Answer from Incoming trunk. Normally assign data "0". No answer signal is sent to the C.O. Therefore, calling party will not be billed for the call.

M: Multiple Connection 0/1: Single Connection/Multiple Connection. See the requirements of the announcement equipment.

C-73 Call Back - Delayed

General Description

This feature allows a station to which CALL BACK [C-1] has been set to initiate another call, within a predetermined time period after becoming idle and before the CALL BACK [C-1] feature is activated.

Operating Procedure

No manual operation is required.

Service Conditions

1. This feature is assigned in system programming, on a system-wide basis.
2. The CALL BACK-DELAYED timer can be set in multiples of 2 seconds, to a maximum of 14 seconds.

Programming

ASYD - System Data 1, Index 5, Bits 4, 5, and 6 = timer; Bit 7 = Out of Service / In Service (No/Yes). Timer as default is set at 00 = 2 seconds. Maximum delay is 14 seconds.

System Data 1, Index 139. No Answer Timer for CALL BACK. Assign 00H. (RAM data is 3FH = 30 seconds.)

System Data 2, Index 0, Bit 0. Is CALL BACK enabled on a per-tenant basis? 0/1: No/Yes.

System Data 2, Index 4, Bit 0. CALL BACK and TRUNK QUEUING access code are same or separate? 0/1: Separate / Same.

System Data 3, Index 3, Bit 5. Enable Ringer pattern 5 for CALL BACK. See DISTINCTIVE RINGING [D-10].

System Data 3, Index 7. Assign data 42H for four seconds ON, two seconds OFF.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

ASYDN - These data must be assigned to the NCN.

System Data 1, Index 5, b4~b6, Call Back Delayed Timer.

System Data 1, Index 5, b7, 0/1= Call Back Delayed Timer is out of service/in service.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-74   Call Forwarding - Don't Answer - Outside

General Description

This feature allows a call which originates from a station or trunk, and is destined for a station, to be routed to another station outside the NEAX2400 IMX via the appropriate trunk line. This service feature can also be activated from a D^{term} multi-line.

Operating Procedure

To set CALL FORWARDING - DON'T ANSWER - OUTSIDE:

1.   Lift the handset; receive dial tone.
2.   Dial the CALL FORWARDING - DON'T ANSWER - OUTSIDE access code (same as CALL FORWARDING - DON'T ANSWER [C-3] access code); receive special dial tone.
3.   Dial the desired target telephone number (or speed calling access code and abbreviated code). If the ATTENDANT CONSOLE [A-3] is setting this feature, dial the access code, Tenant number, originating telephone number, and then the desired outside number; receive service set tone.

```
    FORWARD SET
            (Time Display)
```

To cancel CALL FORWARDING - DON'T ANSWER - OUTSIDE:

1.   Lift the handset; receive dial tone.
2.   Dial the CALL FORWARDING - DON'T ANSWER - OUTSIDE cancel code, (same as CALL FORWARDING - DON'T ANSWER [C-3] cancel code); receive service set tone.

To set CALL FORWARDING - DON'T ANSWER - OUTSIDE from a multi-line D^{term}:

1.   Press the multi-line feature key to be used for CALL FORWARDING - DON'T ANSWER - OUTSIDE.
2.   Lift the handset or press the SPEAKER key; receive dial tone.
3.   Press CALL FORWARDING - DON'T ANSWER - OUTSIDE feature key; receive special dial tone.
4.   Dial the desired target number (or speed calling access code and abbreviated code); receive service set tone. The LED will light. The LCD displays:

```
    FORWARD SET
            (Time Display)
```

5.   Replace the handset or press the SPEAKER key.
6.   The LED of the associated key lights on the D^{term} to which the call is forwarded.

To monitor CALL FORWARDING - DON'T ANSWER - OUTSIDE from a D^{term} MY Line:

1.   Press the multi-line key for the station CALL FORWARDING - DON'T ANSWER - OUTSIDE is to monitor.
      Press CALL FORWARDING - DON'T ANSWER - OUTSIDE feature key. The LCD displays:

```
                      Target Number*
    FORWARD                       XXXXXXXX
            (Time Display)
```

Note: *A dialed abbreviated number is translated into the forwarding number and the first eight digits are displayed even if 24 digits can be stored.*

Operating Procedure (cont'd)

To cancel CALL FORWARDING - DON'T ANSWER - OUTSIDE from a multi-line D^{term}:

1. Press the multi-line key for the station CALL FORWARDING - DON'T ANSWER-OUTSIDE is to be cancelled.
2. Lift the handset or press the SPEAKER key; receive dial tone.
3. Press the CALL FORWARDING - DON'T ANSWER - OUTSIDE feature key; receive service set tone. The LED of the associated feature key will go out. The LCD displays:

> ```
> FORWARD    CANCEL
>    (Time Display)
> ```

4. Replace the handset or press the SPEAKER key.

Service Conditions

1. CALL FORWARDING - DON'T ANSWER - OUTSIDE may be set or cancelled by either a user or the Attendant.
2. Stations may be assigned this feature via CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
3. CALL FORWARDING - DON'T ANSWER - OUTSIDE data remains in the data memory even if the system or LP is reinitialized or in the event of a power failure.
4. For CALL FORWARDING - DON'T ANSWER - OUTSIDE, Speed Call List numbers may be programmed as the destination telephone number. This permits the sent digits to exceed the 24-digit maximum.
5. When using this feature, the forwarding station is recorded by SMDR [S-10] as the originating station of calls forwarded. (See ASYD System Data 1, Index 20, Bit 7).
6. CALL FORWARDING - DON'T ANSWER - OUTSIDE can be restricted by the RSC of the originating station.
7. Route PEG COUNT [P-7] is used for CALL FORWARDING - DON'T ANSWER - OUTSIDE. Every time CALL FORWARDING - DON'T ANSWER is set or cancelled, it is counted in the service PEG count.
8. This feature can be restricted according to the D^{term} MY Line service restriction class. Incoming CALL FORWARDING - DON'T ANSWER - OUTSIDE calls to the D^{term} multi-line cannot be transferred if the service restriction class of the D^{term} MY Line restricts this feature.

D^{term} MY Line Service Restriction Class	D^{term} Multi-Line Service Restriction Class	Activation from D^{term} Multi-Line	Remarks
Non-Restricted	Non-Restricted	Possible	
	Restricted		
Restricted	Non-Restricted	Not Possible	
	Restricted		

9. Restriction for outgoing connection by CALL FORWARDING - DON'T ANSWER - OUTSIDE are as follows:

    a.) When originating a call from a station: Route Restriction data assignment is verified when CALL FORWARDING - DON'T ANSWER service is in effect.

Service Conditions (cont'd)

      b.) When originating a call from a trunk: Restriction for tandem connections between the incoming trunk and the outgoing trunk selected for the call where CALL FORWARDING - DON'T ANSWER service occurs.

10. There is no limit to the number of stations that may activate this feature simultaneously.

11. When the called station does not answer for a predetermined time interval, this feature is applied according to the Route Restriction Class of the originating station and the trunk used in Call Forwarding. When restricted by Route Restriction Class, CALL FORWARDING - DON'T ANSWER - OUTSIDE is not activated, and the called station continues to ring.

12. Call Transfer - Attendant: When the called station does not answer for a predetermined time interval, calls which have been transferred by the Attendant are assigned to this feature according to their Route Restriction Class. When calls are restricted by Route Restriction Class, this feature is not activated, and the called station continues to ring.

13. When Attendant transfers a call to a station that has set CALL FORWARDING - DON'T ANSWER - OUTSIDE, TOLL DENIAL/TOLL DIVERSION [T-6] is not activated.

14. When a caller places a call via OGCA (Outgoing Call Alternative) and when the first outgoing route and the calling party are restricted, this service cannot be set. In this case, the service can be set via the following procedure:

      a.) assign a dummy route,

      b.) clear the restriction between the dummy route and all the stations,

      c.) assign the dummy route as the first route of OGCA.

15. CALL FORWARDING - DON'T ANSWER - OUTSIDE is not available for the trunk calls by the MF signals. In this case, the call is not forwarded to the designated station.

16. CALL FORWARDING - DON'T ANSWER - OUTSIDE is not available for the trunk calls by MF signals. In this case, the call is not forwarded to the designated station.

17. A call can be forwarded to a trunk in the remote node via FCCS link.

18. A maximum of 24 digits, including trunk access code, can be stored.

Programming

STEP 1:   **ASYD** - System Data 1, Index 20, Bit 7. Charging to a call transferred by Call Forwarding-Outside Service 0/1: Charging is made to the caller of the transferred call/Charging is made to the station that has set Call Forwarding-Outside Service.

STEP 2:   **ASFC** - Assign SFI 25 for CALL FORWARD outside to local or SFI 26 CALL FORWARD outside to long distance. Also assign SFI = 151 when CALL FORWARDING - OUTSIDE is performed, RSC of the forwarding station is used.

     See CALL FORWARDING-DON'T ANSWER [C-3].

FCCS Programming

     No unique programming is required for the FCCS network.

C-75   Call Forwarding - Intercept / Announcement - Attendant

General Description

This feature provides for interception of Attendant-originated calls that cannot be completed (unassigned station, level, etc.). These calls are automatically routed to a recorded announcement informing the caller that an inoperative number was reached.

Operating Procedure

No manual operation is required once this feature has been programmed in system data.

Service Conditions

1. This feature requires one of the following hardware alternatives:
   - a.) Central Office Trunk (COT) or 2W E&M trunk and an announcement machine.
   - b.) Digital Announcement Trunk (DAT).
2. The following connections are available:
   - a.) Multi-connection: several Attendants can be connected to the announcement trunk at the same time.
   - b.) Single connection: at any given time, only one Attendant can be connected to the announcement trunk.
3. If the Attendant forgets to cancel a call, the system will automatically disconnect in 30 seconds (provided this is programmed in system data). If no disconnection timing is programmed, the Attendant will control disconnection.
4. This feature is provided on a per-tenant basis.
5. This feature is only available on Attendant-originated calls.
6. Only one message can be provided for different intercept conditions.
7. Before connection to the announcement machine is made, the system can be programmed to return ringback tone.
8. ANNOUNCEMENT SERVICE is provided to FCCS nodes that have no announcement trunk in the remote node.
9. When CALL FORWARDING-INTERCEPT/ANNOUNCEMENT [C-25] or CALL FORWARDING-INTERCEPT/ANNOUNCEMENT - ATTENDANT [C-75] is used in an FCCS network, the additional data shown below is required:
   - a.) The logical route number should be applied to the physical route that is provided the service.
   - b.) The restriction of route-to-route connection between FCCS nodes should be released.
10. CALL FORWARDING - INTERCEPT/ANNOUNCEMENT [C-25] or CALL FORWARDING - INTERCEPT/ANNOUNCEMENT - ATTENDANT [C-75] is not provided for an incoming call using AUTOMATED ATTENDANT [A-82], DIRECT-IN TERMINATION [D-7], or REMOTE ACCESS TO SYSTEM [R-2].
11. Call forwarding for an incoming call routed to a dead level or an unused number has priority over the ANNOUNCEMENT service for incoming calls.

Programming

Programming of hardware into System Data is required. Refer to CALL FORWARDING-INTERCEPT/ANNOUNCEMENT [C-25]. Timers are also programmed into System Data (see VARIABLE TIMING PARAMETER [V-1]).

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   **ALRTN** - This data must be assigned to the NCN.

Assign the logical route number to the physical route.

STEP 2:   **AAEDN** - This data must be assigned to the NCN.

Assign the announcement equipment data.

UGN: User Group Number

EQP: Announcement Equipment Number

0 = Dead Level

1 = Unused Number

2-15 = Announcement service

C: Duration of Connection

0 = Disconnection occurs in 30 seconds

1 = Connection is held until the station is released. See the requirements of the application for the announcement equipment. For Dead level applications, assign data "0".

R: Sending RBT

0/1 = Yes/No

A: Answer Signal Sending (Answer from the incoming trunk)

0 = No/Yes Normally assign data "1".

M: Multiple Connection

0/1 = Single Connection/Multiple Connection

LGRT: Logical Route Number

TK: Trunk Number   *Not necessary for "M = 1"

STEP 3:   **ARRCN** - This data must be assigned to the NCN.

Release the restriction between the terminating trunk and the announcement trunk.

STEP 4:   **ARSCN** - This data must be assigned to the NCN.

Release the restriction between the announcement trunk and the station.

Note: *The current command data shown is set to all nodes using the service: ASTD, ARTD, ATRK, MBTK*

C-76　　　　　　　Call Waiting Lamp - UCD

General Description

This feature uses an LED indication, which is one of the programmable keys on the D^{term}, to indicate when a call is waiting to be answered in the UCD queue.

Operating Procedure

No manual operation is required.

Service Conditions

1. The UCD Call Waiting Lamp displays the status of the UCD group as follows:

   Lamp On:　　　　　　　One or more calls waiting in the UCD queue.
   Lamp Flashing:　　　　More than the pre-assigned number of calls are waiting in the UCD queue.
   Lamp Off:　　　　　　　No calls are waiting in the UCD queue.

2. The number of calls waiting in the UCD queue that causes the UCD Call Waiting Lamp to light or flash can be assigned on a per-UCD group basis through the Maintenance Administration Terminal (MAT).

3. The UCD Call Waiting Lamp indicates the status of the UCD group that the D^{term} is assigned to, not the status of other UCD groups.

4. The UCD Call Waiting Lamp indication lasts as long as calls are in a queue.

5. The lamp must be assigned to a D^{term} line/feature key LED through the MAT. A call cannot be answered by this key. Only the UCD line number key (prime, sub, etc.) can be used to connect a call.

6. The number of UCD groups per system is 63.

7. When an additional D^{term} is allowed this service, or when a D^{term} data using this service is deleted, the circuit card that accommodates the port of the D^{term} must be initialized.

8. When using the FCCS network, this feature is available for UCD stations belonging to the node that accommodates the UCD controlling station.

9. When using the FCCS network, if the number of UCD calls in the queue is over the threshold value, the lamps of stations in the same node that the UCD controlling station belongs to, start to flash.

Interactions

1. The lamp will toggle between solid and flashing as the number of calls in the queue increases and decreases, crossing the threshold value set in AUCD.

2. If the pilot telephone number of a UCD group is set to CALL FORWARDING-ALL CALLS [C-5] to another UCD group, UCD hunting takes place in the second group. If all stations in the second group are busy, queuing takes place in the second group and its Call Waiting Lamp will light.

3. ATTENDANT CAMP-ON [A-1] call directed to the UCD pilot station will activate the UCD Call Waiting Lamp if all stations in the group are busy.

4. CALL WAITING LAMP-UCD is not affected by CALL WAITING-TERMINATING [C-12].

5. CALL WAITING LAMP-UCD is only effective for the MY Line station of a D^{term}. Even if another UCD group appears as sublines on that D^{term}, CALL WAITING LAMP-UCD will only function for the UCD group of the MY Line telephone number.

6. If OVERFLOW-UCD [O-13] is programmed, overflow to the second group will take place if all stations in the first group are either busy or in the busy-out state. There will be no CALL WAITING LAMP-UCD indication to the first group.

Interactions (cont'd)

7. If the overflow group is all busy, queuing takes place to the first group and the CALL WAITING LAMP-UCD will light to indicate a queuing condition at the first group.

8. When a UCD station is assigned as the destination station of LDN Night Connection, this service cannot be activated.

9. For the FCCS network, this feature is available only for UCD stations in the same node as the UCD controlling station. For more information, see UNIFORM CALL DISTRIBUTION [U-1].

Programming

STEP 1: **ASYD** - System Data 1, Index 61, Bit 5. Is UCD Call Waiting Lamp - in service? 0/1: No/Yes.

STEP 2: **ASHU** - Assign stations to UCD group.

STEP 3: **AUCD** - UCD Call Waiting Lamp threshold value. This command assigns the number of calls in UCD queue before the UCD Call Waiting Lamp flashes.

TN:	Tenant Number
STN:	Assign station number in the UCD group. After one station is assigned in the group, all stations in the group will automatically have the same threshold value.
QTH ACT:	UCD Queueing Peg CountValue Valid/Invalid (1/0).
QTH:	UCD Queueing Peg CountValue (0-255).
MCI:	Message Center Interface Data Transfer Valid/Invalid (1/0).
CWT:	Call Waiting Threshold Value (1-255).
1-255:	Quantity of calls in UCD queue before the UCD Call Waiting Lamp will begin to flash.

STEP 4: **AKYD** - The Call Waiting Lamp must be assigned to a programmable line/feature key to a D^{term} set. Assign Type:Function:CALL WAITING LAMP [47].

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDN** - This data must be assigned to the NCN.

System Data 1, Index60, b3: 0/1= UCD Queuing is used/not used.

STEP 2: **AUCDN** - These data must be assigned to the NCN.

UCD Call Waiting Lamp threshold value. This command assigns the number of calls in UCD queue before the UCD Call waiting Lamp flashes.

UGN:	User Group Number
TELN:	UCD Telephone Number
QTH ACT:	0/1=UCD Queuing Peg CountValue Invalid/Valid
QTH:	UCD Queuing Peg CountValue (0-255).
CWT:	Call Waiting Threshold Value (1-255).
MCI:	0/1=Message Center Interface data transfer is Valid/Invalid.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

C-81   Call Forwarding - I'm Here

General Description

This service feature permits the CALL FORWARDING - ALL CALLS feature to be set/cancelled from the target station.

Operating Procedure

To set CALL FORWARDING - I'M HERE from the target station:
1. Go off-hook; receive dial tone.
2. Dial the CALL FORWARDING - I'M HERE access code (from the target station); receive special dial tone.
3. Dial the forwarding telephone number; receive service set tone.

To cancel CALL FORWARDING - I'M HERE from the target station:
1. Go off-hook; receive dial tone.
2. Dial the CALL FORWARDING - I'M HERE cancel code (from the target station), receive special dial tone.
3. Dial the forwarding telephone number; receive service set tone.

To cancel CALL FORWARDING - I'M HERE from the called party/forwarding party:
1. Go off-hook; receive dial tone.
2. Dial the CALL FORWARDING - ALL CALLS cancel code (from the called station), receive special dial tone.

Service Conditions

1. The following stations cannot set CALL FORWARDING - I'M HERE:
    a.) a station where CALL FORWARDING - I'M HERE is being set,
    b.) a station setting CALL FORWARDING - ALL CALLS [C-5].
2. CALL FORWARDING - I'M HERE can be set to the following stations:
    a.) a station setting CALL FORWARDING - I'M HERE,
    b.) a station where CALL FORWARDING - ALL CALLS [C-5] is being set.
3. A call can be forwarded multiple times following CALL FORWARDING - I'M HERE setting, if assigned in system data.
4. CALL FORWARDING - I'M HERE can be set or cancelled from a subline of a D^{term}. However, the transferred call terminates to the MY Line of the D^{term} that has set the service.
5. CALL FORWARDING - I'M HERE can be set or cancelled when the target station is idle.
6. CALL FORWARDING - I'M HERE can be cancelled from the forwarding station, following the CALL FORWARDING - ALL CALLS [C-5] cancellation procedure.
7. If Call Back is set to/by the station setting CALL FORWARDING - I'M HERE, Call Back takes precedence.
8. Other service conditions are the same as for CALL FORWARDING - ALL CALLS [C-5].
9. The target station in the remote node can set CALL FORWARDING - I'M HERE through FCCS link.
10. When using the FCCS network, there is no limit to the number of stations that may access this feature simultaneously.
11. When using the FCCS network, a Service Feature Restriction Class (SFC) is necessary for the forwarded destination and the forwarding party.

Service Conditions (cont'd)

12. When using the FCCS network, if the destination (target station) is a D^{term}, CALL FORWARDING - I'M HERE can be set or cancelled from a sub line of a D^{term}. At that time, the transferred call terminates to the My Line of the D^{term} that sets the service.

13. When using the FCCS network, the service can be set or cancelled when the forwarding station is idle.

14. When using the FCCS network, the Service Conditions are the same between CALL FORWARDING - DON'T ANSWER services to be set from the forwarding station and the target station (CALL FORWARDING - I'M HERE).

15. When using the FCCS network, CALL FORWARDING - I'M HERE cannot be set from the ISDN terminal (ISDN terminal cannot be the destination).

16. When using the FCCS network, CALL FORWARDING - I'M HERE can be set from the target station (not ISDN terminal) toward the ISDN terminal (ISDN terminal can be a forwarding station).

17. When using the FCCS network, CALL FORWARDING - I'M HERE cannot be a set to the station that has already set this service (forwarding station). However, setting this service to the station that operates the service (destination) is available.

18. When using the FCCS network, this service cannot be used with SPLIT CALL FORWARDING [S-99].

19. When using the FCCS network, CALL BACK [C-1, 1D] that is set to or from the forwarding station has priority over CALL FORWARDING - I'M HERE (recall or answer call for CALL BACK is not the object of CALL FORWARDING - I'M HERE).

20. When using the FCCS network, if this feature is set from the target station in the remote node within an FCCS network, dial the telephone number for the forwarding station number.

21. When using the FCCS network, the telephone number must be assigned to the destination station also.

22. When using the FCCS network, the service restriction is decided by the ASFC data programmed to the station that sets the service (destination station).

Programming

STEP 1:   Assign the CALL FORWARDING - ALL CALLS data. (See CALL FORWARDING - ALL CALLS [C-5].)

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel.

STEP 3:   **ASPA** - Assign an access code to CALL FORWARDING - I'M HERE entry SID = 28. Assign to CALL FORWARDING - I'M HERE cancel SID = 29. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI = 99 to the target stations, and SFI100 to the station to be set.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   SYS1, Index4, b6. One Burst of Ringing On Call Forwarding (C.F.) phone when Call Forwarding - All Calls service has been assigned (analog phones only).

0/1 = Not Required/Required

FCCS Programming (cont'd)

SYS1, Index5, b1~3. Maximum number of Multiple Call Forwarding - All Calls/Busy Line occurrences:

Note: *This data is valid when SYS-1, INDEX69, bit 7 is assigned as "1".*

SYS1, Index69, b1. Send short tone when a call forwarded via Call Forwarding - All Calls service is answered.

0/1 = Not Required/Required

SYS1, Index69, b7. Multiple Call Forwarding - Busy Line/All Calls

0/1 = Out/In Service

SYS1, Index248, b7. Tone to be sent out when the handset is off-hook at the station on which Call Forwarding - All Calls service is set.

0/1 = Dial Tone (DT)/Special Dial Tone (SPDT)

SYS2, Index6, b4. Call Origination Restriction of Station upon Setting Call Forwarding - All Calls

0/1=Required/Not Required

STEP 2:   **ANPDN** - Assign the first number of the numbering level for feature set and cancel access code.

STEP 3:   **ASPAN** - Assign the feature access code.

CI = N, SRV=SSC and SID28 (Call Forwarding - I'm here; set)

CI = N, SRV=SSC and SID29 (Call Forwarding - I'm here; cancel)

STEP 4:   **ASFC** - Assign the service restriction data.

Assign RES = 1 (allowed) against SFI99 (forwarding party for Call Forwarding - I'm here)

and SFI100 (Forwarded destination for Call Forwarding - I'm here) **(Note)**

Note: *SFI100 should be allowed at the node that the destination station belongs to.*

C-109 Centrex Compatibility

General Description

This feature allows a DTMF type telephone user engaged in a trunk call to send a hooking signal to the called office, enabling the call to be transferred to another station in that office.

Operating Procedure

Station A is connected to Station B, accommodated in another office.
1. Station A presses switch hook; receives special dial tone of the called office. Dial the switch hook outside access code, or press the CAS switch hook feature. Station B is placed on hold.
2. Station A dials the desired telephone number. When Station A releases from the call, Station B will be connected to the dialed station.

OR
3. Station A dials the Attendant access code. When Station A releases from the call, Station B will be connected to the Attendant.

Service Conditions

1. This feature is available for DTMF telephones TEC=23/12 only.
2. The trunk that passes the hooking signal is determined by Route Class Data.
3. A COT is required for this application.
4. A D^{term} instrument may have a CAS switch hook key assigned as one of its feature/line appearance buttons, or it can use an access code.
5. A D^{term} may use its dedicated TRANSFER key to transfer calls internally.
6. CALL TRANSFER - ALL CALLS [C-11] to an inter-office station is not available when this feature is activated.

Programming

STEP 1: **ARTD** - Assign CDN 67:HKS, Central Office line hooking, as "1" for Central Route.

STEP 2: **AKYD** - FKY 17 (CAS SHF) is assigned for D^{term}s to switch hook flash the Centrex Route.

STEP 3: **ADSL** - Assign SN=6 (Trunk Busy) and FKY=17 (CAS SHF; CAS).
This command is used for assigning the function to each soft key.

STEP 4: **ASPA -** SRV = SSC (Service Code), SID = 43 Condition (CI) = (H) Hooking for CAS switch hook outside.

C-133 Call Forwarding - Don't Answer To UCD Queue

General Description

This feature allows calls to a station that has set CALL FORWARDING-DON'T ANSWER to a UNIFORM CALL DISTRIBUTION group to be added to a UCD queue if all stations in the UCD group are busy. (Originally, calls forwarded to a UCD group would receive reorder tone if all stations in the group were busy.)

Operating Procedure

The operating procedure is the same as for normal CALL FORWARDING-DON'T ANSWER [C-3] operation.

Service Conditions

1. This feature is available in the U. S. A. and Canada and only works in the following cases:
   a.) Station call to a station that has set CALL FORWARDING-DON'T ANSWER to a UCD group.
   b.) Trunk call to a station that has set CALL FORWARDING-DON'T ANSWER to a UCD group.
   c.) Attendant transfers a station or trunk call to a station that has set CALL FORWARDING-DON'T ANSWER to a UCD group.
2. This feature is not applicable with calls on CONSULTATION HOLD [C-17] or CALL TRANSFER [C-10, C-11].

Programming

No additional programming is required once UCD parameters are assigned.

FCCS Programming

No unique programming is required for the FCCS network.

C-146 Call Hold - Conference

General Description

This feature allows a user to establish a conference connection by adding a third party who is held on a multiline of a D^{term} to the existing two-party connection. The held call which is to be added may be a station or trunk call.

Operating Procedure
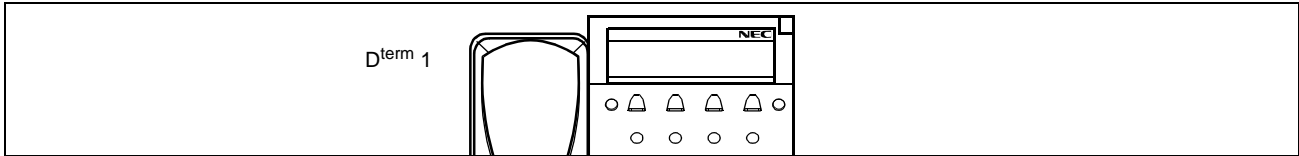
To operate from a D^term:

1. Make a trunk/station call using line A on the D^{term}.
2. Place the in-progress call on hold.
3. Place or answer a call using line B on the D^{term}.
4. Press the TRANSFER key.
5. Enter an access code for Call Hold - Conference and line number of line A.
6. Three-party conference is established.

To operate from other D^term:
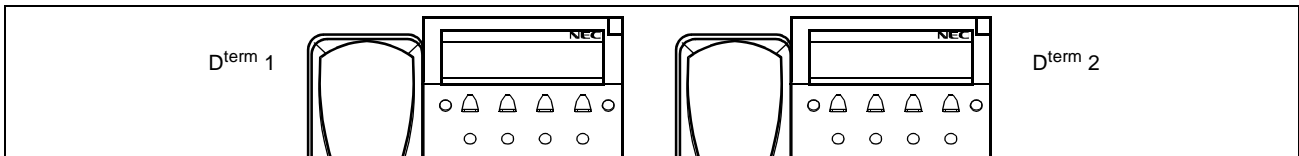
1. Make a trunk/station call using line A on D^{term} 1.
2. Place the in-progress call on hold.
3. Place or answer a call using line B on D^{term} 2.
4. Press the TRANSFER key on D^{term} 2.
5. Enter an access code for Call Hold - Conference and line number of line A.
6. Three-party conference is established.

To operate from an analog station:

1. Make a trunk/station call using line A on the D^{term}.
2. Place the in-progress call on hold.
3. Place or answer a call using an analog station.
4. Press momentarily the SHF key of the analog station.
5. Enter an access code for Call Hold - Conference and line number of line A.
6. Three-party conference is established.

Service Conditions

1. This service is available for the general user and the D^{term} user. (not available for the ATT and ISDN terminal user.)

Service Conditions (cont'd)

2. This service is available when the call is held by the D^{term} HOLD key.
3. When the originally connected party (B) is placed on Exclusive Hold, this service is available only when the D^{term} user (A) engages in the call with the third party (C).
4. When the D^{term} user (A) places the station or trunk (B) on hold, including Exclusive Hold, DUAL HOLD [D-32D] cannot be activated.
5. This service is not available when line (A) or (B) is an intercom line, hot line or CAS line. In these cases, the service is restricted.
6. This service is available when the parties (A), (C), the lines (A) and (B) are the following:
   - a.) interoffice trunk (including ISDN line)
   - b.) C.O. line/tie line
   - c.) station, including virtual stations.
     In case the ISDN terminal, intercom line, hot line, or CAS line is used, the service is restricted.
7. Data communications are not considered in this service.
8. A D^{term} user dials the CALL HOLD CONFERENCE code and then dials the telephone number. (After the CALL HOLD CONFERENCE code is dialed, no tone is returned and the LCD shows transferring.)
9. When the three-way call cannot be established due to all conference trunks busy, service restriction, etc., reorder tone is returned.
10. When the held party is the trunk, billing is performed according to the system data (SYS1, INDEX33, b6, b5, b4, b3). In case the held party is the station, the billing stops at the time the station is placed on hold.

Programming

STEP 1:   **ASFC** - Call Hold - Conference must be allowed for appropriate service feature classes (SFCs). SFI = 75.

STEP 2:   **ANPD** - Reserve a number level for feature access.

STEP 3:   **ASPA** - Assign an access code for Call Hold - Conference.
          CI = H, SRV = SSCA (Service Code Appendix), SIDA = 97, NND = number of digits in access code.

STEP 4:   **ATRK** - Assign LENs in Route 909 (Digital Conference Trunk).

XX	X	XX	X
Module	Unit	Group	Level

          Note that Group Number and Level Number must be one of the following: 210, 213, 216, 221, 224, 227, 232, or 235.

STEP 5:   **MBTK** - Make idle the assigned Digital Conference Trunk(s).

STEP 6:   **ARSC**: - Allow route restriction data for appropriate RSC(s).

STEP 7:   **ARRC** - Allow trunk-to-trunk connection(s) between routes if necessary.

STEP 8:   **ASTD** - Assign the following data when a C.O. line is involved in a conference: STM = 0, STS = 2, and ST = 1.

FCCS Programming

No unique programming is required for the FCCS network.

C-150 Call Block

General Description

This feature is a part of Caller ID service. This feature restricts termination of incoming calls from the preassigned calling numbers. This feature is available by designating the calling number by the MAT.

Call Block is used to restrict an incoming call that has a Restriction Number (Physical Station Number, telephone number or the Caller ID number, which are preset by each station). The Restriction Number can be set or cancelled at each station by using the access code or the feature key. The called station can send busy tone to the caller.

Operating Procedure

When using software prior to Release 5, no manual operation is required.
Using Access Code:
To assign the Restriction Number (the latest incoming call is to be registered as the Restriction Number):
1. Lift the handset.
2. Dial the Access Code (ACC for registration of Restriction Number by the last incoming call).
3. Receive service set tone (SST). **(Note 1)**
4. The latest incoming call number is registered as the Restriction Number.

To assign the Restriction Number by dialing an optional number:
1. Lift the handset.
2. Dial the Access Code (ACC for registration of Restriction Number by dialing an optional number).
3. Receive special dial tone (SPDT).
4. Dial the number to be restricted.
5. Receive service set tone after the preassigned inter-digit timer (default is 6 seconds). **(Note 1)**
6. The dialed number is registered as the Restriction Number.

To cancel the registered Restriction Number:
1. Lift the handset.
2. Dial the Access Code (ACC for cancelling the Restriction Number).
3. Receive service set tone (SST).

Using Feature Key: (Note 3)
When Release 5 software is used to set the Restriction Number (the latest calling number is to be registered as the Restriction Number):
1. Press the CALL BLOCK key when the station is idle, a call is terminating to the station, or when the station is in a two-party connection.
2. The CALL BLOCK key lights red.
3. The latest incoming call number is registered as the Restriction Number.

When Release 7 software is used to set the Restriction Number:
1. Press the CALL BLOCK key when the station is idle, a call is terminating to the station, or when the station is in a two-party connection.
2. The latest calling number is displayed for 5 seconds on the LCD.
3. Press the CALL BLOCK set key ("*" or "#" key, depending on system data) while the number is displayed.
4. The CALL BLOCK LED lights red.
5. The latest incoming call number (the physical station number or the received calling number) is registered as the Restriction Number.

Operating Procedure (cont'd)

To set the Restriction Number by dialing an optional number:
1.   Lift the handset.
2.   Press the CALL BLOCK key.
3.   Receive special dial tone.
4.   Dial number to be restricted.
5.   Receive service set tone after the preassigned inter-digit timer (default is 6 seconds). **(Note 1)**
6.   The CALL BLOCK key lights red.
7.   The dialed number is registered as the Restriction Number.

When Release 5 software is used to confirm the registered Restriction Number:
1.   Press the CALL BLOCK key when the station is idle.
2.   The registered Restriction Number is displayed for 5 seconds.

When Release 7 software is used to confirm the registered Restriction Number:
1.   Press the CALL BLOCK key when the station is idle (when the latest received calling number has been registered, the number is displayed on the LCD).
2.   Continue pressing the CALL BLOCK key in the same manner to confirm the other Restriction Numbers. The other Restriction Numbers are displayed in consecutive order.
3.   The registered Restriction Number is displayed for 5 seconds.

When using the MAT command to confirm the registered Restriction Number: (Note 2)
1.   Start the DCBD command.
2.   Enter the telephone number or LENS.
3.   Select to display the registered Restriction Number.
4.   The Restriction Number, which is registered to the line corresponding to the specified telephone number or LENS, is displayed.

When Release 5 software is used to cancel the registered Restriction Number:
1.   Lift the handset.
2.   Press the CALL BLOCK key.
3.   Receive service set tone.
4.   The LED of CALL BLOCK feature key (or soft key) goes off.

When Release 7 or later software is used to cancel the registered Restriction Number:
1.   Confirm that the Restriction Number to be cancelled is displayed on the LCD (See the above-mentioned procedure "When Release 7 software is used to confirm the registered Restriction Number").
2.   Press the "∗" or "#" key for the Restriction Number to be cleared (depends on the system data), while the corresponding number is displayed.
3.   When all the Restriction Numbers are deleted, the LED of CALL BLOCK feature key (or soft key) goes off.

Note 1: *When the Restriction Number has already registered up to the maximum number (1 for Release 5 software, 5 for Release 7 software or later), reorder tone is heard. First cancel the former registered Restriction Number, then set the new Restriction Number again from the beginning.*

Note 2: *This operation is available with Release 7 software or later.*

Note 3: *When a D^{term} Series E is used at the station, the LCD displays are as shown on the next page.*

LCD displays for Service Set, Confirmation, and Cancel are shown on the following page. Set/Cancel can be selected as the "∗" or "#" key, depending on system data. Assignment of one of these keys as Cancel key, will assign the other as the Set key.

Operating Procedure (cont'd)

24 digit display of D^{term} Series E

- When the last incoming call is displayed (Release 7 software or later):

The latest incoming call

The first 14 digits of the latest calling number is displayed on the right side of the LCD

```
L:XXXXXXXXXXXXX
        BLOCK ENTRY [*]
```
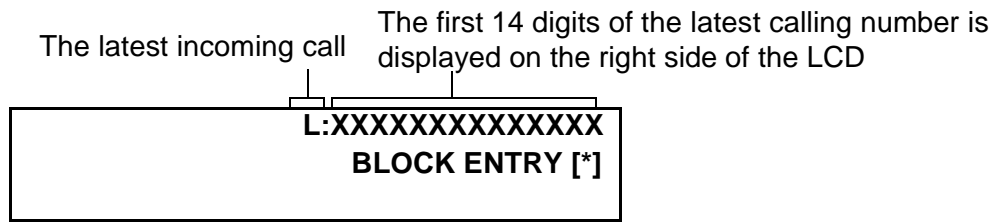
- When Restriction Number is set (Release 5 software):

The first 8 digits of the Restriction Number

```
REST SET       XXXXXXXX
```
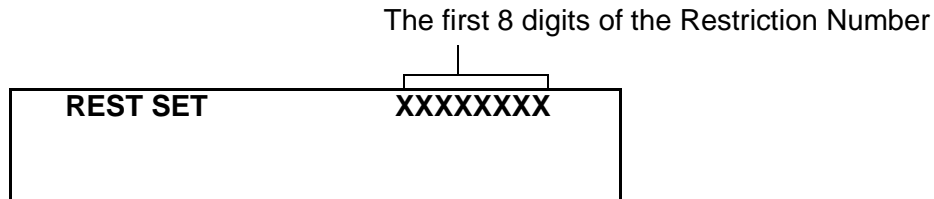
- When confirming the Restriction Number (Release 5 software):

The first 16 digits of the Restriction Number. When the number of digits are more than 16, the first part of the 16 digits are displayed

```
XXXXXXXXXXXXXXXX
```
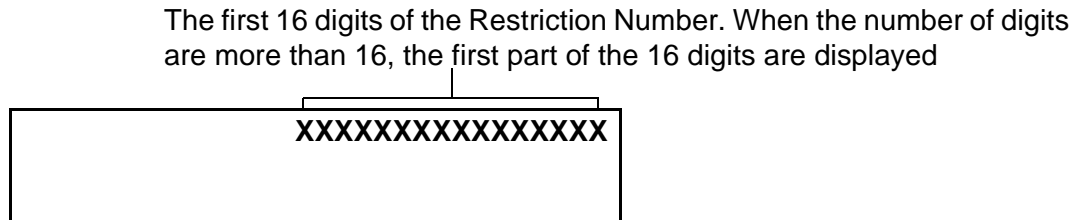
- When confirming the Restriction Number (Release 7 software or later):

The registered number is indicated in order

The first 14 digits of the registered number is displayed on the right side of the LCD

```
1:XXXXXXXXXXXXX
        BLOCK CLEAR [#]
```
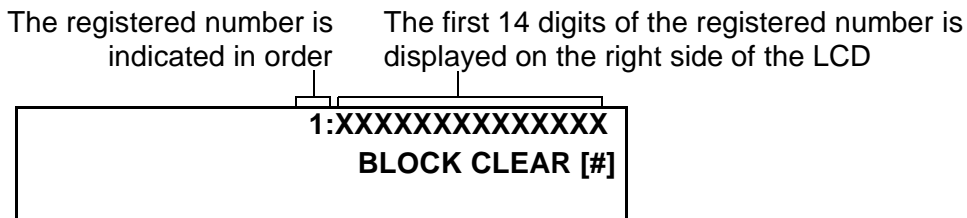
- When Restriction Number is cancelled (Release 5 software):

```
REST CANCEL
```

- When HELP Key for CALL BLOCK of Soft key is pressed:

Page 1
```
        CALL BLOCK
  INCOMING CALL RESTRICT
  WHEN A REGISTRATION>>>
```

Page 2
```
        NUMBER

            <<<
```
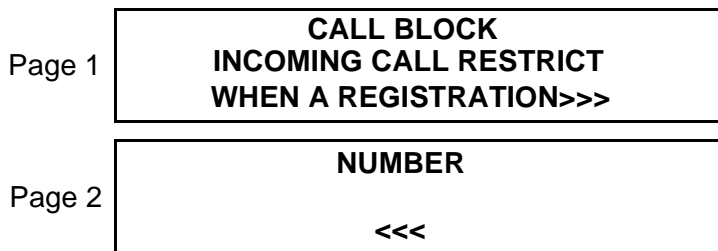
Service Conditions

When the Restriction Number is registered by the MAT:

1. When the calling number is not received, this service is not activated.

2. The calling number for this service is assigned to the parameter CID of ACID command. When only the first part of the calling number is assigned to the CID, this service is applied to any calling number that begins with the assigned number. For example, when "0471" is assigned to the CID, this service is applied to any calling number that begins with "0471" such as 0471-12-3456 and 0471-234-5678.

3. The following numbers cannot be assigned to the parameter CID of ACID command:

    a.) The first part of the already assigned number,

    b.) The number whose first part is the same as the already assigned number.
    For example, when "123" is already assigned to the CID, such numbers as "1", "12", "1234" cannot be assigned.

4. When the calling number is received via CCIS line, this feature is available for the first 16 digits (provided that "1" is assigned to CDN:98 (CI) of ARTD command).

5. This service is available only for stations (single line telephone and D^{term}).

6. This service is available for the following cases:

    a.) When an incoming call is directly terminated to a station,

    b.) When an incoming call is transferred to a station using Call Forwarding - All Calls/Busy Line/ Don't Answer

7. Call Forwarding - All Calls takes precedence over this feature.

8. A maximum of 12 calling numbers can be assigned for a single station.

9. The following circuit card is required for Analog Caller ID:

Circuit Card Name	Remarks
PA-8COTBJ	

Using Release 5 software or later:

1. This service is available only for the stations service restrictions are released (SFI 165 = 1).

2. This service is not available for PCS terminal or ISDN terminal.

3. Only one Restriction Number (a maximum of 32 digits) can be registered per station. When using Release 7 software or later, the maximum of 32 digit Restriction Number can be assigned up to five numbers per D^{term} and one number per analog station. A maximum of 511 stations can be registered per 1 IMG.

4. The Restriction Number cannot be confirmed from single line telephones after registration.

5. To assign the Restriction Number, it is available to register the latest incoming call number if the call is received in the following cases:

    a.) Station-to-Station Calling,

    b.) A call is terminated via the trunk which received the calling number
    If the station cannot receive the number of the last incoming call, the latest call that meets the conditions above is registered as the Restriction Number. Thus, it can't be available to assign the latest calling number as the Restriction Number immediately after system initialization.

6. When assigning the latest incoming call as the Restriction Number using feature key from an idle station or a ringing station, the latest calling number to the MY LINE is registered as the Restriction Number (then the feature key on the controlling terminal lights red). Thus, on a D^{term} whose PRIME LINE is not MY LINE, the displayed number is not registered when a call is terminated at PRIME LINE. The latest calling number terminating at MY LINE is registered in place of the displayed number.

7. When a call is transferred, the telephone number of the intermediate station is to be registered as the latest incoming call number even if that station releases the connection. Only the first terminating number is to be the Restriction Number.

Service Conditions (cont'd)

8. This service is activated corresponding to each line. In case a D^{term} containing some lines, the Restriction Number is effective only for the line to be registered the number.

9. When confirming the registered Restriction Number, the number registered on MY LINE is displayed for 5 seconds on the LCD.

10. This service is available only when the predetermined Restriction Number and the receiving Physical Station Number/telephone number or the calling number are exactly the same.

11. In this service, a telephone number is used to recognize the station incoming call, however, a Physical Station Number is used for the station which is not assigned the telephone number.

12. When an incoming call via No. 7 CCIS is terminated, a maximum 16-digit calling number (Route Data: CI=1) can be received. If the telephone number is more than 17 digits, the incoming call is not restricted.

13. There is no need to register ACC for a C.O. trunk call (ex. "9") when assigning Restriction Number by dialing operation.

14. In case Restriction Numbers are registered up to the maximum number, a previous Restriction Number must be cancelled before setting the new Restriction Number on a station. (It is impossible to overwrite the Restriction Number.)

15. Sending Tone, which is used when originating a call from a station on which Call Block is set, can be selected on the system base (ASYD SYS 1, Index 322, Bit 5).

16. When initialization of the Circuit Card is activated, the Restriction Number already registered is not cleared.

17. When system initialization is activated, the Restriction Number already registered is not cleared. However, when initialization of system data loading is activated, the loaded number (former Restriction Number), not the latest Restriction Number, is to be registered as new Restriction Number.

Using Release 7 software or later:

1. The Assigned Restriction can be confirmed by the DCBD command.

2. This service is activated against each line. When a D^{term} is used, Restriction Numbers can be registered at multiple lines. However, to clear the Restriction Number using the "*" or "#" key is effective for only the number registered to MY LINE.

3. When confirming the registered Restriction Number, the oldest number registered on MY LINE is displayed for 5 seconds on the LCD. When the multiple Restriction Number is assigned, press CALL BLOCK key to change the display to the later registered number, the displayed number is changed in order as the key is pressed.

4. When deleting the Restriction Number with the access code from a D^{term}, the oldest Restriction Number is deleted.

5. When five Restriction Numbers are registered at a line, the assignment of the already registered number is available.

6. System data decides the "*" key or the "#" key as the Restriction Number Delete key. When Delete key is decided, the other one is used as Set key.

Note: *The Set/Delete key is available for only 5 seconds (while the number is displayed).*

7. When the proper ELC card is not used, the indication for the operation is not displayed at the middle line of the LCD. In this case, Restriction Number is set or deleted by Set/Delete key ("*" or "#").

8. When all calling numbers are deleted, the CALL BLOCK key goes off.

9. ACID applies only to inbound trunk calls with ANI.

10. ACID will not light a feature key if the telephone is equipped with one.

11. ACID will operate via the FCCS network for tandem trunk calls.

Service Conditions (cont'd)

12. Feature keys and SIDAs will operate for physical and logical stations, as well as inbound trunk calls with ANI. It will also light the feature keys for both.

13. The COT card for receiving the Caller ID information is shown below:

CIRCUIT CARD NAME	PROGRAM	ISSUE
PA-8COTBJ	SW-317 8COTBJ PROG-A —SP-1122 CALL-ID PROG-A —SP-3190 8COTBJ PROG-A	

14. The LC card for notifying the Caller ID information is shown below.

CIRCUIT CARD NAME	PROGRAM	ISSUE
PA-16LCBY	SP-3396 16-LCBX PROG-A	

15. The ELC cards to display the indication for the operation procedure on the LCD when confirming the latest calling number or the registered Restriction Number is shown below.

CIRCUIT CARD NAME	PROGRAM	ISSUE
PA-16ELCH	SP-3124 16ELCH PROG-D	ISSUE 5 or later
PA-16ELCH	SP-3125 16ELCH PROG-TD	ISSUE 5 or later
PA-16ELCJ	SP-3270 16ELCJ PROG-A	ISSUE 7 or later
PA-16ELCJ	SP-3295 16ELCJ PROG-B	ISSUE 6 or later
PA-DAIA	SW-293 2WDLI PROGRAM-D —SP-3126 2WDLI PROG-D	ISSUE 1F or later ISSUE 6 or later
PA-DAIB		
PA-DAIC		
PA-DAIG	SW-362 2WDAI PROGRAM-F —SP-3343 2WDAI PROG-G	ISSUE 1A or later ISSUE 1 or later
PA-DAIH		
PA-DAIJ		
PA-DAIG-A	SW-368 2WDAI PROGRAM-H —SP-3345 2WDAI PROG-H	ISSUE 1A or later ISSUE 1 or later
PA-DAIH-A		
PA-DAIJ-A		

Interactions

1. Call Forwarding - All Calls [C-5] takes precedence over this feature.
2. If this service is set at both the station and MAT, the station has priority.
3. When the data on a station is changed by FOLLOW PHONE [F-31] service, the registered Restriction Number on the station is carried over to the next user.
4. When a station is deleted, the registered Restriction Number on the station is also deleted.
5. When activating with DUAL STATION CALL [D-156], CALL BLOCK is available only for the Main Station.

Programming

Earlier than Release 5 software - When the Restriction Number is registered by the MAT

　　　ACID - Assign the calling number for this service.

Programming (cont'd)

TYPE: 1

TN: Tenant number

STN: Station number

CID: Calling number (Maximum 28 digits)

SRV: 5 (Call Block)

Release 5 software or later

STEP 1: **ASYD** - System Data 1, Index 322, Bit 5. Assign the sending tone when Call Block is set.

0/1 DT/SPDT

SYS1, Index 80, b1. Decide the cancel key for the registered Restriction Number.

0/1 = "#" key, "*" key **(Note)**

Note: *Effective since Release 7 software enhancement.*

STEP 2: **ASPA** - Assign the access code for Call Block, SRV = SSCA, SIDA = 111 (ACC for the latest incoming call is to be the Restriction Number), SIDA=112 (ACC for assigning the Restriction Number by dialing an optional number), SIDA=113 (ACC for cancelling the Restriction Number)

STEP 3: **ASFC** - Assign a Service Feature Class to allow CALL BLOCK [C-150] for the stations. SFI = 165, RES = 1 (to release the restriction)

STEP 4: **AKYD** - Assign the key data for CALL BLOCK on the feature key of D^{term}. FKI = 1 (Feature Key) and FKY = 128 (Call Block Key)

STEP 5: **ADSL** - Assign the soft key data of Call Block for D^{term} according to the following parameter:

SKP = 0-15 (Soft Key Pattern)

SN = 0, 1, 4 (Call Situation Number)

SKN = 1-16 (Soft Key Number)

FKY = 128 (Call Block Key)

STEP 6: **ADKS** - Assign the soft key data of Call Block for D^{term} according to the following parameter:

TN = Tenant Number

STN = Station Number

SKP = 1-15 (Soft Key Pattern of Call Block assigned in ADSL)

LKP = 1-2 (Location of Key Pattern)

PG = 0/1 (Soft Key/Feature Key is allocated for Page Change Key)

STEP 7: **ASYD** - Assign the routine diagnosis program start time System Data 1, Index 87: hour, Index 88: minutes

System Data 1, Index 90, Bit 1=1: Routine Backup is to be executed

System Data 1, Index 304, Bit 6=1: Data Backup of Call Block

FCCS Programming

No unique programming is required for the FCCS network.

C-151   Call Return

General Description

This feature allows the D^{term} or an analog station to save the received calling number and the received number of the station. The following two types of saving features are available:

- Automatic Saving: The received calling number/number of the station is automatically saved when the station rings. The stored number can be dialed by pressing the feature key or dialing the access code.
- Manual Saving: The received calling number is manually saved by the D^{term} user while in conversation. The stored number can be dialed by pressing the feature key.

Operating Procedure

Automatic Saving

1. Saving Calling Number

    a.) A call is terminated to an analog station or My Line of the D^{term}.

    b.) The received calling number is automatically saved. When the station is the D^{term} with the Call Return key, the received calling number is displayed on the LCD and the Call Return key lights red.

Note: *The maximum number of calling numbers stored for the D^{term}/analog station is as follows:*

   D^{term}:   3

   Analog station: 1

2. Displaying Stored Calling Number (for the D^{term} with the Call Return key)

    a.) While in idle state, press the Call Return key.

    b.) The saved calling number is displayed for 5 seconds. When multiple numbers are stored, the display changes each time the Call Return key is pressed. The number is displayed from the latest to the oldest. When the indication reaches the oldest number, the latest number appears again by pressing the Call Return key.

3. Call Origination

    • When using the Call Return key on the D^{term}

    a.) Display the desired number by pressing the Call Return key. (Refer to (2).)

    b.) Lift the handset and receive dial tone.

    c.) Press the Call Return key. The displayed number is dialed.

Note: *The dialed number is automatically deleted. When all the stored numbers are deleted, the Call Return key goes off.*

    • When using Access Code
    a.) Lift the handset and receive dial tone.
    b.) Dial the access code for Call Return. The last number saved is dialed.

Note: *The dialed number is not deleted.*

4. Deleting Stored Number (for the D^{term} with the Call Return key)

    a.) Display the desired number by pressing the Call Return key. (Refer to (2).)

    b.) Press the "*" or "#" key. The displayed number is deleted and CANCEL is displayed on the D^{term} LCD.

Note 1: *When all the stored numbers are deleted, the Call Return key goes off.*

Note 2: *Note that the delete key ("*" or "#") is effective while the calling number is displayed for 5 seconds.*

Operating Procedure (cont'd)

Manual Saving (equal to SAVE AND REPEAT - D^{term} [S-24D]

1. Saving Calling Number
   - a.) Press the S&R key while in conversation using My Line or Sub Line.
   - b.) The received calling number is saved and the S&R key lights red.

Note: *One calling number can be saved. When a calling number has already saved using SAVE AND REPEAT - D^{term}, the calling number is deleted.*

2. Displaying Stored Calling Number (for the D^{term} with the S&R key)
   - a.) While in idle status, press the S&R key.
   - b.) The saved calling number is displayed for 5 seconds.

3. Call Origination
   - a.) Lift the handset and receive dial tone.
   - b.) Press the S&R key. The stored number is dialed.

Note: *The dialed number is automatically deleted and the S&R key goes off.*

Service Conditions

1. Service Conditions for Automatic/Manual Saving:
   - a.) The following circuit cards are required for Analog Caller ID:

Circuit Card Name	Remarks
PA-8COTBJ	

   - b.) Automatic/Manual Saving is available for the D^{term}s assigned to the following ELC/DAI circuit card.

Circuit Card Name	Remarks
PA-16ELCJ	
PA-DAIJ (1.5M-AMI)	

   - c.) This service is not available when the calling number is not received.
   - d.) A maximum of 32 digits can be saved. However, when the calling number is received via CCIS line, this feature is available for the first 16 digits (provided that "1" is assigned to 98: CI of ARTD command).
   - e.) When a trunk access code (ex. "9") is required for call origination to the saved number, the access code must be added on a route basis by ACNP and ACND commands. Note that the assigned access code is not displayed on the D^{term} LCD. However, the assigned code is saved.
   - f.) When the area code is not to be sent to within the same area, the area code must be deleted by AFRS, AOPR and AADC commands.
   - g.) When station data is changed by FOLLOW PHONE etc., stored number data is not exchanged.
   - h.) When the system is initialized, stored number data is deleted.
   - i.) When this service is used in an FCCS network, the system data should be set to all nodes. However, when the calling number received from the remote FCCS node is not assigned telephone number, the number of the calling station is not saved.

2. Service Conditions for Automatic Saving with the feature key / access code:
   - a.) Automatic Saving is available for analog stations allowed this service and the D^{term} with Call Return key.

Service Conditions (cont'd)

       b.) This service is available in the following cases:
- When the trunk incoming call that receives the calling number (Analog COT/ISDN/CCIS trunk) is directly terminated at the station.
- When the station-to-station call is terminated directly.

       c.) When the station answers the call held on Multi Line, the calling number/calling station number cannot be saved (Held Line is not My Line). When the call is terminated at the trunk, the calling number is saved in the ELC card only.

3. Service Conditions when using Release 5 software or earlier:

       a.) When the call is terminated from the station that has assigned telephone number, the calling station number is saved in the Data Memory. As to the calling station number, which is not telephone number, is not saved.

4. Service Conditions when using Release 7 software or later are as follows. The calling station number is not saved in the following cases:

       a.) When answering the station incoming call is held by CALL PARK [C-29].

       b.) When answering the station incoming call using CALL PICKUP service.

5. Service Conditions for Automatic Saving with the feature key:

       a.) The Call Return key must not be assigned to the D^{term} which has no LCD because stored number data cannot be checked.

       b.) A maximum of three received calling numbers are saved with the ELC card. If the received calling number is the same number as the last call, the calling number is not saved.

       c.) When the ELC circuit card is initialized, stored number data is deleted.

       d.) The calling number is displayed on the D^{term} LCD when a call is terminated to Prime Line. Accordingly, when My Line of the D^{term} is not Prime Line, the displayed calling number is not saved.

       e.) When a call is terminated to My Line, even if the D^{term} user is in conversation using Sub Line, the calling number is saved.

       f.) When the stored number is displayed, the calling number is displayed on the upper LCD. The maximum number of digits that indicates the calling number is different, depending on the D^{term} type. When using a D^{term} with a 16 digit LCD, the last 16 digits are displayed. When using a D^{term} with a 24 digit display, the last 24 digits are displayed.

       g.) When a call is terminated while one of the stored numbers is displayed, the lower LCD indicates the calling number and the upper LCD displays the stored number for 5 seconds.

       h.) When three calling numbers are already stored, if a call is terminated while the oldest number is displayed, the oldest number is deleted and the received number is saved. Consequently, call origination cannot be made to the displayed number.

       i.) Call origination can be made to the stored number while dial tone is heard. After seizing a trunk, this feature is not available.

       j.) When originating a call using this service, the last 24 digits are displayed on the D^{term} LCD.

6. Service Conditions for Automatic Saving with the access code:

       a.) This service is not available when a call is terminated to an ISDN terminal or a PCS terminal.

       b.) When the D^{term} user place a call to the stored number by dialing the access code, the dialed number is displayed in place of the stored number.

       c.) When Analog Caller ID - Station is effective, if a call is terminated from a station, the number of the station is saved.

       d.) Even if the LC card is initialized, the saved calling number is not deleted.

Service Conditions (cont'd)

        e.) The latest calling number is saved in the data memory when the service feature class data (SFI: 155) is "0". Since the latest calling number remains when SFI:155 is changed from "0" to "1", the call origination can be operated with the latest calling number saved before the data is changed.

    7.   Service Conditions for Manual Saving:

        a.) Manual Saving is available for the D^{term} with the Save and Repeat key.

        b.) This service is available when a D^{term} is in communication with the terminating trunk.

        c.) When the calling number is saved, "S&R" and the first 12 digits are displayed on the D^{term} LCD.

        d.) When the circuit card listed in item 1-b is not used, the first 6 digits of the received number are saved.

        e.) Call origination can be made to the stored number while dial tone is heard. After seizing a trunk, this feature is not available.

        f.) For more information, refer to SAVE AND REPEAT - D^{term} [S-24D].

Programming

STEP 1: **ASYD** - System Data 1, Index 80, bit 1. 0/1 = #/* key is used to delete the stored calling number.

          System Data 1, Index 322, bit 7. 0 = Call Return is not available for station-to-station calling. 1 = Call Return is available for station-to-station calling.

STEP 2: **ASPA/ASPAL/ASPAN** - When originating a call to the saved number using the access code, assign the access code for this service.

          SRV: SSCA

          SIDA: 106 (Call Return)

STEP 3: **ASFC** - When using the access code for this service, assign Service Feature Class that allows SFI 155 (Call Return) to the stations activating this service.

STEP 4: **AKYD** - Assign Call Return key when using Automatic Saving function.

          KYI: 1   FKY: 118 (Call Return)

          Assign Save and Repeat key when using Manual Saving function.

          KYI: 1   FKY: 7 (Save and Repeat)

FCCS Programming

No unique programming is required for the FCCS network.

C-154 Call Hold Pick Up

General Description

This feature allows a user to pick up a trunk or station call that is put on hold by a second user. The user can accomplish this by dialing an access code followed by the telephone number that is holding the call.

Operating Procedure

1. Make a trunk or station call to Station A.
2. Station A places the call in progress on hold.
3. From Station B, dial the access code and Station A's telephone number.
4. Station B is connected to the station or trunk call that is on hold at Station A.

Service Conditions

1. Only stations in the same tenant can use this feature.
2. This feature remains in effect even after hold timeout and the station is in the re-ring state.
3. This feature also overrides the Exclusive Hold feature (a call that is put in Exclusive Hold can be picked up by using this feature).

Programming

STEP 1: **ASPA** - Assign the access code for this service. SRV = SSCA (Service Code Appendix) SIDA = 103
STEP 2: **ASFC** - Assign Service Feature Class that allows SFI = 150

C-157 Calling Party Number - Name Assignment and Display

General Description

This feature allows a user to assign the desired name for the calling number, which is provided by Central Office, CCIS or ISDN feature, using the MAT command. The assigned name is displayed on the LCD of the D^{term} and the Desk Console.

Operating Procedure

No manual operation is required.

Service Conditions

1. When the calling number is not received, the assigned name cannot be displayed.
2. The calling number for this feature is assigned to the parameter CID of ACID command. When only the first part of the calling number is assigned to the CID, the corresponding name is applied to any calling number that begins with the assigned number. For example, when "1471" is assigned to the CID, the calling name assigned for the number is applied to any calling number that begins with 1471, such as 1471-12-3456 or 1-471-234-5678.
3. The following numbers cannot be assigned to the parameter CID of ACID command:
   a.) The first part of the already assigned number,
   b.) The number whose first part is the same as the already assigned number
      For example, when "123" is already assigned to the CID, such as number as "1", "12", and "1234" cannot be assigned.
4. When a calling number is sent via CCIS line, this feature is available for the first 16 digits only.
5. The name display is available only when a call directly terminates to a D^{term} from the trunk received the calling number. For example, the assigned name is not displayed for the transferred call. However, in this case, the assigned name appears after the transferring party (an Attendant Console or a station) is disconnected.
6. If forwarding a call via CALL FORWARDING - BUSY LINE [C-2]/DON'T ANSWER [C-3]/ALL CALLS [C-5], the assigned name can be displayed only when the destination station is a D^{term}.
7. The assigned name cannot be displayed on the Attendant Console. Displaying the assigned name on Desk Console is available.
8. The assigned name cannot be output to the SMDR expanded area.
9. A maximum of 10,000 names for the calling numbers can be assigned in a system. However, this amount varies depending on the data capacity of CALL BLOCK [C-150] or the data memory capacity of the system.
10. This feature has priority over the current Caller ID service.
11. The display for OAI service has priority over the display for this service.

Service Conditions (cont'd)

12.   The Display patterns are shown below:

Display Pattern 1 (System Data 1, Index 390, b0=0, b1=0)

	8-digit Calling Number
24-digit Assigned name	

Display Pattern 2 (System Data 1, Index 390, b0=0, b1=1)

	Type of Call, Sub-address
24-digit Assigned name	

Display Pattern 3 (System Data 1, Index 390, b0=1, b1=0)

	8-digit Assigned Name
24-digit Calling Number	

Display Pattern 4 (System Data 1, Index 390, b0=1, b1=1)

	Type of Call, Sub-address
24-digit Calling Number	

13.   Characters of 8-bit ASCII can be displayed for this feature.

14.   When the feature key which assigned FKY = 113 via AKYD is pressed, the display pattern on the LCD (assigned by the ASYD command) changes according to the following conditions:

   •   When My Line is Prime Line, Call ID Change Display Key is effective while terminating or in conversation.
   •   When My Line is not Prime Line, Call ID Change Display Key is effective while in conversation.
   However, display pattern returns to the original setting when answering, holding, or transferring the call.

15.   When the received numbers of a calling number and characters of the assigned name exceed the display field, whether to put them close to the right or left may be chosen by system data. At this time an asterisk (*) is indicated on the exceeded digit position.

16.   The displayed number and characters flash when a call terminates and lights steadily during conversation.

17.   To display the Caller ID information on the D^{term} to which the called line is assigned as a sub line, the following hardware is required.

Circuit Card Name	Remarks
16ELCH	
16ELCJ	
PA-DAIA	

Service Conditions (cont'd)

18. The trunk mentioned below is available as for analog COT:

Circuit Card Name	Remarks
PA-8COTBJ	

19. When this feature is activated via FCCS, the same data should be set to all nodes.

Programming

STEP 1: **ASYD** - System Data 1, Index241, b6: Assign the data when the length of Caller ID exceeds the limit:

0/1 = Only the former/latter part of data appears on the LCD.

Index390,

b0: Assign the prior data to display

0/1: The Assigned Name/The Calling Number

b1: Assign the information displayed on the top line of the LCD

0/1: 0=Caller ID data

1=Call Type, Sub-address

b2: Enable to display Caller ID information on the D^{term} to which the called line is assigned as a sub line.

0/1: Out/In service

STEP 2: **ACID** - Assign the desired name against the calling number.

TYPE 3: Calling Party Number - Name Assignment and Display

CID: Caller ID Number

SRV3:1 Calling Party Number - Name Assignment and Display

NAME: 24 digits maximum

STEP 3: **AKYD** - Assign the Call ID display change key to a feature key. FKY = 113

STEP 4: **ADSL** - Assign the Call ID display change key to a soft key.

SN = 0, 3

FKY = 113

FCCS Programming

No unique programming is required for the FCCS network.

C-160 Call Trace

General Description

This feature enables the output of System Message [26-R], that gives information on a malicious call (kind of call, number of calling terminal, etc.) originated from a station/trunk. The feature is made available when an access code is dialed or the "Call Trace" key is pressed by the called user.

Note: *For details on the System Message [26-R], see the NEAX2400 IMX System Operations and Maintenance Manual.*

Operating Procedure

Dialing Access Code
- To output the System Message for an abandoned call:
1. After call termination, the calling party abandons the call.
2. The called party lifts the handset.
3. The called party dials the access code.
4. Information on the abandoned call is output as System Message [26-R].
- To output the System Message after the release of a call:
1. After call termination, the called party answers the call.
2. After speech, the called party releases the call.
3. The called party lifts the handset.
4. The called party dials the access code.
5. Information on the malicious call is output as System Message [26-R].

Using Soft/Feature Key
- To output the System Message for an abandoned call:
1. After call termination, the calling party abandons the call.
2. The called party lifts the handset.
3. The called party presses the "Call Trace" key.
4. Information on the abandoned call is output as System Message [26-R].
- To output the System Message after the release of a call:
1. After call termination, the called party answers the call.
2. After speech, the called party releases the call.
3. The called party lifts the handset.
4. The called party presses the "Call Trace" key.
5. Information on the malicious call is output as System Message [26-R].
- To output the system message while in speech:
1. After call termination, the called party answers the call.
2. While in speech, the called party presses the "Call Trace" key.
3. Information on the malicious call is output as System Message [26-R].

Note: *Details on LCD display (for the D^{term} Series E only) are as follows:*

24 digits display of a D^{term} Series E:
- When the CALL TRACE is set:

```
                    CALL REPORT
```

Operating Procedure (cont'd)

- When the CALL TRACE is assigned to the soft key:

The service display appears following the blank space for three characters.

PRT
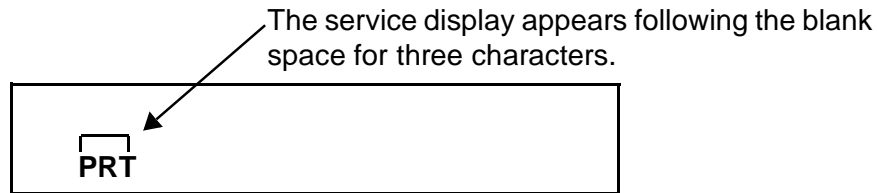
- When HELP key (Soft Key) is pressed:

Page 1

**CALL TRACING
THIS FUNTION REPORT
INFORMATION OF   >>>**

Page 2

**LAST CALLING NUMBER TO
ADMINISTRATOR
<<<**
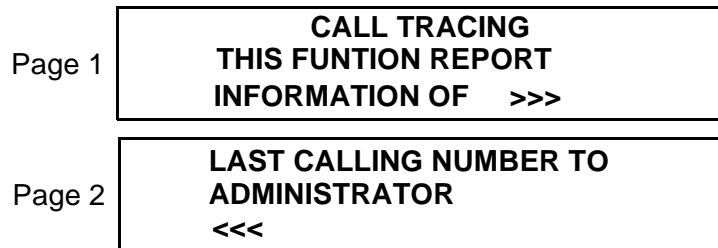
Service Conditions

1. This feature is made available via the stations, to which the following data is assigned via the ASFC command [SFI = 170 (Call Trace), RES = 1 (Service: Allowed)].

2. This feature can be activated by analog or D^{term} stations. Other terminals such as Wireless stations (PS), ISDN Terminals, and Attendant/Desk Consoles cannot provide this feature.

3. This feature is designed to get information on a terminated call (the last call terminated to a station line). CALL TRACE is not available for originating calls.

4. Because a D^{term} can contain multiple lines, the message output is executed on a line basis. Therefore, when activating this feature via an access code, use the line that actually handled the target call.

5. When a call is terminated via a transfer (i.e. the call is transferred from other station), the System Message [26-R] shows the information only related to the immediate station (the party who transferred the call). Information about the first originated call cannot be obtained.

6. The following are the conditions for System Message [26-R].
    a.) Each data is output in hexadecimal, giving details from the first digit.
    b.) When the message data contains "A", "B", "C" or "0", the actual meaning is as follows:
    A   =   0
    B   =   *
    C   =   #
    0   =   blank
    c.) Date/Time data is based on the actual date and time when the access code is dialed.

Service Conditions (cont'd)

    d.) The maximum digits for each data are as follows:

Data	Maximum Digits
FPC	3
Tenant Number	3
Station Number	6
UGN	3
Telephone Number	16
Trunk Call Number	32

    e.) When the called station does not have the telephone number, the FPC/Telephone Number/UGN data is output as "0".

    f.) When the calling party is the station which does not have the telephone number, the Tenant Number/FPC/Telephone Number/UGN data is output as "0". The kind of call is output as "10".

    g.) If the number of the trunk call (Caller ID) cannot be identified, the Trunk Call Number data is output as "0". The kind of call is displayed as "20".

7. When the call is terminated via the No. 7 CCIS, the obtainable calling party numbers are:
   - Maximum 8 digits (when CI (route data) = 0)
   - Maximum 16 digits (when CI (route data) = 1)

   System message is output at the node that the called station (informer) belongs to.

8. Unless the message output is set on a network basis, System Message [26-R] is created at the node which contains the called station (informer).

9. The default message output grade is shown below:

	MJ	MN	SUP	GR
26-R	—	—	—	2

10. To obtain the Caller ID via an analog trunk, be sure to use PA-8COTBJ. Other analog trunk cards cannot provide this feature.

11. This service is available with the Analog Caller ID Service.

Interactions

1. When the service DUAL STATION CALL [D-156] is used, a call can be terminated to a Main Station and a Sub Station simultaneously. At this time, the calling party information can be obtained only by the key operation from the Main Station side. Information to be obtained from the Sub Station is about the last call directly terminated to the Sub Station.

Programming

STEP 1: **ANPD/ANPDL/ANPDN** - Assign 1st digit code (1st DC) and number of necessary digits (NND) for feature access and cancel. CI = N (Normal).

STEP 2: **ASPA/ASPAL/ASPAN** - Assign the access code for CALL TRACE, CI = N (Normal), SRV = SSCA, SIDA = 116 (Output of System Message [26-R]).

STEP 3: **ASFC** - Assign a Service Feature Class to allow CALL TRACE for the stations, SFI = 170, RES = 1 (Restriction: lifted).

Programming (cont'd)

STEP 4: **AKYD** - Optional. Assign the CALL TRACE data to a Feature Key on the D^{term}, FKI = 1 (Feature Key), FKY = 129 (CALL TRACE).

STEP 5: **ADSL** - Optional. Assign the following to use a Soft Key on the D^{term} Series E for CALL TRACE:

SKP: 0 - 15 (Soft Key Pattern)

SN = 1 [DT], 4 [Communication in Progress] (Status Number)

SKN: 1 - 16 (Soft Key Number)

FKY = 129 (CALL TRACE)

STEP 6: **ADKS** - Assign the following to use a Soft Key on the D^{term} Series E for CALL TRACE:

TN: Tenant Number

STN: Station Number

SKP: 0 - 15 (Soft Key Pattern assigned in STEP 5)

LKP: 1 - 3 (Location of Key Pattern)

PG: 0/1 (LCD Page Change: Soft Key/Line Key)

FCCS Programming

No unique programming is required for the FCCS network.

D-2 Dial Access To Attendant

General Description

This feature allows a user to access the ATTENDANT CONSOLE [A-3] by dialing the operator call code.

Operating Procedure

To access the Attendant:
1. The user dials the operator call code; receives ringback tone.
2. The ATND lamp for the INCOMING CALL IDENTIFICATION [I-2] flashes; Attendant answers the call.

Service Conditions

1. The operator call code will be a maximum of 6 digits. Normally "0" should be assigned as the operator call code.
2. All stations, including fully restricted stations, can originate a call to the Attendant.
3. If TENANT SERVICE [T-12] is provided, each tenant group may access their own ATTENDANT CONSOLE [A-3] via the same code.
4. This feature allows any user or dial repeating TIE Line trunk to reach the ATTENDANT CONSOLE [A-3] by dialing an operator call code, usually but not necessarily a "0". The ATTENDANT CONSOLE [A-3] may complete these calls to trunk facilities if allowed by the station's CLASS OF SERVICE [C-15]. There is no restriction on the ATTENDANT CONSOLE [A-3] extending a station call to another station.
5. The Fusion Point Code (FPC) of the node which accommodates the called Attendant Console must be assigned after system data assignment.

Interactions

1. Stations will terminate to the Attendant Console located in the same tenant when the station dials "0".
2. Stations in Tenant A will terminate to the Attendant Console of Tenant B if Tenant A is not equipped with an Attendant Console. Tenant B's Attendant Console must be programmed to accept calls from Tenant A.
3. Stations may dial the ASAT number to terminate at a specific Attendant Console. See INDIVIDUAL ATTENDANT ACCESS [I-6].
4. When the system is in the night mode, a station dialing "0" can be answered by the assigned ATTENDANT NIGHT TRANSFER [A-19] station, if provided. However, when the ASAT number is dialed in the Night mode, reorder tone is returned. No connection to the ATTENDANT NIGHT TRANSFER [A-19] is allowed.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N) and Hooking (H). Assign the NND in accordance with a predetermined numbering scheme. Usually level "0" is assigned for the Attendant Console.

STEP 2: **ASPA** - For access code "0", assign SRV = SSC (Service Code) SID = 2 for Operator Call. Assign for a Connection Index (CI) of Normal (N) and Hooking (H).

STEP 3: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. TRI= 0 and TRI= 4.

STEP 4: **ASAT** - If required, assign a specific number to the Attendant Console. This number must be equivalent to a station number.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ASPAL** - This data must be assigned to the node calling the attendant.

SRV: SSC

SID: 2=Operator Call

FPC: FPC of the node that accommodates the called attendant console

D-3 Dictation Access

General Description

This feature permits users dial access to customer provided dictation equipment, and in some instances allows them to maintain telephone dial control of normal dictation system features.

Operating Procedure

1. Dial the DICTATION ACCESS code.
2. Proceed according to the dictation instructions provided by your organization.

Service Conditions

1. One trunk circuit is required for each DICTATION ACCESS.
2. Dictation equipment must be equipped to receive DTMF tone signals if dial control is desired.
3. Dictation equipment must be customer provided.
4. Dictation trunks can be used with rotary dial signals.
5. The dictation trunk can be accessed from a station, Attendant, tie line, or REMOTE ACCESS [R-2] trunk.
6. OUTGOING TRUNK QUEUING [O-2]: If OUTGOING TRUNK QUEUING is provided and the user dials a busy dictation trunk group, the station is placed in queue and is called back when the group becomes available.
7. THREE-WAY CALLING [T-2]: An attempt to access the DICTATION ACCESS trunk from a two-party connection is allowed.
8. Fully Restricted Station: With this feature assigned, only station-to-station and ATTENDANT CONSOLE [A-3] dial "0" calls are permitted. Any attempt to access the DICTATION ACCESS trunk is routed to reorder tone.
9. MISCELLANEOUS TRUNK RESTRICTIONS [M-3]: This feature prevents certain stations from using miscellaneous service trunks. Any attempt to access the DICTATION ACCESS trunk from a station with this feature assigned is routed to reorder tone.

Interactions

1. OUTGOING TRUNK QUEUING [O-2]: If OUTGOING TRUNK QUEUING [O-2] is provided and the user dials a busy trunk route, the station is placed in queue and is called back when a trunk in the route becomes available. If the trunk route is part of a ROUTE ADVANCE [R-6] group, all trunks in the ROUTE ADVANCE [R-6] group must be busy before queuing takes place. OUTGOING TRUNK QUEUING [O-2] is available on DICTATION ACCESS.
2. THREE-WAY CALLING [T-2]: An attempt to conference the DICTATION-ACCESS trunk from a two-party connection may be allowed. This depends on assignments in the ARSC command.
3. MISCELLANEOUS TRUNK RESTRICTION [M-3]: This feature prevents certain stations via Route CLASS OF SERVICE-INDIVIDUAL [C-15] from using various routes in the system. If a station is restricted, any attempt by a station to access the DICTATION ACCESS results in reorder tone.

Note: *This feature may be installed on the station side of the switch. In that case, the PA-16LC may be used. However, when installed on the station side, Route Restrictions are not available to the system programmer. All stations within the system (tenant restrictions excluded), as well as stations in other PBXs connected via a TIE Line, will have access to the dictation equipment.*

Interactions (cont'd)

4. If the station side is used to connect DICTATION ACCESS, STATION HUNTING [S-7, 8, 9] will provide capabilities to connect multiple dictation machines to the system.

Programming

STEP 1: **ANPD** - Reserve a number level for station access. Assign for Normal (N) and Hooking (H). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code to the DICTATION ACCESS trunk, SRV = OGC (Outgoing Call). Correlate access code to route. One trunk per announcement route. Assign CI: of N and H.

STEP 3: **ARTD** - Assign the DICTATION ACCESS route as follows:

RT:1

1-OSGS	:2	2-0NSG	:3	5-TF	:1	6-TCL	:10	7-L/T	:1
8-RLP	:2	44-PRV	:1						

STEP 4: **ATRK** - Assign the LENs, DICTATION ACCESS trunk route number, trunk number, and tenant number.

STEP 5: **MBTK** - Assign the Make Idle status to the DICTATION ACCESS trunk.

Note: *If supervision is required, use the first two circuits of the 16COT circuit card. Move the switch on 16COT to PGT.*
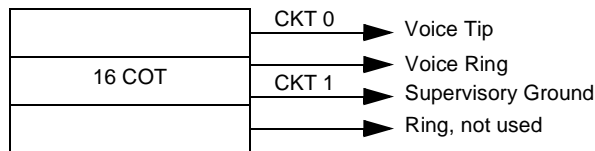
STEP 6: **ARRC** - If TIE Line or Remote Access connection to DICTATION ACCESS trunk is required, allow trunk-to-trunk connection using ARI-D-RES, Direct Connection.

Note: *The DICTATION ACCESS equipment may be installed on the line side of the PBX. The connection would then be considered as a STATION-TO-STATION CALLING [S-11].*

STEP 7: **ARSC** - Allow RRI 3 to the RSC's allowed access to Dictation.

D-5 Digital Display - Station

General Description

This feature provides the Attendant with a visual display (via the ATTENDANT CONSOLE [A-3]) of the telephone number, its Trunk Route Restriction, CLASS OF SERVICE - INDIVIDUAL [C-15] and TENANT [T-12] number during Attendant-to-station connection.

Operating Procedure

The DIGITAL DISPLAY STATION is automatically activated whenever the Attendant answers an incoming call from a station, or originates a call to a station.

Service Conditions

1. The telephone number is displayed on the right side of the ATTENDANT CONSOLE [A-3] digital display. Trunk Route Restriction CLASS OF SERVICE - INDIVIDUAL [C-15] and TENANT [T-12] number are simultaneously displayed on the left. See Example 1 below.

    Example 1:
    Single-digit Trunk Route Restriction CLASS OF SERVICE - INDIVIDUAL [C-15] and TENANT [T-12] number; 4-digit telephone number.

    TENANT NUMBER   ROUTE RESTRICTION CLASS   TELEPHONE NUMBER
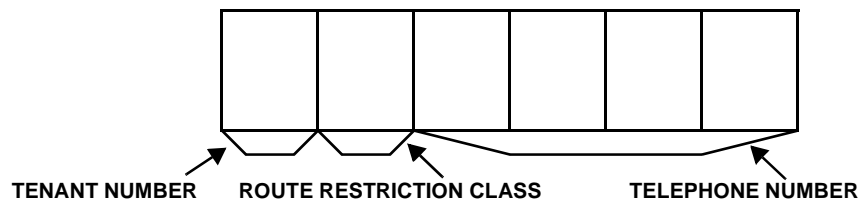
2. If the Trunk Route Restriction Class and/or TENANT [T-12] number are two digits, only the telephone number may be displayed. Refer to Example 2.
3. If a station dialed by the Attendant is busy or in the LINE LOCKOUT [L-3] mode, only the telephone number will be displayed.
4. The ATTENDANT CONSOLE [A-3] digital display is limited to a 6-digit numeric display. Since the Class of Service and trunk routing display is in numeric form, a list must be provided to the Attendant explaining the restrictions of each Class of Service number and trunk identification number.
5. CALL FORWARDING [C-2, 3, 5]: When this feature is activated by (or for) the called station, the terminating telephone number is indicated on the digital display rather than the called telephone number when the Attendant extends a call.
6. STATION HUNTING [S-7, 8, 9]: When this feature is applied because of the called station being busy and the station belonging to a hunt group, the terminating telephone number is indicated on the digital display rather than the called telephone number when the Attendant extends a call.
7. In the case of a 3 or 4-digit station-to-station numbering plan:
    a.) 1 digit is used to identify the tenant (in the case where 2 digits are required for Class of Service, the tenant number is not identified).
    b.) 1 or 2 digits are used to identify the station Class of Service.
    c.) 4 digits are used to display the telephone number.
8. The DIGITAL DISPLAY - STATION feature will occur whenever the Attendant:
    a.) extends an incoming call to a user.
    b.) originates a call to a user.

Service Conditions (cont'd)

c.) answers a Recall or Call Forwarded call.

Example 2: 2-digit TENANT [T-12] number, 4-digit telephone number.

1	0	2	2	2	2

TENANT NUMBER   **TELEPHONE NUMBER**
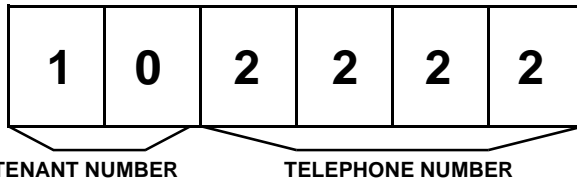
Example 3: 2-digit Trunk Route Restriction Class, 4-digit telephone number.

1	0	2	2	2	2

TENANT ROUTE
RESTRICTION CLASS   **TELEPHONE NUMBER**
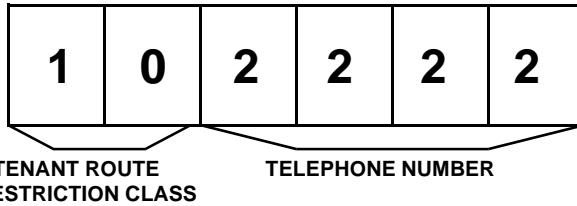
Example 4: Single digit TENANT [T-12] number, 5-digit telephone number.

1	2	5	0	0	1

TENANT NUMBER   **TELEPHONE NUMBER**
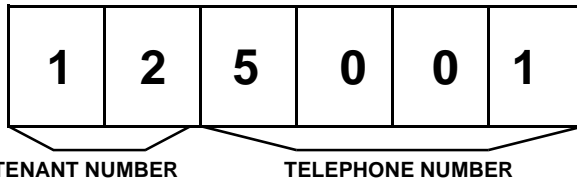
Example 5: Single digit Trunk Route Restriction Class, 5-digit telephone number.

1	2	5	0	0	1

TRUNK ROUTE
RESTRICTION CLASS   **TELEPHONE NUMBER**
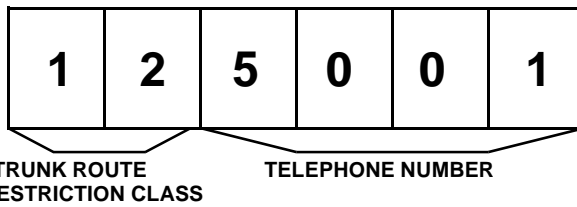
Example 6: When 5-digit station numbering is used within the system, only the telephone number is displayed.
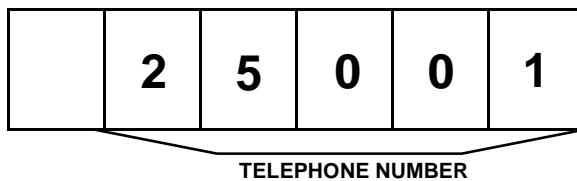
2	5	0	0	1

TELEPHONE NUMBER

9. For the FCCS network, when a telephone number has been assigned for a station, it is displayed on the Attendant Console. However, if a telephone number is 7 digits or more, Physical Station Number is displayed.

Programming

ASYD - System Data 1, Index 82, Bits 0-3. Assign a hex value according to the choice.

HEX - Station Information

    0: TN + CLS + 4-digit Station Number

    1: TN + 4-digit Station Number

    2: RSC + 4-digit Station Number

Programming (cont'd)

    3:   TN + 5-digit Station Number

    4:   RSC + 5-digit Station Number

    5:   Station Number

FCCS Programming

No unique programming is required for the FCCS network.

D-6   Digital Display - Trunk

General Description

This feature provides the Attendant with a visual indication of incoming and outgoing trunk calls on the ATTENDANT CONSOLE [A-3]. Trunk identification number, trunk route number, and TENANT [T-12] number, or Central Office trunk code, are displayed in a numerical readout.

Operating Procedure

The DIGITAL DISPLAY TRUNK is automatically activated whenever the Attendant answers an incoming trunk call or originates a trunk call.

Service Conditions

1. By pressing the loop key of a call that is in the ATTENDANT CAMP-ON [A-1] mode and using the DEST key, the Attendant can determine both trunk and telephone number onto which the call is camped.

2. The trunk identification number is displayed on the right side of the ATTENDANT CONSOLE [A-3] display while TENANT [T-12] and trunk route numbers are simultaneously displayed on the left.

    Example 1:

1		2		1	5

    Tenant Number (1 digit)   **Route Number** (2 digits)   **Trunk Identification Number** (3 digits)

    Example 2:

		9	7	0	0

    Example 3:

1	1	1	1	2	2

    Route Number (3 digits)   **Trunk Identification Number** (3 digits)
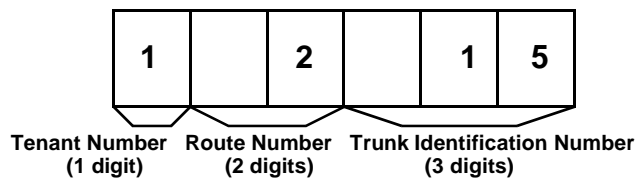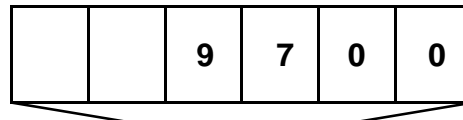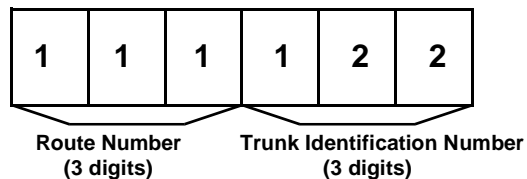
3. If the Trunk Route Number is three digits, the Trunk Identification Number and Trunk Route Number are displayed.

4. The ATTENDANT CONSOLE [A-3] digital display is limited to a 6-digit numeric display. Since the Class of Service and trunk routing display is in numeric form, a list must be provided to the Attendant explaining the restrictions of each Class of Service number and trunk identification number.

5. The DIGITAL DISPLAY - TRUNK feature displays trunk routing information or a 4-digit C.O. line number. The method used can be optionally selected on a per-trunk group basis.

6. The DIGITAL DISPLAY - TRUNK feature will occur whenever the Attendant answers/originates:

    a.) an incoming C.O. (DID, Bothway, Oneway, FX, WATS) type call.
    b.) an incoming TIE Line call.
    c.) an intercept call.
    d.) an outgoing C.O. (DOD, WATS, FX) type call.

Service Conditions (cont'd)

        e.) an outgoing TIE Line call or re-enters a held trunk call.

7. An Attendant Console also indicates the C.O. code assigned by System Data at each node in the FCCS network.

Programming

STEP 1: **ASYD** - System Data 1, Index 68, Bit 1. Type of INDIVIDUAL TRUNK ACCESS, 0/1: Route and Trunk Number/Central Office Code.

Note: *If System Data 1, Index 68, Bit 1 is assigned for the Individual Trunk Access to be the ACOC code, then all of the trunks in all of the routes in the system must have the ACOC code assigned.*

STEP 2: **ARTD** - In CND 25:R/L, if data "0" is assigned, then tenant, route number, and trunk number are displayed. If data "1" is assigned, then Central Office code is displayed. The ACOC command must be assigned.

Note: *For display purposes only, Route and Trunk numbers and Central office codes may be used simultaneously in the same system and are applied on a per-route basis, CDN 25:R/L.*

Route and Trunk Number

STEP 3: **ATRK** - The route and trunk number assigned here provides the system with specific information on types of routes and their associated trunks, LENs, number of tenants, and any CLASS OF SERVICE-INDIVIDUAL [C-15] route restriction information.

Central Office Code

STEP 4: **ACOC** - Each trunk must be assigned a Central Office code.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARTDN** - In CND 25:R/L, if data "0" is assigned, then tenant, route number, and trunk number are displayed. If data "1" is assigned, then Central Office code is displayed. The ACOC command must be assigned.

STEP 2: **ACOCN** - Each trunk must be assigned a Central Office code.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

D-7 Direct-In Termination (DIT)

General Description

This feature automatically routes incoming public network calls directly to a pre-selected station without Attendant assistance. The call can then be processed by the called party. THREE-WAY CALLING [T-2], CALL TRANSFER [C-10], etc., are handled in the same manner as any normal trunk call.

Operating Procedure

The calling party, outside the system, dials the desired number as usual. However, the call is answered directly at a predetermined station, bypassing the ATTENDANT CONSOLE [A-3].

Service Conditions

1. Any group(s) of trunks can be used, up to the maximum capacity of the NEAX2400 IMX.
2. Bothway trunks can be used for DIRECT-IN TERMINATION, but incoming only trunks are recommended.
3. It is not necessary to have special DID trunk connections to the public network as is required with DIRECT INWARD DIALING [D-8]. However, care should be exercised in the application of Central Office trunk hunting.
4. If the DIT station is busy, the incoming call is kept ringing until the DIT station becomes idle, or forwarded to the ATTENDANT CONSOLE [A-3].
5. If there is no answer at a station, the calling party will continuously receive ringback tone. There is no AUTOMATIC RECALL [A-8] to the Attendant in this case.
6. If the station is assigned to a STATION HUNTING [S-7, 8, 9] group, the incoming call will follow the hunt group station assignment. If the station is in a CALL FORWARDING [C-2, 3, 5] mode, the incoming call is connected to the CALL FORWARD target station.
7. This feature is normally used where direct-in service is required on a limited basis. The number of stations serviced is effectively limited to the number of trunks available for DIRECT-IN TERMINATION.
8. DIRECT-IN TERMINATION is mutually exclusive with NIGHT CONNECTION - FIXED [N-1].
9. DIT trunks can be programmed to terminate elsewhere in the Night mode.
10. When the system is in the Night mode of operation and the DIRECT-IN TERMINATION (DIT) station is busy, the call will divert to TAS if provided, otherwise, the call will wait on the busy station until it becomes idle.
11. More than one trunk can be arranged for DIRECT-IN TERMINATION to a particular station line.
12. The DIT call can terminate to a DO NOT DISTURB [D-11D] station.
13. When a DIT call terminates to a restricted station or a station setting CALL FORWARDING - ALL CALLS [C-5]/BUSY LINE [C-2], or MULTIPLE CALL FORWARDING - ALL CALLS [M-44] / BUSY LINE [M-24] to a restricted station, the call is routed to the Attendant and terminates at the "ICPT" key on the ATTENDANT CONSOLE [A-3].

Note: *This service can be activated in system data.*

14. After a call is answered, it can be processed by the called station like any normal trunk call.
15. Only the telephone number is available for the destination station assignment when activating this feature via FCCS.
16. When activating this feature via the FCCS network, this feature is activated by data in the LDM of the node accommodating the terminated COT.

Service Conditions (cont'd)

17. When activating this feature via the FCCS network, when the telephone number of the destination station is deleted:
    a.) When the Attendant Console is used, the DIT call terminates to the Attendant Console.
    b.) When the Attendant Console is not used, or if the Attendant Console is in night mode, the caller hears ringback tone.
18. When activating this feature via the FCCS network, a DIT call cannot be queued while all the FCCS links are busy. Calling party receives ringback tone at that time and after the FCCS link is restored to idle.
19. When activating this feature via the FCCS network, the different destination for C.O. incoming call (ring down) cannot be set at each tenant group.

Interactions

1. Night DIT service is NIGHT CONNECTION - FIXED [N-1]. The NIGHT CONNECTION - FIXED/ FLEXIBLE [N-1, 2] feature can be used to simulate a DIT application.
2. When using NIGHT CONNECTION - FIXED/FLEXIBLE [N-1, 2], if the station is busy, the call will divert to TRUNK ANSWER ANY STATION [T-8], if provided. If not provided, the call will queue at the busy station until it becomes idle.
3. The DIRECT-IN TERMINATION trunk is limited to the following types:
    a.) DDD
    b.) FX
    c.) WATS
    d.) CCSA
4. All CALL FORWARDING [C-2, 3, 5] features may be used in conjunction with DIRECT-IN TERMINATION. In the case of CALL FORWARDING - DON'T ANSWER [C-3], the call must physically be ringing the DIT station. Call Forwarding is only available from a ground start DIT trunk.
5. STATION HUNTING [S-7, 8, 9] and UNIFORM CALL DISTRIBUTION (UCD) [U-1] may be used with DIRECT-IN TERMINATION.

Programming

STEP 1: **ASYD** - System Data 2, Index 11, Bit 7. Will the DIT call to a busy station be routed to the Attendant Console, or will it queue to the busy station? 0/1: Attendant Console/Queue. Assign on a per-tenant basis. If the call goes to the Attendant Console, it will ring in on the BUSY or ICPT key.

System Data 1, Index 147. DIT supervisory timer for a busy station. How often will the CPU look at the Idle/Busy status of the station for rerouting the DIT call to the destination? This index works when System Data 2, Index 11, Bit 7 is 1.

STEP 2: **ARTD** - Assign the DIRECT-IN TERMINATION route as shown below:

GROUND START:

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:2
6-TCL	:1	7-L/T	:1	8-RLP	:2	15-LSG	:1		

LOOP START:

RT:1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:2
6-TCL	:1	7-L/T	:1	8-RLP	:2				

STEP 3: **ATRK** - Assign the LENs, DIT Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the DIT trunk.

Programming (cont'd)

STEP 5: **ARSC** - The DIT target station receiving the call must be assigned a Route Restriction Class (RSC), allowing the station to be connected to the trunk. The DIT route must be allowed via Route Restriction Indexes (RRI) 0 & 1.

STEP 6: **ACFR** - Designate the type of incoming Call Class Indexes (CCI) that require a Transfer Service Feature Index (TSFI) = 3, DIRECT-IN TERMINATION. The type of CCI must match CDN 6 of the DIT route. For Night DIT (NIGHT CONNECTION-FIXED [N-1]), allow the CCI a TSFI = 2, NIGHT CONNECTION-FIXED [N-1].

For Day and Night DIT Service-Same Station

STEP 7: **ACSI** - Assign the Route Number, Trunk Number, and Connection Service Index = 3 for DIT. Then assign the Tenant Number and Station Number to serve as the DIT station.

For Day DIT Service

STEP 8: **ACSA** - Assign the Route Number, Trunk Number, Connection Service Index A = 2 for DIT. Then assign the Tenant Number and Station Number to serve as the DIT station.

For Day and Night DIT Service-Different Stations

STEP 9: **ACSI** - Assign the Route Number, Trunk Number, Connection Service Index = 4 for NIGHT CONNECTION-FIXED (DIT) [N-1]. Then assign the Tenant Number and Station Number to serve as the DIT station.

Night DIT Only

STEP 10: **ASCI** - Assign the Route Number, Trunk Number, Connection Service Index = 4 for NIGHT CONNECTION-FIXED (DIT) [N-1]. Then assign the Tenant Number and Station Number to serve as the DIT station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ACSIL** - This command must be assigned to the node accommodating the COT. Assign the logical route number (LGRT), trunk number, and Connection Service Index (CSI) = 3 for DIT activated in Day and Night mode or 4 for DIT activated in Night mode. Then assign the user group number (UGN) and Telephone Number to serve as the DIT station.

STEP 2: **ACSAL** - This command must be assigned to the node accommodating the COT, when setting the DIT service in day only or different DIT station is used in day and night. Assign the logical route number (LGRT), trunk number, and Connection Service Index A (CSIA) = 2 for DIT activated in Day mode. Then assign the User Group Number (UGN) and Telephone Number to serve as the DIT station.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command:*
The command to be set to the node accommodating the COT: ASYD/ARTD/ATRK/MBTK/ARSC/ACFR.

D-8 Direct Inward Dialing (DID)

General Description

This feature provides for all incoming calls from the public network (except FX or WATS) to reach any system station without Attendant assistance.

Operating Procedure

The calling party, outside the system, dials the telephone number as usual. However, the call is answered directly at a predetermined station, bypassing the Attendant.

Service Conditions

1. This feature requires that special DID trunks and telephone numbers be obtained through the local telephone company.

Note: *Not all telephone company Central Offices are capable of providing this service.*

2. If the Central Office numbering plan differs from the user's station numbering plan, addition or deletion of digits can be implemented to coincide with the existing numbering plan.
3. This feature is normally used when DIRECT-IN service is desired on an extensive or system-wide basis.
4. DID is also frequently referred to as CENTREX service.
5. If the called station is non-existent, the DID call is automatically routed to the Attendant or another predesignated station. Calls to invalid numbers can be routed to an Attendant or to a recorded announcement. See CALL FORWARDING - INTERCEPT/ANNOUNCEMENT [C-25].
6. Wink-start or delay-start signaling is recommended for use in conjunction with this feature.
7. The DID trunk contains a switchable 2db transmission pad that is switched in or out via software control.
8. If DID trunk is immediate start, dial pulse is required.

Interactions

1. Incoming calls have priority over outgoing calls. When a register is assigned as an Outgoing Register Trunk (ORT), it will also act as an Incoming Register Trunk (IRT) if no IRTs are available. Therefore, ORTs can act as IRTs, but if IRTs are programmed, they will not act as ORTs.
2. If immediate Start DID trunks are required, Incoming Register Trunks must be programmed in the same local processor as the DID trunks.
3. CALL FORWARDING [C-2, 3, 5]: When a station has activated a Call Forwarding feature (CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2], CALL FORWARDING - DON'T ANSWER [C-3]), the DID call is forwarded to a designated station rather than to the specific station dialed.
4. STATION HUNTING [S-7, 8, 9]: If the called station is arranged for this feature and is busy, the call follows any prescribed hunting pattern.
5. CALL WAITING - TERMINATING [C-12]: If the called station has the Call Waiting - Terminating feature, Call Waiting ringback tone to the calling party is provided when the called station is busy. The called station hears a 2-burst Call Waiting Tone. Call Waiting is allowed in CDN 46:CW, of ARDT command.
6. On an incoming call to a busy station, the Call Forwarding feature takes precedence over the Station Hunting feature, and the Station Hunting feature takes precedence over the Call Waiting feature.
7. The PA-8TLT circuit card provides interface capabilities for eight DID circuits.

Programming

STEP 1: **ASYD** - System Data 1, Index 16, Bit 3. Enable the 4-digit station number. It is normal to enable all options regarding length of station numbering. Assign data 1FH.

System Data 1, Index 65. Assign the number of routes in the system.

System Data 1, Index 70, Bit 0. Is Calling Number for a DID incoming to the Attendant in service? 0/ 1: No/Yes.

STEP 2: **ARTD** - Assign the DIRECT INWARD DIALING route as shown below:

RT:1

3-ISGS	:7	4-INSG	:3	5-TF	:2	6-TCL	:5*	7-L/T	:1
8-RLP	:2	15-LSG	:8	28-ANS	:1	46-CW	:1		

Note: **This can be assigned as data 1, DDD*

STEP 3: **ATRK** - Assign the LENs, DID Trunk Route Number, Trunk Number, and Tenant Number.

Assign the LENs and Incoming Register Trunk Route number (903). The LENs must be for levels 0-3 for any 8RST circuit card. (See Interactions.)

STEP 4: **MBTK** - Assign the make idle status to the DID and Incoming Register Trunks.

STEP 5: **ANPD** - Reserve a number level for station access. Assign for Normal (N) and Hooking (H) service. Number of Necessary Digits (NND) is usually four, and the Busy Lamp Field is activated.

STEP 6: **ASPA** - Assign the access code as assigned in ANPD above. Type of Service, SRV = STN (Station). Four is the number of digits usually required.

STEP 7: **ARSC** - The DID station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the incoming DID route. The DID route must be allowed via Route Restriction Indexes (RRI) 0 & 1.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARTDN** - Assign the DIRECT INWARD DIALING route as shown below:

RT:1

3-ISGS	:7	4-INSG	:3	5-TF	:2	6-TCL	:5	7-L/T	:1
8-RLP	:2	15-LSG	:8	28-ANS	:1	46-CW	:1		

STEP 2: **ANPDN** - Reserve a number level for station access. Assign for Normal (N) and Hooking (H) service. Number of Necessary Digits (NND) is usually four, and the Busy Lamp Field is activated.

STEP 3: **ASPAN** - Assign the access code as assigned in ANPD above. Type of Service, SRV=TELN. Four is the number of digits usually required.

STEP 4: **ARSCN** - The DID station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the incoming DID route. The DID route must be allowed via Route Restriction Indexes (RRI) 0 & 1.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

D-9   Direct Outward Dialing (DOD)

General Description

This feature permits any user to gain access to the public network without the assistance of the Attendant, by dialing an access code and receiving a second dial tone. The user may then proceed to dial the desired public network number.

Operating Procedure

To place an outside call:

1. Go off-hook; receive dial tone,
2. Dial the trunk access code (usually "9"),
3. Receive second dial tone from Central Office,
4. Dial the desired telephone number,
5. If the call is denied for any reason, reorder tone is heard.

Service Conditions

1. Outgoing connection restriction can be assigned on an individual station basis. Refer to CLASS OF SERVICE - INDIVIDUAL [C-15].
2. TOLL RESTRICTION - 3/6-DIGIT [T-7] may be applied to DIRECT OUTWARD DIALING.
3. Various types of trunks (FX, WATS, tie, CO, etc.) can be directly accessed using this feature.
4. The trunk group access code is limited to a maximum of three digits (only when the SPEED CALLING [S-3, 3D, 21, 23] service is required).
5. Use of the DOD feature can be denied on a per-trunk group basis when the following restrictions are active on the originating station line.
   - Fully Restricted Stations: Direct Outward Dialing attempts are routed to reorder tone when the station is fully restricted.
   - Restriction from Outgoing Calls: A station assigned this feature is denied the ability to dial-access preselected trunk groups.
   - HOT LINE [H-1]: Exchange network call completion using this feature is not permitted. The originating station can only be routed to the ATTENDANT CONSOLE [A-3] or another station when going off-hook.
   - MISCELLANEOUS TRUNK RESTRICTION [M-3]: Preselected station lines are denied access to preselected miscellaneous trunk groups, the station is routed to reorder tone when the station attempts to originate a call on the trunk group.
   - TOLL RESTRICTION: Level of this feature restricts unauthorized station lines' ability to complete outgoing Central Office or Foreign Exchange calls to specified areas or office codes within an area.
   - TOLL DENIAL: A station with Toll Denial is routed to reorder tone when a 0 or 1 is dialed as the first digit after the trunk access code has been dialed.
6. The outgoing call using a trunk in the remote node via FCCS link is available. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

Interactions

The COT circuit card is used for all ringdown trunks. This circuit card is equipped to interface with Central Office circuits and may be used for either loop start or ground start trunks.

Programming

STEP 1:   **ASYD** - System Data 1, Index 65. Assign the number of routes in the system.

STEP 2:   **ANPD** - Reserve a number level for outgoing trunk access. Assign for Normal (N) and Hooking (H). Assign NND in accordance with a predetermined numbering scheme.

STEP 3:   **ASPA** - Assign the access code as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the route number associated with the access code.

STEP 4:   **ARTD** - Assign the DOD route as shown below:

GROUND START:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :1 | 7-L/T | :1 |
| 8-RLP | :2 | 15-LSG | :1 | | | | | | |

LOOP START:

RT:1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :1 | 7-L/T | :1 |
| 8-RLP | :2 | | | | | | | | |

STEP 5:   **ATRK** - Assign the LENs, DOD Trunk Route Number), Trunk Number, and Tenant Number.

STEP 6:   **MBTK** - Assign the Make Idle status to the DOD trunks.

STEP 7:   **ARSC** - The Route Restriction Class must be constructed via RRI: 3, direct access, to allow the station access to the involved routes.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ANPDL** - Reserve a number level for outgoing trunk access. Assign for Normal (N) and Hooking (H). Assign NND in accordance with a predetermined numbering scheme.

STEP 2:   **ASPAL** - Assign the access code as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the logical route number associated with the access code.

STEP 3:   **ARTDN** - Assign the DOD route as shown below:

GROUND START:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :1 | 7-L/T | :1 |
| 8-RLP | :2 | 15-LSG | :1 | | | | | | |

LOOP START:

RT:1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :1 | 7-L/T | :1 |
| 8-RLP | :2 | | | | | | | | |

STEP 4:   **ARSCN** - The Route Restriction Class must be constructed via RRI: 3, direct access, to allow the station access to the involved routes.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

D-10 Distinctive Ringing

General Description

This feature provides distinctive station ringing patterns so that the user can distinguish between internal and external incoming calls.

Operating Procedure

No manual operation is required.

Service Conditions

1. This feature provides the following ringing patterns:
   a.) Ringing for Incoming Internal Call
   - When a Service Feature Class that allows Personal Ringer (ASFC command, SFI148) is assigned to a station:
   (RINGER PATTERN 1)
   Ringing for Incoming Internal Call to Pilot Number:
   2-second ring
   4-second silence
   (RINGER PATTERN 5)
   Ringing for Incoming Internal Call to Personal Number (ex. My Line): **(Note)**
   2-second ring (3 bursts)
   1-second silence

Note: *Personal Number means the telephone number allowed Personal Ringer function.*

   - When a Service Feature Class that restricts Personal Ringer (ASFC command, SFI148) is assigned to a station:
   (RINGER PATTERN 1)
   2-second ring
   4-second silence
   b.) Ringing for Incoming External Call:
   (RINGER PATTERN 0)
   1-second ring
   2-second silence
   c.) Recall Ringing for CALL BACK [C-1], CALL WAITING - ORIGINATING [C-31], or OUTGOING TRUNK QUEUING [O-2]:
   (RINGER PATTERN 1)
   2-second ring
   4-second silence
   Or
   (RINGER PATTERN 5)
   2-second ring (3 bursts)
   1-second silence

Note: *These timing parameters can be changed via the end users requirements (1-15 seconds).*

2. This feature may be assigned per-trunk route via System Data programming.
3. If an Off-Premises Station (OPX) or denied station is assigned to a station line, an option is available for that Class of Service to eliminate burst ringing signals.

Service Conditions (cont'd)

4. The DISTINCTIVE RINGING interruption rates can be optionally selected on a per-system basis. In this case, system initialization may be required.

5. An option is available on a per-trunk group basis to provide one-burst ringing on terminating calls.

6. When calling a third station (THREE-WAY CALLING [T-2], CONSULTATION HOLD [C-17], etc.), the ringing signal to the called station depends on the type of facility (station or trunk) on hold.

Interactions

1. CALL HOLD [C-6]: Recall ringing for CALL HOLD [C-6] can be distinguished between a held station call (2-burst ringing) from a held trunk call (1-burst ringing).

2. CONSULTATION HOLD [C-17]: Station A places Party B on CONSULTATION HOLD [C-17] and calls Station C. If Party B is a trunk, Station C hears DISTINCTIVE RINGING for a trunk call. If Party B is a station, Station C hears distinctive ringing for a station call.

3. When Personal Ringer function is set to a station, if an incoming internal call is terminated to the personal number and the call is transferred by CALL FORWARDING - DON'T ANSWER [C-3], Ringer Pattern of the transferred station varies depending upon the type of the telephone as shown below:

Type Of Transferred Station	Ringer Pattern
Analog Telephone	1
D^{term}	5

Programming

STEP 1: **ASYD** - System Data 1, Index 72, Bit 6. Is DISTINCTIVE RINGING applied to calls handled via the Attendant Console? 0/1: No/Yes. Otherwise, these calls will ring as station-to-station calls.

RINGER PATTERN 0 - Normally used for C.O. Calls.

System Data 3, Index 0. Timer Value for Ringer Pattern 0. Normally, data 21Hex (1 sec.-ON, 2 sec.-OFF) is assigned to this Index.

System Data 3, Index 3, Bit 0. 2-Burst (0.4 sec.-ON, 0.2 sec.-OFF, 0.4 sec.-ON) on the ON Time for Ringer Pattern 0. 0/1:Not Required/Required.

RINGER PATTERN 1

System Data 3, Index 1. Timer Value for Ringer Pattern 1. Normally, data 42Hex (2 sec.-ON, 4 sec.-OFF) is assigned to this Index.

System Data 3, Index 3, Bit 1. 2-Burst (0.4 sec.-ON, 0.2 sec.-OFF, 0.4 sec.-ON) on the ON Time for Ringer Pattern 1. 0/1:Not Required/Required.

RINGER PATTERN 5

System Data 3, Index 7. Timer Value for Ringer Pattern 5.

System Data 3, Index 3, Bit 5. 3-Burst (0.4 sec.-ON, 0.2 sec.-OFF, 0.8 sec.-ON, 0.2 sec.-OFF, 0.4 sec.-ON) on the ON Time for Ringer Pattern 5. 0/1:Not Required/Required.

System Data 1, Index 417, Bit 0. Recall Ringer Pattern for CALL BACK [C-1], CALL WAITING - ORIGINATING [C-31], and OUTGOING TRUNK QUEUING [O-2].

0/1:Ringer Pattern 5/Ringer Pattern 1.

STEP 2: **ARTD** - To provide a distinctive ring to specific routes, assign data "1" to CDN 12:DR.

Programming (cont'd)

STEP 3:   **ASFC** - Assign a Service Feature Class that allows SFI48, Burst Ringing, to PA-16LC port station that will not operate using DISTINCTIVE RINGING. With this feature, the system does not look at ASYD, System Data 3, Index 3, Bits 0 and 1 to determine how this telephone will ring. Telex, FAX machines, and OPX stations may require a longer ringing signal. Digital D$^{\text{term}}$s will not respond to this feature.

Assign a Service Feature Class that allows SFI 148 to the stations that activates Personal Ringer function. Personal Ringer function changes Ringing Pattern for Incoming Internal Call according to the called number as shown below:

Incoming Internal Call terminated to Pilot Number: RINGER PATTERN 1

Incoming Internal Call terminated to Personal Number (ex. My Line): RINGER PATTERN 5

D-11D   Do Not Disturb - D^{term}

General Description

This feature allows a user to establish DO NOT DISTURB status. Incoming calls will be denied access to MY Line, while DO NOT DISTURB status is in effect.

Operating Procedure

To set DO NOT DISTURB:
1.   Press the DO NOT DISTURB (DND) key. The associated LED will light. The LCD displays:

```
┌─────────────────────────────────┐
│  DND SET                        │
│              (Time Display)     │
│                                 │
└─────────────────────────────────┘
```

To cancel DO NOT DISTURB:
2.   Press the DO NOT DISTURB (DND) key. The LED will go out. The LCD displays:

```
┌─────────────────────────────────┐
│  DND CANCEL                     │
│                 (Time Display)  │
│                                 │
└─────────────────────────────────┘
```

Service Conditions

1.   This service can only be set or cancelled while the D^{term} is idle.
2.   Lines programmed to ring will not do so while this service is set.
3.   While DO NOT DISTURB is set, outgoing calls may be made. The user may answer other lines, excluding MY Line.
4.   DND is not displayed on the calling station's D^{term} when the called station is in the DO NOT DISTURB condition. Restriction (REST) appears on the display in place of DND; reorder tone is heard, and no indication will appear in the DO NOT DISTURB condition when the calling station is a HOTLINE [H-1].

```
┌─────────────────────────────────┐
│  REST                     XXXXX │
│            (Time Display)       │
│                                 │
└─────────────────────────────────┘
```

5.   A DND station in a HUNT GROUP [D-7, 8, 9] is skipped.
6.   CALL FORWARDING - BUSY LINE [C-2] can be activated for an idle station that has set DND.
7.   The following service features are denied to the DND station:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
VOICE CALL - D^{term}	[V-2D]

8.   When the user sets DO NOT DISTURB while engaged in a call, privacy is set. In this case, the following services will be restricted:

CALL WAITING TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]

Interactions

1. DO NOT DISTURB may be listed in some literature as available by a programmable Line/Feature key. A D^{term} ACD station is not equipped with a DND key. If DO NOT DISTURB is to be made available to this station, it must be programmed to a Line/Feature key.

2. DATA INTERFACE-AUTOMATIC ANSWER may be activated if the D^{term} station is in the DO NOT DISTURB mode.

Programming

STEP 1: **AKYD** - Assign the following key data for the D^{term}:

    TN: 1

    STN: Station Number

    TP: Type of D^{term} 0/1:

    RING: 0:   No Ringing

   ⟶   1:   Ringing All Lines

           2:    Ringing on Prime Line Only

           3:    Flexible Ring Assignment, enables RG parameter

    KYN: Key Number (1-40)

    KYI: Service Index

           0:    Key Not Used

   ⟶   1:   Feature Key

           2:    Multi-Line Key

    KD: Not assigned for Feature Key

    FKY: Feature key Number

    FKY: = 50, DO NOT DISTURB

STEP 2: **ADSL** - Assign SN=0 (Idle) and FKY=50 (Do Not Disturb; DND).

This command is used for assigning the function to each soft key.

STEP 3: **ASFC** - Select an indication type (REST/DND) on the display of a D^{term} when it terminates to a station that has been set DO NOT DISTURB.

    SFI: = 114, Calling Party DND Indication (D^{term})

    0/1:   REST/DND.

D-13D Dial Monitor - D^term

General Description

This feature provides for dialed digits to appear on the D^term LCD display.

Operating Procedure

1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Dial the desired number; the digits will appear in sequence on the LCD display.

Service Conditions

1. Digits appear from the right and move to the left as additional digits are dialed. A maximum of 16 digits can be displayed. If more than 16 digits are dialed, the first dialed digits will be dropped and the last dialed digit appears. This process continues until all digits have been dialed.
2. Digits also appear on the display when implementing SPEED CALLING - ONE TOUCH - D^term [S-26D], LAST NUMBER CALLED - D^term [L-6D] and SAVE AND REPEAT - D^term [S-24D].

Programming

No programming is required.

D-15   Day/Night Class of Service

General Description

This feature permits any station to be assigned one CLASS OF SERVICE - INDIVIDUAL [C-15], for day and another for night. System Data can be programmed so that once the ATTENDANT CONSOLE [A-3] has entered the NIGHT CONNECTION [N-1,2] mode, a station's CLASS OF SERVICE - INDIVIDUAL [C-15] will be automatically changed when required. Class may be upgraded or downgraded, and trunk groups normally controlled by the Attendant in the daytime may be opened to station control in the night mode.

Operating Procedure

This feature is controlled entirely via the ATTENDANT CONSOLE [A-3]. Pressing the NITE key or removing the handset changes the service class. Releasing the NITE key or replacing the handset restores normal CLASS OF SERVICE - INDIVIDUAL [C-15].

Service Conditions

1. DAY/NIGHT CLASS OF SERVICE may be assigned on a per tenant and per station basis.
2. DAY/NIGHT CLASS OF SERVICE may be assigned to different trunk restriction and service restriction classes.
3. Refer to CLASS OF SERVICE - INDIVIDUAL [C-15] for further details.
4. Night mode restriction classes can be set at any time by entering the related command on the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
5. When TENANT SERVICE [T-12] is provided with MULTIPLE CONSOLE OPERATION [M-4], the system can be programmed for either all ATTENDANT CONSOLEs [A-3] or primary ATTENDANT CONSOLE [A-3] to control activation of DAY/NIGHT CLASS OF SERVICE.
6. When DAY/NIGHT mode changeover occurs, tenant number, day/night mode of the tenant, status of the external switch, and cause of changeover are printed out on the alarm printer and MAT printer. (This service is determined by System Data.)
7. Day/night information of the unused tenant is not printed out.
8. A maximum of 14 tenants' information can be printed per message.
9. An example of printout format is shown below:

```
SYSTEM MESSAGE 17-H      [ ]    DAY/NIGHT CHANGE INFORMATION
      NEC ABIKO PLANT     FEB 11 23:45

1:0101    0101    0201    0101    2:0301    0101    0401    0101    3:0A02    0201    0B02    0201
4:0C02    0201    1001    0002    5:1101    0002    1201    0002    6:C001    0000    C101    0000
7:D001    0101    FF02    0101    8:0000    0000    0000    0000    9:0000    0000    0000    0000
```

Service Conditions (cont'd)

```
1:01 01 0 1 01
```

External Switch Status
1. Class Changeover
2. Night Station Changeover
3. Trunk call origination "Make Busy"
4. TAS night transfer
Day/Night mode (after changeover)
Day/Night mode (before changeover)
0. Day
1. Night 1
2. Night 2
3. Night 3
Cause of changeover
1. "NITE" key
2. External key
Tenant number
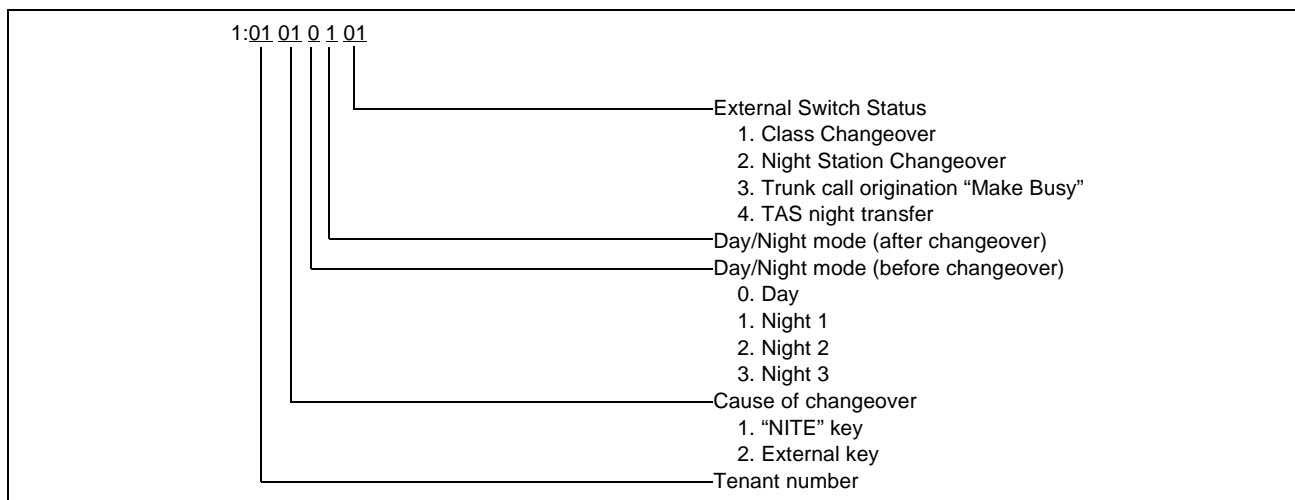
10. When the Attendant's NITE key or external switch is turned ON and OFF repeatedly, the messages printed out and the operation may not coincide, but the system message will represent the final day/night mode.

11. In the following cases, day/night mode is not changed when the external switch is turned ON, and only the system message is printed out:

   a.) When neither the ATTENDANT NIGHT TRANSFER [A-19] or TAS [T-8] is available, SYS2 INDEX 13 b1=1 (no check by Attendant at the time of day/night mode changeover), and the NITE key of Attendant indicates Day.

   b.) When neither ATTENDANT NIGHT TRANSFER [A-19] or TAS [T-8] is available, SYS2 INDEX 13 b1=0 (check by Attendant at the time of day/night mode changeover), and the NITE key of Attendant indicates Night.

12. When day/night mode changeover is activated by jack at the time System Data is SYS1, INDEX 77 b0=1 (day/night mode changeover by jack available), the cause of changeover is indicated as NITE key (=1).

13. This feature is to be controlled by the Attendant Console accommodated in the terminating node for the FCCS network.

14. Day/Night mode is changed by the destination node of the operator call assigned System Data for the FCCS network. **(Note)**

15. The node which does not accommodate the Attendant Console controls DAY/NIGHT mode of the self-node using the external key for the FCCS network.

16. The user can assign only one destination node from a node, even when the system is organized by more than one tenant.

Note: *The following Attendant Console Day/Night Mode Change methods are determined by System Data: By the Primary Attendant Console / By all Attendant Consoles*

Interactions

1. When assigning station data, assign the restriction classes desired to cause the station to upgrade, downgrade, or remain unchanged status of restriction class when going from Day to Night. If DAY/NIGHT CLASS OF SERVICE is not required, assign the commands normally.

2. The DAY/NIGHT CLASS OF SERVICE arrangements are based on the day/night operating status of the tenant.

Interactions (cont'd)

3. DAY/NIGHT CLASS OF SERVICE affects the following restrictions:
    - a.) Route Restriction Class (ARSC)
    - b.) Service Feature Class (ASFC)
    - c.) Toll Restrictions (ATDP)
    - d.) Tenant Restrictions (ATNR)
4. When TRUNK ANSWER FROM ANY STATION (TAS) [T-8] is installed, a station's Night RSC must allow access to the IC trunks. Also, the Night SFC must allow TAS, SFI 13.

Programming

STEP 1:   **ASYD** - System Data 1, Index 75, Bit 0. Are Route Restriction Class Pattern (ARSC command) tables to be developed for both Day and Night? 0/1: No/Yes.

System Data 1, Index 75, Bit 1. Are the Service Feature Class Pattern (ASFC command) tables to be developed for both Day and Night? 0/1: No/Yes.

System Data 1, Index 75, Bit 2. Are the Tenant Restriction Data Pattern (ATNR command) tables to be developed for both Day and Night? 0/1: No/Yes.

System Data 1, Index 75, Bit 3. Are the Toll Restriction Data (ATDP command) tables to be developed for both Day and Night? 0/1: No/Yes.

System Data 1, Index 77, Bit 0. Is Day/Night mode change accomplished by removing the handset from the ATTCON? 0/1: No/Yes.

System Data 1, Index 229, Bit 3. System message printout on changeover of the Day/Night mode? 0/1: Out/In Service.

System Data 2, Index 2, Bit 2. Is this a Primary ATTCON system? 0/1: No/Yes. (When Primary goes into Night, tenant goes into Night).

System Data 2, Index 2, Bit 3. Is this a normal ATTCON system? 0/1: No/Yes. (When all Attendant Consoles go into Night, tenant goes into Night).

STEP 2:   **ASFC** - Assign this command for both the Day and Night tables.

STEP 3:   **ARSC** - Assign this command for both the Day and Night tables.

STEP 4:   **ATNR** - Assign this command for both the Day and Night tables.

STEP 5:   **ATDP** - Assign this command for both the Day and Night tables.

STEP 6:   **ASID** - If ATTENDANT NIGHT TRANSFER [A-19] is needed, assign this command.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ASYDL** - This data must be set to all the nodes.

System Data 1, Index640. Assign the node of attendant console.

STEP 2:   **ASPAL** - These data must be set to the node that calls the attendant.

SRV: SSC

SID: 2=Operator Call

FPC: FPC of the node accommodates the attendant console

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

D-16 Direct Digital Interface

General Description

This service feature provides the capability to connect trunks from the NEAX2400 IMX directly to "T1" carrier links via either private or public network.
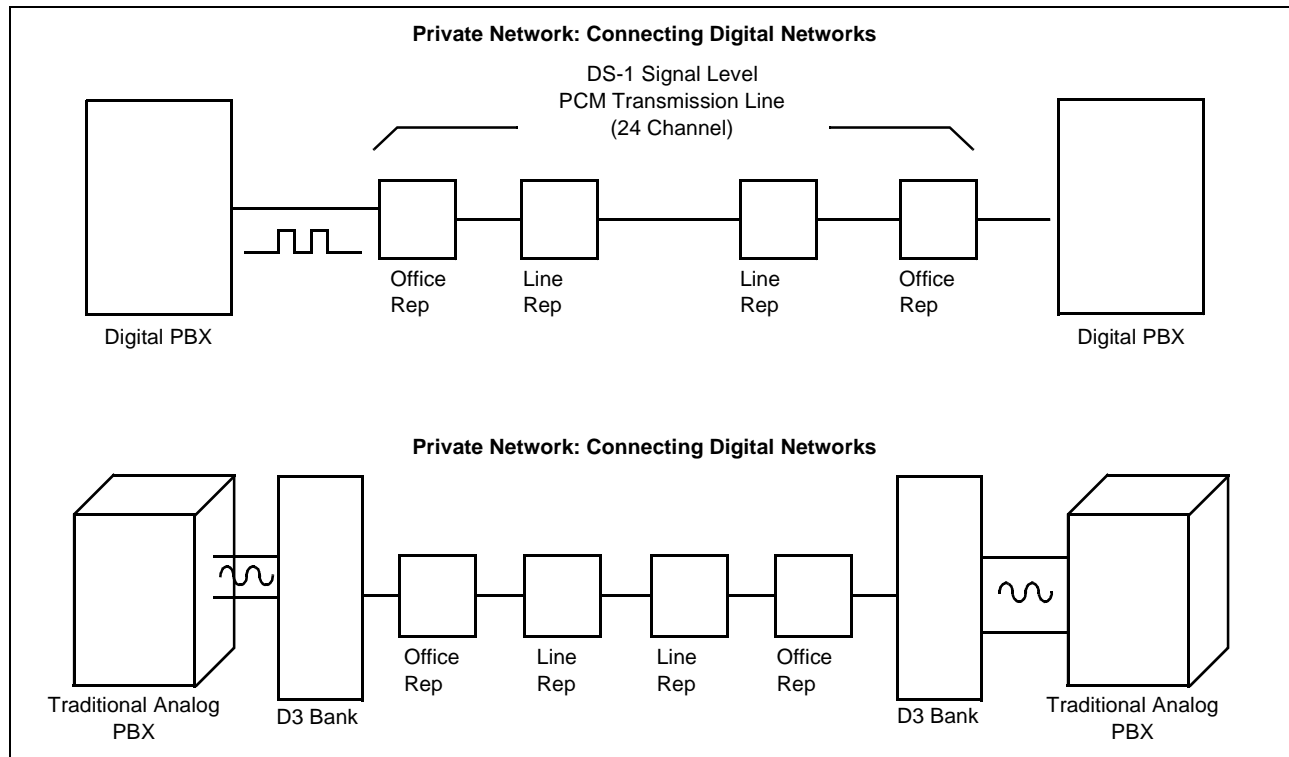
Operating Procedure

No manual operation is required.

Service Conditions

1. The DTI provides signalling interface, bipolar/unipolar conversion, frame synchronization, insertion/ extraction and alarm detection.
2. The Digital Interface Module can be provided with circuit cards to interface with "T1" carrier and/or CCITT standard networks.
3. The Digital Interface Module (DTI) is mounted in a Port Interface Module (PIM).
4. The following two methods may be used for network synchronization:
    a.) Source-Receiver System (Source)
    b.) Source-Receiver System (Receiver)
5. Each office hierarchy is defined as follows:
    a.) Source Office: One center will operate as the Source Office. This location has two highly stabilized source oscillators, and distributes the Source Clock to all the systems through the digital interface lines.

Service Conditions (cont'd)

      b.) Sub-Source Office: This office operates using a Phase Lock Oscillator (PLO) to synchronize with the clock at the Source Office. If the Source Clock has some failure, office can operate using its own backup oscillator.

      c.) Receiver Office: This office is arranged so it will have at least two clock routes, one for Receiver and the other for standby. Synchronization Clock is derived from incoming PCM bit stream from higher hierarchy offices.

      d.) Local Receiver Office: This is the end office in a digital network arrangement. This office will not be provided with a backup route for the PLO, because this office is the only one influenced in an event of trouble occurrence.

6.   Each NEAX2400 IMX can be equipped with a duplicate Phase Lock Oscillator used for network synchronization. Each PLO has 4 inputs to which clocks from the Source Oscillator or Digital Interface Module should be connected.
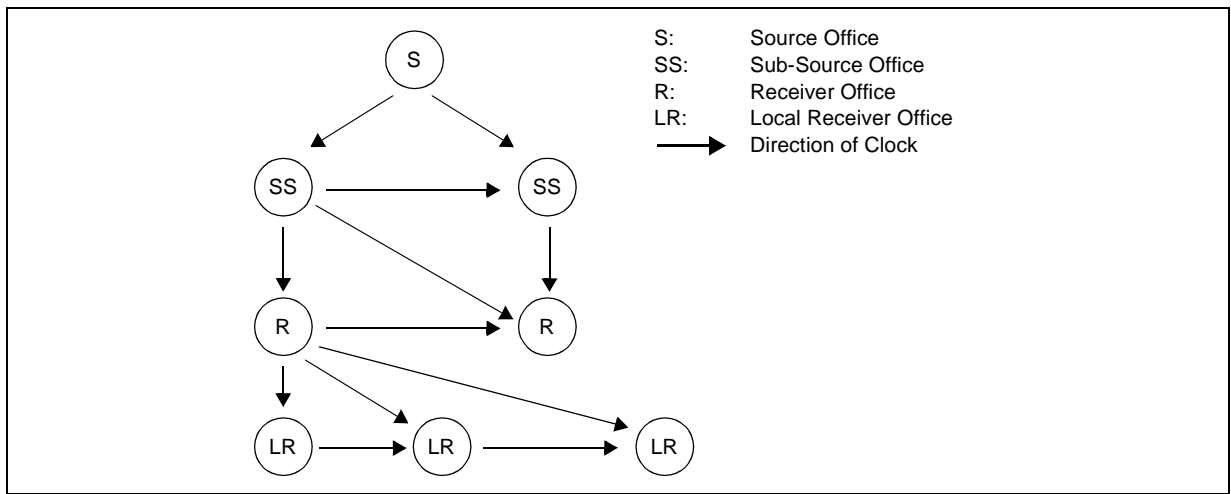
Network Clocking Hierarchy

Service Conditions (cont'd)
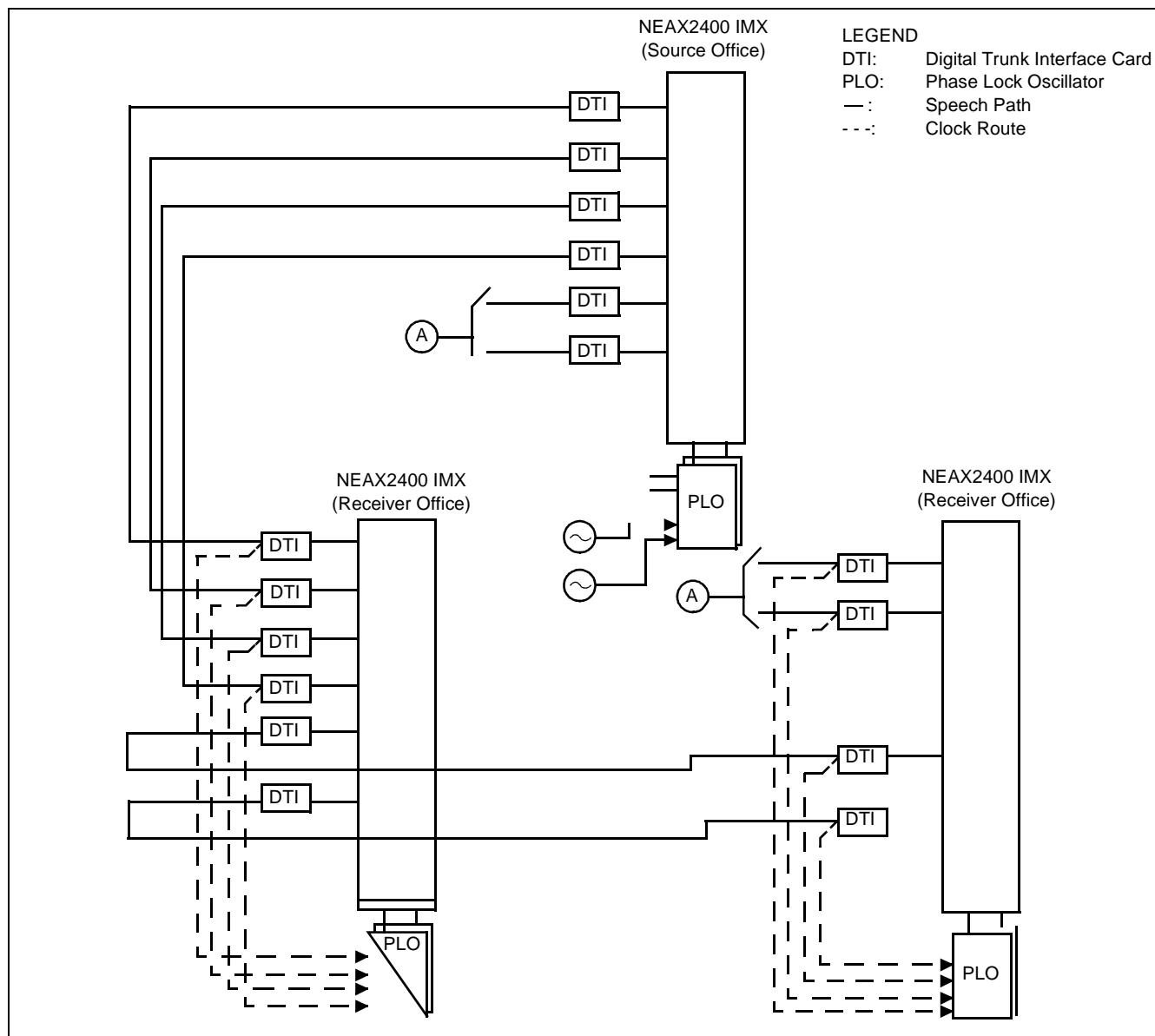
Network Clock Synchronization

Programming

STEP 1: **ASYD** - System Data 1, Index 91, Bits 4-7. If one Phase Lock Oscillator (PLO) is mounted, assign data "1" to Bits 4 and 6. If two PLO's are mounted, assign all four bits as data "1".

STEP 2: **ARTD** - Assign the DIRECT DIGITAL INTERFACE route as follows. This is for second dial tone TIE Lines.

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:2	4-INSG	:3	5-TF	:3
6-TCL	:4	7-L/T	:1	8-RLP	:2	13-AC	:1	15-LSG	:5
30-PAD	:7								

Programming (cont'd)

LCR FLAG ROUTE:

RT: 31

5-TF	:3	6-TCL	:1	7-L/T	:1	8-RLP	:2	9-TQ	:1
13-AC	:1								

STEP 3: **ATRK** - Assign the LENs, DIRECT DIGITAL INTERFACE Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the make idle status to the DIRECT DIGITAL INTERFACE trunks.

STEP 5: **ANPD** - Reserve a number level for Register Sender Least-Cost Routing (LCR). This level should correspond to the station numbering plan of the opposite office. Assign Connection Indexes, CI = N, H; Normal and Hooking. Number of Necessary Digits will be the length of the digits in the opposite office's station numbering plan.

STEP 6: **ASPA** - Assign the access code of the LCR flag route. Type of Service, SRV = LCR (Least Cost Route Selection), LEAST COST ROUTING-3/6 DIGIT [L-5]. Assign Connection Index, CI = N, H; Normal and Hooking. Assign the LCR flag route number associated with this access code.

STEP 7: **ARNP** - Assign the physical route numbers as assigned in ARTD, and relate these routes to the LCR access code as assigned in ASPA for SRV = LCR (Least Cost Route Selection). The LCR access code is the first digit of the opposite offices' station numbers.*

Note: *These same routes may also be listed in ASPA for SRV = OGC (Outgoing Call). In that case, these routes may also be available via direct dial access codes, but are not assigned for LCR in the ARNP command.*

STEP 8: **AMND** - Assign the maximum necessary digits the system must translate for proper route selection. In this case, assign the first digit of the other system's station numbering and the number of digits in the station numbering plan.

STEP 9: **AFRS** - List the dialing patterns in groups that are served by a specific sequence of routes. Use only the DTI routes and the first digit of the station numbering. Assign this dialing sequence to an OPR.

STEP 10: **AOPR** - The AFRS command designates the dialing sequence and the OPR to be selected. The AOPR defines the routes and in what order these routes will be selected. In this case, only the DTI routes will be assigned. Assign the following parameters:

TDC No. (TDPTN) - Time-of-Day Pattern Change. Usually, this parameter does not apply, and data "0" must be entered. For an AFRS assignment, however, if different OPRs will be required as a function of time, designate which Time-of-Day Pattern Change Number (TDPTN) OPR is assigned (0 -7).

OPR No. (OPR) - Outgoing Pattern Route, the number referenced in AFRS consisting of a series of routes to be chosen based on the dialed number.

Route Advance No. (RA) - The order in which a route will be selected (0-7). Usually only one or two routes are involved with DTI TIE Lines.

Route Advance End Display (E) - The last route in the route advance group. Indicate with data "0". All other routes are indicated by data "1".

Route Number (RT) - The physical Route Number to be selected, as programmed in ARTD.

Skip Digits (SKIP) - Do not skip any digits. Usually the LCR access code is the opposite system's station level. This digit must be sent to the opposite PBX.

Pattern Number Location (PNL) - If digits are to be added after translating the dialed digits in AFRS, use AADC command. This is usually not applicable.

Overflow Tone (OVFT) - Assign if a tone is wanted for the Last Choice Route. If so, assign data "1" for DDD. Usually not applicable.

D-31 Delay Announcement - UCD

General Description

This feature provides recorded announcement service for an incoming call directed to a busy UNIFORM CALL DISTRIBUTION (UCD) [U-1] group and placed in a waiting queue. The recorded announcement occurs after a predetermined time in the queue.

Operating Procedure

No manual operation is required.

Service Conditions

1. Up to eight announcement machines can be assigned per UCD [U-1] group.
2. The DELAY ANNOUNCEMENT-UCD time consists of three time periods. Each idle time period requires a duration of 6 seconds:
   - a.) before the announcement (idle time)
   - b.) the announcement
   - c.) after the announcement (idle time).
3. After the announcement is played, MUSIC ON HOLD [M-7] is activated.
4. Ringback tone is sent to the queued UCD [U-1] call before the first DELAY ANNOUNCEMENT begins.
5. If programmed, the DELAY ANNOUNCEMENT can be repeated while the incoming call is waiting in the queue. Between each announcement, MUSIC ON HOLD [M-7] will be heard.
6. When a UCD [U-1] station becomes idle, the incoming call is connected immediately to the idle station, even if the incoming call is connected to the DELAY ANNOUNCEMENT-UCD.
7. If the incoming call comes from a ring down trunk, billing begins with the start of the Delayed Announcement.
8. If an incoming call encounters all stations busy in a UCD [U-1] group and overflows to another UCD [U-1] group, and if all stations are busy in the OVERFLOW - UCD [O-13] group, the calling party will be placed in the queue for the originally called UCD [U-1] group, and DELAY ANNOUNCEMENT - UCD will be invoked, if programmed.
9. The figures below show Delayed Announcement Time Charts for a single programmed announcement, and for a repeated programmed announcement.
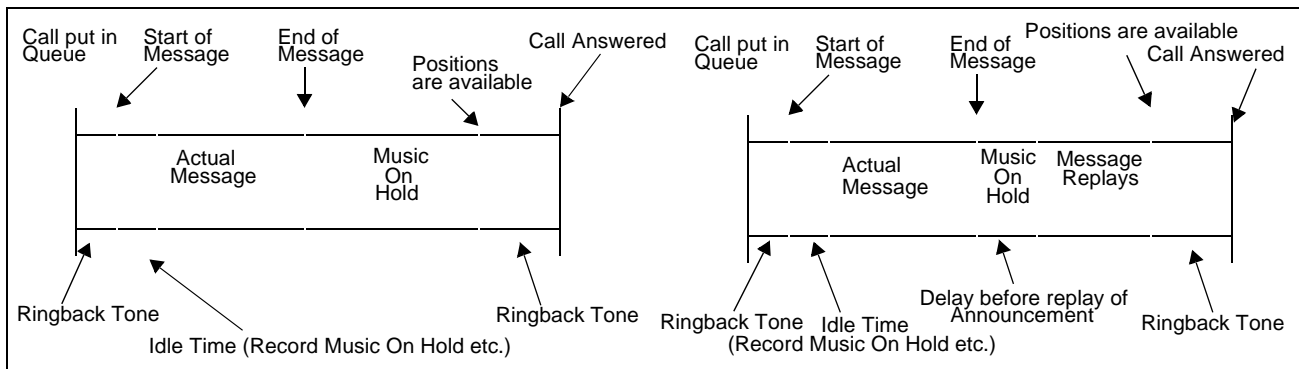
Time Chart for Single and Repeated Announcement

Service Conditions (cont'd)

Announcement Recording

The figure below illustrates the three possible Delayed Announcement recording patterns.
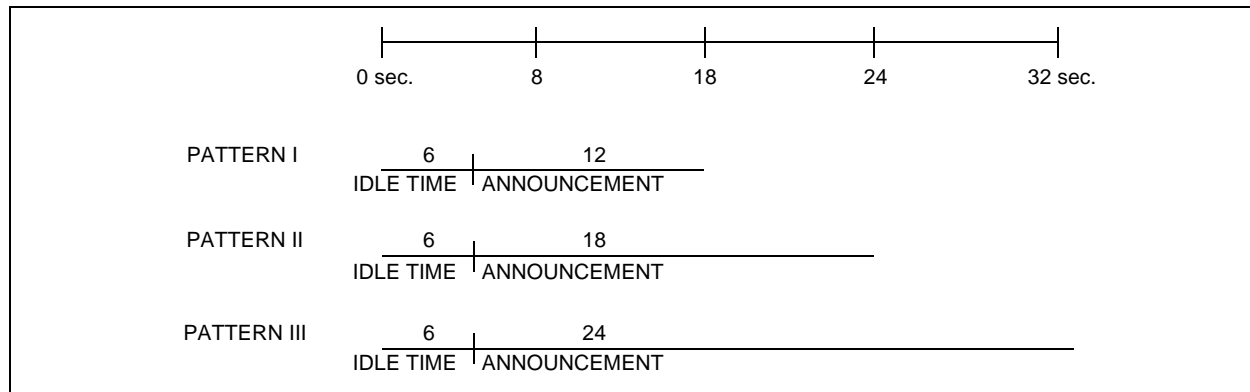
Delayed Announcement Recording Patterns

10. Delay Announcement Trunk (DAT) in the node accommodating the UCD controlling station must be used for this feature for the FCCS network.

Interactions

1. UNIFORM CALL DISTRIBUTION [U-3] must first be provided.
2. When a UCD station is assigned as the destination of LDN Night Connection, this service cannot be activated.

Programming

STEP 1: **ASYD** - System Data 1, Index 70, Bit 6. Are DELAY ANNOUNCEMENT-UCD common or separate for all UCD groups? 0/1: Common/Separate.

STEP 2: **ARTD** - Assign the Announcement Route as follows:

BOTHWAY TIE LINES:

RT: 1

1-OSGS :2	2-ONSG :3	3-ISGS :2	4-INSG :3	5-TF :3
6-TCL :4	7-L/T :1	8-RLP :2	15-LSG :5	

STEP 3: **ATRK** - Assign the LENs, Announcement Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the announcement trunks.

STEP 5: **AUAD** - This command is used to assign the DELAY ANNOUNCEMENT-UCD.

Assign the following information:

TN: Tenant Number of UCD Control Station

STN: Station Number of UCD Control Station

DLYT: Delay Timer (0-30 sec; 2 second, even-number increments)

MSGT: Message Timer (0-30 sec; 2 second, even-number increments)

RP: Announcement Output Reply

    0: Only One

    1: Replay

INT: Replay Interval

Programming (cont'd)

CNT: Number of Announcement Trunks

RT: Route Number

TK: Trunk Number

The Tenant and Station parameters will be prompted only if ASYD calls for separate announcements for UCD groups.

The Delay timer, DLYT, is the time that the Delay Announcement trunk will ring and collect other incoming calls that will listen to the DELAY ANNOUNCEMENT-UCD.

The Message timer, MSGT, should include both the DELAY ANNOUNCEMENT-UCD time plus idle time before and after the announcement. The following patterns are available.
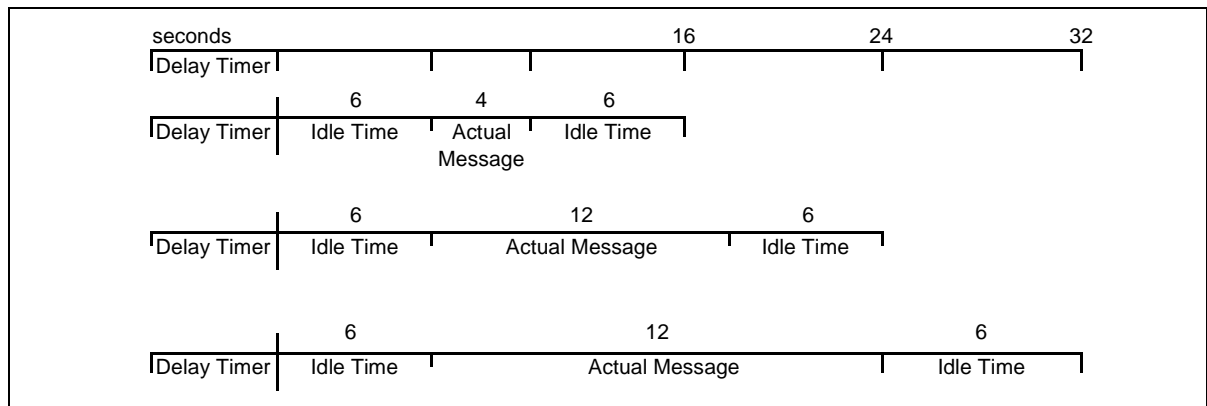
FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDN** - This data must be assigned to the NCN. System Data 1, Index70, b6: 0/1= DAT is common for all the UCD groups/DAT is different per UCD group

STEP 2: **AUADN** - These data must be assigned to the NCN.

UGN: User Group Number

TELN: Telephone Number

DLYT: Delay Timer (0-30 sec; 2-second increment)

MSGT: Message Timer (0-30 sec; 2-second increment)

RP: Announcement Replay

0/1=Only one/Replay

INT: Replay Interval (0-30 sec; 2-second increment)

CNT: Number of Announcement Trunks

RT: Route number

TK: Trunk number

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command. The command to be set to the node that accommodates the UCD controlling station only: ATRK, MBTK*

D-32D   Dual Hold - D^term

General Description

This feature allows two D^term s to simultaneously be placed on hold. This allows the held parties to answer or originate a call from a subline appearance or the idle prime line.

Operating Procedure

To place a call in a DUAL HOLD-D^term condition:
1. When two D^term s are connected, either D^term user can press the pre-assigned HOLD key and place the other D^term on hold.
2. If the held D^term user wishes to originate or answer another call from a sub-line appearance, the held D^term user presses the pre-assigned HOLD key and places the connection in a DUAL HOLD-D^term condition.

To place back to the original connection:
1. The D^term user goes off-hook and presses the held line.
2. The held D^term hears MUSIC ON HOLD [M-7] if originally connected D^term is still holding the call.
3. The held D^term comes back to the original call if originally connected D^term has already returned to the original call.

Service Conditions

1. The DUAL HOLD - D^term feature can be activated by pressing the HOLD key during a call between any two D^term s.
2. While a call is being held, Automatic Recall is initiated after a preprogrammed time on the D^term that placed the call on Hold.
3. For STATION MESSAGE DETAIL RECORDING SYSTEM [S-10] information between extensions, a call is regarded as completed when the HOLD key is pressed to hold the call. When both stations answer the held call, it is processed as a new call.
4. Even in the case of a call between two D^term s, DUAL HOLD - D^term cannot be initiated between Boss and Secretary after the Boss/Secretary service, or between overriding and overridden parties after the PRIVACY RELEASE [P-18] service.
5. This feature is not restricted by the Class of Service for the stations in the network.
6. The following services are available to either the holding line or the line placed on hold when a call is held by pressing the HOLD key in a DUAL HOLD - D^term situation:

CALL BACK	[C-1]
MESSAGE REMINDER	[M-19D]

7. The following services are not available to either the holding line or the held line in a DUAL HOLD - D^term situation:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
BUSY VERIFICATION	[B-3]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1D]
PRIVACY RELEASE	[P-18]

8. DUAL HOLD-D^term cannot be activated for calls established by:

BOSS-SECRETARY Service	[B-5D, 8, 11]
PRIVACY RELEASE	[P-18]

Service Conditions (cont'd)

BUSY VERIFICATION	[B-3]
ATTENDANT CAMP-ON	[A-1]
EXECUTIVE RIGHT-OF-WAY	[E-1]
CALL WAITING-ORIGINATING	[C-31]
CALL WAITING-TERMINATING	[C-12]

Programming

ASYD - System Data 1, Index 144. Recall timer for EXCLUSIVE, NON-EXCLUSIVE HOLD. Assign data 00H for 30 seconds. (RAM default data is 3FH.)

System Data 2, Index 12, Bit 0. Is Automatic Recall Ringing provided on a per-tenant basis? 0/1: Yes/ No.

FCCS Programming

No unique programming is required for the FCCS network.

D-87 Dial Intercom

General Description

This feature gives multiple D^{term} users the ability to simultaneously call any other member of the intercom group, regardless of their idle or busy status. An intercom group member can override another intercom station in a two-party intercom connection. This service is referred to as an Intercom Bridge.

Operating Procedure

To originate a DIAL INTERCOM call:
1. The intercom station presses the DICM key and goes off-hook within five seconds.
2. Dial the desired INTERCOM telephone number; receive ringback tone. The calling D^{term} displays:

```
                                    Dialed Intercom Number
    ICM                          XX
              (Time Display)
```

3. The desired INTERCOM station answers the call and is connected to the calling station.

To answer a DIAL INTERCOM call:
1. The DICM key will flash, indicating an incoming DIAL INTERCOM call. The called station may also hear distinctive three-burst ringing. The called D^{term} displays:

```
                                    Calling Intercom Number
    ICM                          XX
              (Time Display)
```

2. If the called station is already engaged in a conversation with a non-intercom call, the station may press the HOLD key and answer the DIAL INTERCOM call by pressing the DICM key. Ringing will stop.

To bridge into a DIAL INTERCOM call:
1. When two stations are engaged in a DIAL INTERCOM call, a third station, belonging to the same DIAL INTERCOM group, presses the DICM key and goes off-hook. The called and calling D^{term}s display:

```
                                    Intercom Number
    OVERRIDE                     XX
              (Time Display)
```

2. A three-party conference is established. The called stations may hear a Warning Tone. The option for hearing the tone is preassigned in System Data. The called and calling D^{term}s display:

```
    CONF
              (Time Display)
```

3. If Intercom Bridge service is denied, the D^{term} displays:

```
    CONF REST
              (Time Display)
```

Operating Procedure (cont'd)

PRIME LINE PICK UP-D^{term} [P-13D]:

The D^{term} may be programmed to seize the incoming call on the AUTOMATIC, MANUAL, or DIAL INTERCOM lines before the Prime Line. If two incoming calls terminate simultaneously to both the Prime Line and the DIAL INTERCOM line, when the user goes off-hook, PRIME LINE PICKUP-D^{term} [P-13D] will seize the DIAL INTERCOM line before the Prime Line. If only the Prime Line is ringing when the user goes off-hook, then PRIME LINE PICKUP D^{term} [P-13D] will seize the Prime Line. The programmable options and ringing priority are illustrated in the following table:

Ringing Priority	Programmable Options				
	PRI0	**PRI1**	**PRI2**	**PRI3**	**PRI4**
1	Prime Line	Dial Intercom	Automatic Intercom	Manual Intercom	Automatic Intercom
2	--	Prime Line	Prime Line	Prime Line	Manual Intercom
3	--	--	--	--	Prime Line

Service Conditions

1. Only D^{term}s can be assigned as a member of a DIAL INTERCOM group.
2. All members of the same DIAL INTERCOM group must be assigned in the same Module Group.
3. Up to 32 stations may be assigned to one DIAL INTERCOM group. Each station in the DIAL INTERCOM group can be assigned as an Automatic, a Manual and a DIAL INTERCOM member of three different groups.
4. No more than one connection can be established at the same time in one DIAL INTERCOM group.
5. A three-party conference can be established in a DIAL INTERCOM group if Intercom Bridge service is available. If a fourth party tries to activate Intercom Bridge service, the connection is denied.
6. The maximum number of DIAL INTERCOM groups in the PBX is 50 per Module Group.
7. It is possible to simultaneously assign one group of stations as an Automatic/Manual Intercom group, as well as a DIAL INTERCOM group.
8. The distinctive ringing (three-burst ringing) sent from an incoming DIAL INTERCOM station takes priority over the ringing of multi-line appearances.
9. Features normally available to multi-line appearances are not available to DIAL INTERCOM lines.
10. DIAL INTERCOM lines cannot be held by pressing the HOLD key.
11. When a station is moved from one DIAL INTERCOM group to another via system commands, the DICM key on the associated D^{term} must be deleted before the change is made.
12. Port traffic and station PEG COUNTS [P-7] reports will record the use of the DIAL INTERCOM feature under "other."
13. Dedicated D^{term} feature keys cannot be used during a DIAL INTERCOM call. Only the SPEAKER key for hands-free operation can be used.
14. If there are simultaneous incoming calls to the Prime Line, Automatic Intercom Line, the Manual Intercom Line, and/or the DIAL INTERCOM line, the Prime Line will normally be selected when the station goes off-hook. The selection order can be changed for each D^{term} via office data assignment.

Service Conditions (cont'd)

15. DIAL INTERCOM group numbers are either one or two digits and can be set for each DIAL INTERCOM group:

    1 digit: 0-9
    2 digits: 00-63

16. The display on the D^{term} is as follows:

    a.) Calling

    Dial Intercom Number of the Calling Station
    * Display appears for 10 seconds when the DICM line is preselected

    Called
    Station

ICM		XX
	(Time Display)	

    60 IPM
    flashing

    Dial Intercom Number of the Calling Station

    Calling
    Station

ICM		XX
	(Time Display)	

    b.) Called Station Answers

    Dial Intercom Number of the Calling Station

    Called
    Station

ICM		XX
	(Time Display)	
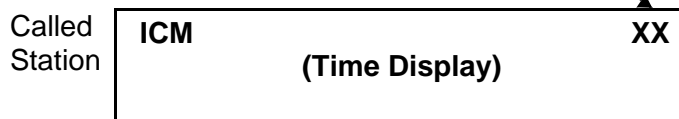
    Dial Intercom Number of the Answering Station

    Calling
    Station

ICM		XX
	(Time Display)	
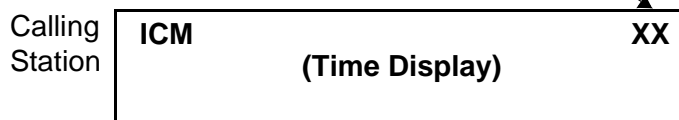
Service Conditions (cont'd)

c.) Intercom Bridge

Dial Intercom Number of the Additional Station

Original
Station

OVERRIDE	XX
(Time Display)	

Dial Intercom Number of the Calling Station (1 or 2 digits)

Addt.
Station

OVERRIDE	XX
(Time Display)	

After 5 seconds

Three
Station

CONF
(Time Display)

* CONF lamp goes on

d.) Intercom Bridge Restriction

CONF REST
(Time Display)

* When the DICM key is pressed for the bridge, after originating a call, the above is displayed for 5 seconds.

17. To answer a call terminated to the INTERCOM line while the Prime Line is busy, press an INTERCOM line key.

18. The DIAL INTERCOM ringing by an incoming call is interrupted while the MANUAL SIGNALING [M-47] signal is being sent out.

19. While a call is in progress on a multi-line, the AUTOMATIC INTERCOM line, or MANUAL INTERCOM line, pressing the DICM key can disconnect the call to allow a DIAL INTERCOM call origination or answer.

20. FCCS link is not available for this feature.

Programming

STEP 1: **ASYD** - System Data 1, Index 59, Bit 7. Is AUTOMATIC/MANUAL and DIAL INTERCOM in service? 0/1: No/Yes.

System Data 1, Index 69, Bit 6. Is a Warning Tone required when creating a three-way AUTOMATIC/ MANUAL INTERCOM call? 0/1: No/Yes.

System Data 1, Index 78, Bits 0 & 1. Assign both Bits as data "1" to enable full D^{term} display operation.

System Data 3, Index 3. Assign data 20H for burst ringing if necessary.

System Data 3, Index 7. Assign the Ringing Pattern if necessary.

Programming (cont'd)

STEP 2:   **ADIM** - Assign the following data:

MG:	Module Group
G-ID:	Group ID Number per MG
N:	Number of Digits of Dial Intercom Group (0/1)
	0: 1 digit
	1: 2 digits
BCR:	Bridge Call Restriction (0/1)
	0: Restricted
	1: Allowed
TN:	Tenant Number
ICMCT	Number of Intercom Stations (2-64) (actual number to dial)
ICM STN:	Intercom Station Number

STEP 3:   **AKYD** - Assign an Intercom Line to the station according to the following parameters:

TN:	1
STN:	Station Number
TP:	Type of D^{term} 0/1:
RING:	0: No Ringing
	1: Ringing All Lines
	2: Ringing on Prime Line Only
	3: Flexible Ring Assignment, enables RG parameter.
PRI:	Form of Line Preference (0-3)
KYN:	Key Number (1-40)
KYI:	Service Index
	0: Key Not Used
	1: Feature Key
⟶	2: Multi-line Key
KD:	Kind of Line
	0: Multi-line
⟶	1: Intercom Line
ICM:	Kind of Intercom
	0: Automatic Intercom
	1: Manual Intercom
⟶	2: Dial Intercom.

D-90D   Delayed Ringing - D^{term}

General Description

This feature allows a D^{term} to receive an incoming ringing signal after a predetermined time.

1. In Boss/Secretary service, a call terminating on the boss's line first rings at the secretary's station. If the secretary does not answer within a preprogrammed time, the boss' station will also ring. This service is convenient when many lines terminate on a secretary's phone, and the secretary is engaged in a call, or is temporarily away from the phone, and cannot answer the call terminated to the boss's station.
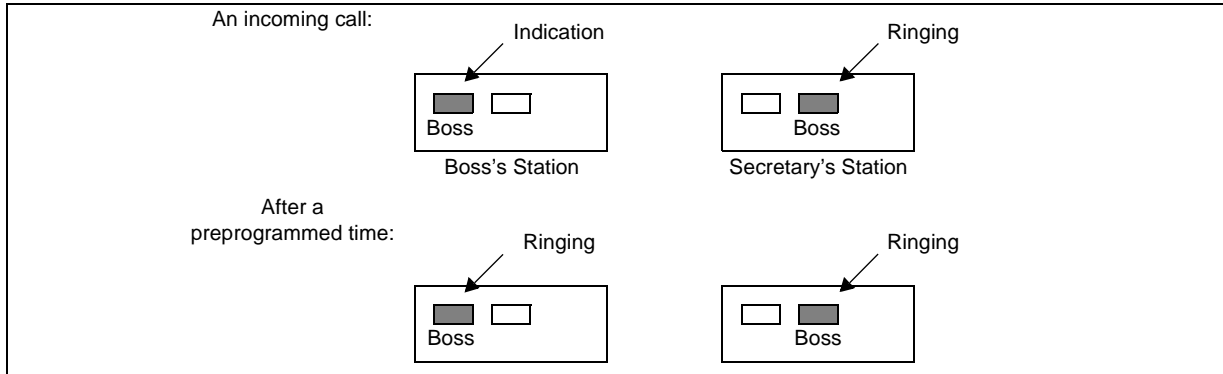
2. Calls terminated to the boss's station may be routed to multiple secretaries by assigning timing delays for ringing to each secretary's station.
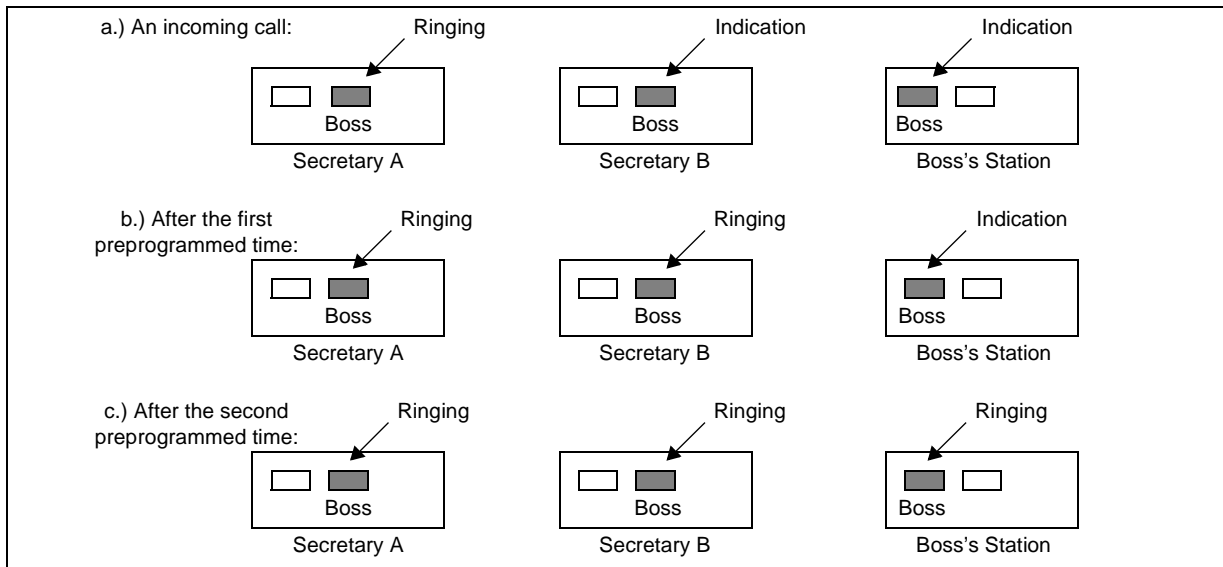
3. When a call to the boss' station is received, it rings on Secretary A's station. If it is not answered in a preprogrammed time, it will also ring on Secretary B's station. If Secretary B does not answer within the second preprogrammed time, the call will also ring on Boss's station.

General Description (cont'd)

4. This feature may also be used in a similar way to CALL FORWARDING - DON'T ANSWER [C-3] or STATION HUNTING [S-7, 8, 9].
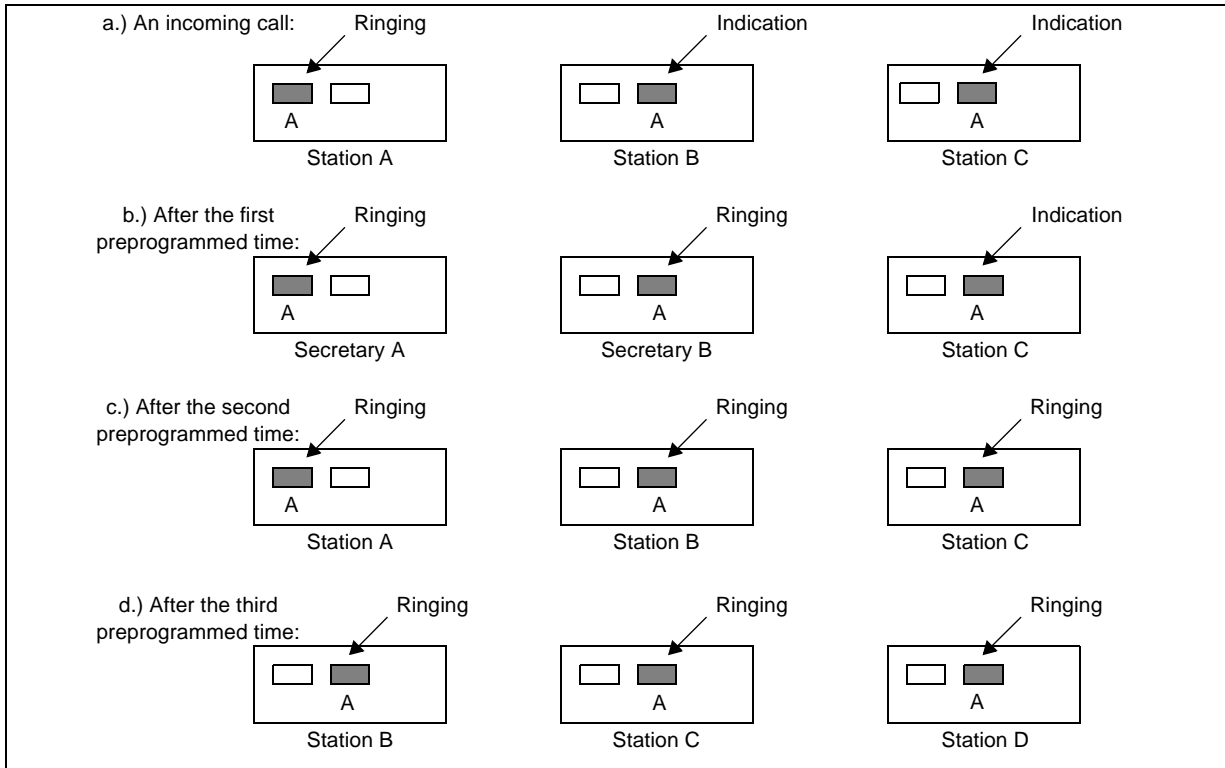
5. A call rings on Station A. If Station A does not answer within a preprogrammed time, the call also rings on Station B. If the call is not answered within the second preprogrammed time, the call also rings on Station C. If the call is not answered within the third preprogrammed time, the call also rings on Station D.

General Description (cont'd)

6. DELAYED RINGING may also be used for calls terminated to single-line telephone appearances on a D^{term}. Calls to single line appearances that are not answered within a preprogrammed time will ring on the next station in sequence.

a.) An incoming call: Ringing

Single Line Station

Indication

A

D^{term} Station B

Indication

A

D^{term} Station C

b.) After the first preprogrammed time: Ringing

Single Line Station

Ringing

A

D^{term} Station B

Indication

A

D^{term} Station C

c.) After the second preprogrammed time: Ringing

Single Line Station

Ringing

A

D^{term} Station B

Ringing

A
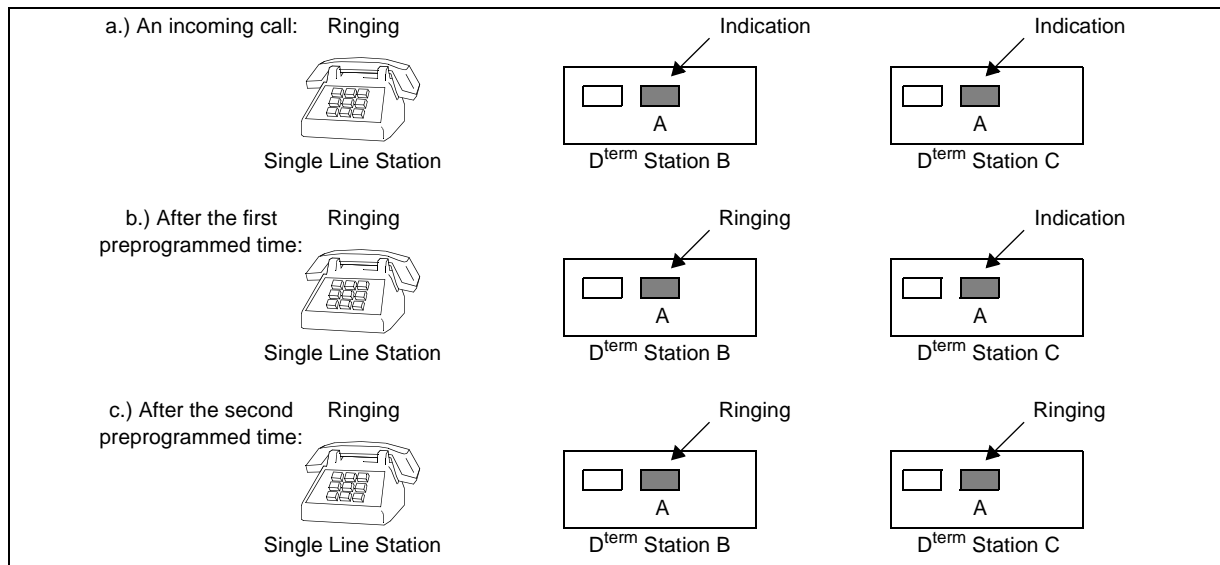
D^{term} Station C

7. A call rings on Single Line Station A. If Station A does not answer within a preprogrammed time, the call also rings on D^{term} Station B. If the call is not answered within the second preprogrammed time, the call also rings on D^{term} Station C.

Operating Procedure

No manual operation of the feature is required after it has been programmed in system data.

Service Conditions

1. This feature is available for multi-lines on D^{term}s.
2. Delay timing for each line on the D^{term} may be programmed through the MAT.
3. Delay timing may be 10, 20, or 30 seconds.

Interactions

1. Off-hook ringing on a D^{term} will follow the assigned DELAYED RINGING-D^{term} [D-90D] timer the same as on-hook ringing.
2. Stations that have multi-line appearances with DELAYED RINGING-D^{term} assigned must be aware of the interaction with CALL FORWARDING-DON'T ANSWER [C-2]. Example: Station A appears on D^{term} B with a delayed ringing of 30 seconds (RG = 4); and also on D^{term} C with a delayed ringing time of 20 seconds (RG = 5). If Station A sets CALL FORWARDING-DON'T ANSWER [C-2] and the CALL FORWARDING-DON'T ANSWER [C-2] timer is set at 24 seconds, when an incoming call comes into Station A, it will begin to ring; at 20 seconds D^{term} C will begin to ring also; at 24 seconds the call will forward to Station A's target destination and Station A and D^{term} C will stop ringing. D^{term} B never rings.
3. After a call has been answered by a secretary, the activation of the boss/secretary feature by the secretary to a single-line boss station will not reactivate the DELAYED RINGING-D^{term} cycle.

Programming

        AKYD - Assign the following parameters to stations that will have delayed ringing:

TN:	Tenant Number
STN:	Station Number
TP:	Type of D$^{term:}$ 0/1
RING:	0: No Ringing
	1: Ringing All Lines
	2: Ringing on Prime Line only
⟶	3: Flexible Ring Assignments (Enables RG Parameters)
PL TN STN:	Prime Line Tenant and Station Number
KYN:	Key Number (1-40)
KYI:	Service Index
	0: Key Not Used
	1: Feature Key
⟶	2: Multi-line Key
KD:	Kind of Line
⟶	0: Multi-line
	1: Intercom Line
TN STN:	Tenant Number and Station Number of Multi-line Appearance
RG:	Ringing Assignment of Multi-line Appearance
	0: No Ringing
	1: Ringing Day Only
	2: Ringing Night Only
	3: Not Used
	4: 30-Second Delay Time Before Ringing
	5: 20-Second Delay Time Before Ringing
	6: 10-Second Delay Time Before Ringing
	7: Ringing Day and Night (Immediate)

D-114   Delay Announcement - Attendant

General Description

This feature provides a recorded announcement to the incoming trunk caller waiting to be answered by the Attendant. This feature is divided into the following two types, depending on the time when the call is connected with the announcement trunk.

1. The call is connected to announcement trunk immediately after terminating to the Attendant Console. The announcement continues until the Attendant answers, or the trunk side abandons the call.
2. The call is connected to the announcement trunk after the ringback tone connection.

Operating Procedure

When the announcement service is provided immediately after the call terminates:

1. When an incoming call terminates to an Attendant Console, which is handling calls, the calling party receives an announcement from the Digital Announcement Trunk (DAT).
2. When the Attendant completes call handling, ringing starts at the Attendant Console.
3. The Attendant presses the ANSWER key. The calling party and the Attendant talk with each other.

When the announcement service is provided after a fixed time:

1. When an incoming call terminates to an Attendant Console, the LDN key lamp starts to flash and ringing starts at the Attendant Console, and the calling party receives the ringback tone.
2. When the Attendant has not answered for the designated time (SYS1, INDEX 242), the call is connected to the announcement trunk automatically (the lamp keeps flashing and the ringing continues at the Attendant Console).
3. If the Attendant does not answer the call when the first announcement completes, the trunk call disconnects from the announcement automatically and the caller hears the music on hold.
4. The Attendant presses the ANSWER or LDN key. The calling party and the Attendant talk with each other.

Service Conditions

When the Delay Announcement service is provided immediately after the call terminates:

1. This service requires a PA-4DATA/4DATB (DAT) circuit card or an external announcement machine.
2. This feature is available for the following incoming trunk types:
   - a.) Ring down
   - b.) LDN (DID, TIE)
   - c.) Call Forwarding - All Calls/Busy Line/Don't Answer (DID, TIE)
   - d.) Call Forwarding - Intercept - Attendant (DID, TIE)
   - e.) CO line, TIE Line incoming call via CCIS network.

Note: *The incoming call transferred to the Direct-in Termination trunk by Call Forwarding - Busy Line/Don't Answer service is not available.*

3. This feature is not available for TAS incoming calls.
4. When the system is in NIGHT mode, this service is not available.
5. At the time of DAY/NIGHT mode changeover, the call connected to the announcement will be released, and the calling party receives reorder tone. A call will be released as follows, according to the incoming trunk type:
   - a.) When a call terminates from a trunk where trunk release cannot be supervised, the trunk will be released forcefully. (Night Transfer station cannot be assigned.)

Service Conditions (cont'd)

        b.) When a call terminates from a trunk where trunk release can be supervised, the trunk will not be released forcefully, but will be released on its own accord. (Night Transfer station can be assigned.)

6.   This service is not available for incoming calls to an individual Attendant.

7.   When a CO line incoming call terminates to a trunk where call clear cannot be confirmed after the call has been answered, the incoming trunk and announcement trunk remain connected until Attendant answers and releases the trunk.

8.   When a call terminates to an incoming trunk, for which this service is not required, the connection route between the incoming trunk and the announcement trunk is restricted.

9.   The announcement trunk remains connected until the incoming trunk is released. (Timer Control Release is not used.)

10.   In case of multiple connection:

        a.) Caller is not connected at the beginning of the announcement.

        b.) The announcement trunk is not released by Attendant upon answering or releasing the incoming trunk.

11.   For single connections, this service is not available when the announcement trunks are all busy.

12.   When an external announcement machine is used, the announcement starts from the time the PBX acknowledges the announcement trunk answer, and ends at the time of the announcement trunk release.

13.   Whether to use an announcement trunk for single or multiple connection is determined by the System Data on a tenant basis.

When the announcement is provided after the ringback tone has been heard:

1.   This service requires a PA-4DATA/4DATB (DAT) circuit card or an external announcement machine.

2.   When the caller is hearing the message or music, the call is still indicated on the ICI key on the Attendant Console. Therefore, the Attendant can answer the call anytime by pressing the ANSWER key or the corresponding ICI key.

3.   The message is sent in the following sequence. Whether to send the second message and after can be determined in the system data. When the other message(s) is not sent after the first announcement, MUSIC ON HOLD [M-7] continues.

RBT		1st Message	Music		2nd Message	Music		3rd Message
NA Timer 30 sec ①	8 sec	16 or 32 sec ②	Maximum 30 sec ③	8 sec	16 or 32 sec ②	Maximum 30 sec ③	8 sec	16 or 32 sec

Timing

Timer for ① is programmed in SYS1, Index 242
Timer for ② is programmed in SYS1, Index 245
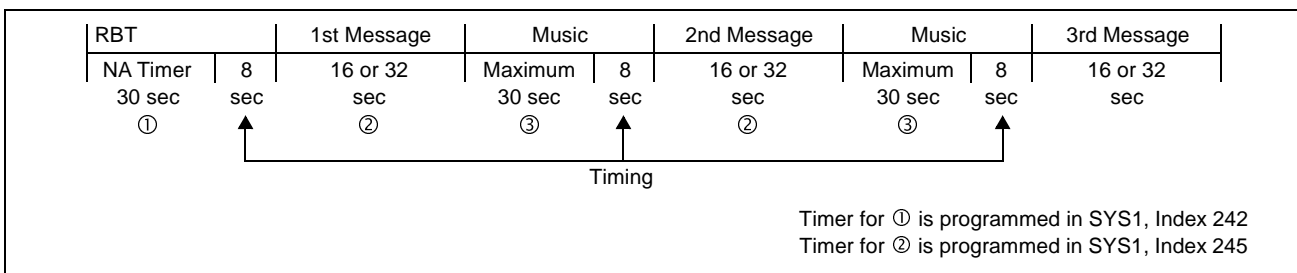
Note: *Separate timers are used for No Answer Timer and Music On Hold.*

4.   Each channel of the DAT can record a single message. Recording time for a single message is 16 or 32 seconds.

5.   When Multiple Playback is selected, additional DAT channel is required for the second announcement, even if the second announcement has the same contents as the first one.

6.   A maximum of 10 incoming trunk calls can be connected to a single DAT trunk at one time for sending a prerecorded message from the beginning to the called parties.

Service Conditions (cont'd)

7. The maximum programmable channels of DAT for this feature are:

   1st announcement: 5 channels
   2nd announcement: 5 channels

8. When a call encounters announcement trunks all busy, the call waits in a queue until a trunk becomes available. The latter trunk call hears ringback tone until the announcement to the former terminated call completes.

9. When providing the first message, the answer signal is sent to the opposite end (the billing starts here). In the case of central office trunks, where trunk release cannot be detected after the call had been answered, the display on the Attendant Console continues even after the calling party has gone on-hook. (The trunk does not release.) Therefore, the incoming call should always be answered by the Attendant.

10. In the case of billing for the incoming call, billing starts when the caller is answered by the Attendant, not when connected to a message.

11. When the call terminates to the Attendant Console at the time of DAY/NIGHT mode changeover, this service is activated as follows:

DAY/NIGHT Mode Change	Call Processing
Attendant Console in Day Mode to Night Attendant Console	The announcement service is provided after the call is transferred to the Night Attendant Console and the Night Attendant Console answers the call.
Attendant Console in Day mode to Attendant Console of Night Connection - Fixed [N-1]/Flexible [N-2]	The call stays at the Attendant Console in Day mode and the announcement service is provided. The Attendant Console answers the call.
Night Attendant Console to Attendant Console of Night Connection - Fixed [N-1]/Flexible [N-2]	The call stays at the Night Attendant Console and the announcement service is provided. The Night Attendant Console answers the call.

12. This feature is not available for the following calls:

   a.) AUTOMATIC RECALL [A-8] calls
   b.) calls from an Attendant (ATTENDANT-TO-ATTENDANT CALLING [A-60] / INTER-POSITION TRANSFER [I-5])
   c.) calls from a station (DIAL ACCESS TO ATTENDANT [D-2]/OFF-HOOK ALARM [O-6]/ PRIORITY CALL [P-9], etc.)
   d.) calls transferred to the Attendant due to unused number dialing
   e.) calls transferred to the night station via ATTENDANT NIGHT TRANSFER [A-19]
   f.) calls via CALL FORWARDING - ALL CALLS [C-5]/BUSY LINE [C-2]/DON'T ANSWER [C-3]
   g.) incoming calls via CCIS/Tie Line
   h.) TAS incoming calls

13. This service is not available for incoming calls to an individual Attendant.

14. This service is not activated for the Attendant of NIGHT CONNECTION - FIXED [N-1] or NIGHT CONNECTION - FLEXIBLE [N-2].

15. The message is sent only once. If the Attendant does not answer by the end of the message, the caller will be disconnected from the announcement trunk automatically and will hear MUSIC ON HOLD [M-7].

16. CALL QUEUING [C-9] and CALL WAITING LAMP [C-13] services are available when this service is activated.

17. The calling party cannot receive the message if the restriction between the incoming trunk and the announcement trunk is not cleared.

Service Conditions (cont'd)

18. When this service is allowed in system data, the ATTENDANT OVERFLOW [A-105] feature cannot be activated.

19. When the external announcement machine is used, the announcement starts from the time when the PBX acknowledges the announcement trunk answer, and ends at the time of the announcement trunk release.

20. When activating this feature in an FCCS network, Digital Announcement Trunk (DAT) and the called Attendant Console must be accommodated in the same node.

Programming

When the Delay Announcement service is provided immediately after the call is terminated:

STEP 1: **ASYD** - SYS1, INDEX244. b5=0 (Announcement is provided immediately after the trunk call is terminated to the attendant console)

STEP 2: **ARTD** - Assign the route data of the Announcement Trunk

      15:    LSG = 5

      28:    ANS = 0 (Access to announcement trunk is controlled by the current operation (Timer Control).)

                 = 1 (Answer and Release Timings are determined by DAT itself or the external announcement equipment.)

Note: *When the external announcement equipment is used, assign "1" in ANS parameter.*

STEP 3: **ATRK** - Assign the trunk data of the Announcement Trunk.

STEP 4: **MBTK** - Cancel the make-busy of the trunk assigned by ATRK.

STEP 5: **AAED** - Assign the data to the announcement unit number and the route data, etc. assigned by ATRK.

      EQP: 32

      RT: route number

      TK: trunk number **(Note)**

Note: *Only when M = 1, assign TK.*

      C: I

      R: I

      A: 0

      M: 0/1 = Single connection/Multiple connection

STEP 6: **ASTD** - Allow tandem connection between COT and the Announcement trunk.

      (STM = 0, STS = 2, ST = 1)

STEP 7: **ARRC** - Cancel the restrictions on the trunk route for Incoming Trunk and the route for the Announcement Trunk.

      ICRT: Route Number for Incoming Trunk

      OGRT: Route Number for Announcement Trunk

      ARI-D RES: 1

When the Delay Announcement service is provided after the ring back tone:

STEP 1: **ASYD** - SYS1, INDEX242. Timer for Delay Announcement- Attendant (Duration of RBT)

      Timer for duration of RBT = TC × MTC

      TC=3.2 sec. MTC=0-15

      SYS1, INDEX244. b5=1 (Announcement is provided immediately after the ring back tone)

      SYS1, INDEX245. Timer for Delay Announcement - Attendant (Duration of Music on Hold)

      Timer for duration of RBT = TC × MTC

Programming (cont'd)

        TC=3.2 sec. MTC=0-15

        SYS1, INDEX246. Attendant Delay Announcement

        0/1= Single Playback/Multiple Playback

STEP 2:   **ARTD** - Assign the route data of the Announcement Trunk

        15:     LSG =   5

        28:     ANS =   0 (Access to announcement trunk is controlled by the current operation (Timer Control).)

                       =   1 (Answer and Release Timings are determined by DAT itself or the external announcement equipment.)

Note: *When the external announcement equipment is used, assign "1" in ANS parameter.*

STEP 3:   **ATRK** - Assign the trunk data of the Announcement Trunk.

STEP 4:   **MBTK** - Cancel the make-busy of the trunk assigned by ATRK.

STEP 5:   **AAED** - Assign the data to the announcement unit number and the route data, etc. assigned by ATRK.

        EQP   = 49, 50, 51, 52, 53 (for the 1st announcement)

              = 54, 55, 56, 57, 58 (for the 2nd announcement)

        RT: route number

        TK: trunk number

        C: 1

        R: 1

        A: 1

        M: 1 (Multiple connection)

STEP 6:   **ASTD** - Allow tandem connection between COT and the Announcement trunk.

        (STM - 0, STS = 2, ST = 1)

STEP 7:   **ARRC** - Cancel the restrictions on the trunk route for Incoming Trunk and the route for the Announcement Trunk.

        ICRT: Route Number for Incoming Trunk

        OGRT: Route Number for Announcement Trunk

        ARI-D RES: 1

FCCS Programming

        No unique programming is required for the FCCS network.

D-149   Direct Station Selection (DSS) Console

General Description

A Direct Station Selection (DSS) Console may be connected to each D$^{\text{term}}$. The DSS keys can be used as line keys or feature keys.

Operating Procedure

Refer to the User Guide.

Service Conditions

1. The DSS console has 60 keys, each with one or two lamps.
2. The DSS console has following two operating functions:

   a.) DSS/BLF function
   b.) ADM function

   Either function is assigned to each console depending on the connected line and the office data.

DSS/BLF Function
1. The 60 keys are used as the line keys, allowing the user to activate SPEED CALLING - ONE TOUCH and call transfer.

To originate a call using SPEED CALLING - ONE TOUCH:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the DSS key where the desired number is assigned.

To transfer the call to the station assigned on the DSS key:
1. While engaged in a call with a trunk or station, press the desired DSS key; receive ringback tone. The originally connected party is placed on hold (MUSIC ON HOLD [M-7]).
2. When the third party answers, announce the call and replace the handset. The originally connected party and the third party are connected.

Note 1: *When the user flashes switch hook during ringback tone, the user returns to the held party, and the third party (the DSS station) stops ringing.*

Note 2: *If the user replaces the handset before the third party answers, blind transfer is activated. In this case, if the third party does not answer for approximately 30 seconds, the user is recalled and upon answering, will be connected to the held party.*

3. When the user calls the DSS station using SPEED CALLING - ONE TOUCH and the DSS station is either busy, not available, or restricted, the user receives reorder tone.
4. When the user transfers the call to the DSS station which is either busy, not available, or restricted, the user receives reorder tone. The user returns to the original call by switch hook flash.
5. When the user calls the DSS station by SPEED CALLING - ONE TOUCH, or transfers the call to the DSS station, following services set by the DSS station are not available:

BUSY VERIFICATION	[B-3]
CALL BACK	[C-1]
CALL WAITING	[C-12, C-31]
EXECUTIVE RIGHT-OF-WAY	[E-1]
MESSAGE REMINDER	[M-19]
STEP CALL	[S-13]

6. When the user calls the DSS station by SPEED CALLING - ONE TOUCH, or transfers the call to the DSS station, and the DSS station is the member of the UCD [U-1] or station hunting group, the call follows the UCD or the hunting operation. (If the MCI is valid, the message is sent out.)

Service Conditions (cont'd)

7. The user can recognize the idle/busy status of the accommodated stations by the lamps. The left lamp (red) lights when busy and goes out when idle and shows incoming call, hold, etc. The right lamp (green) shows I-used, I-hold, etc.

8. The DSS console and the connected D^{term} may be accommodated in the different circuit card, but should belong to the same module group.

ADM Function

1. The 60 keys are used as the feature keys. The key layout of the DSS console is as follows:
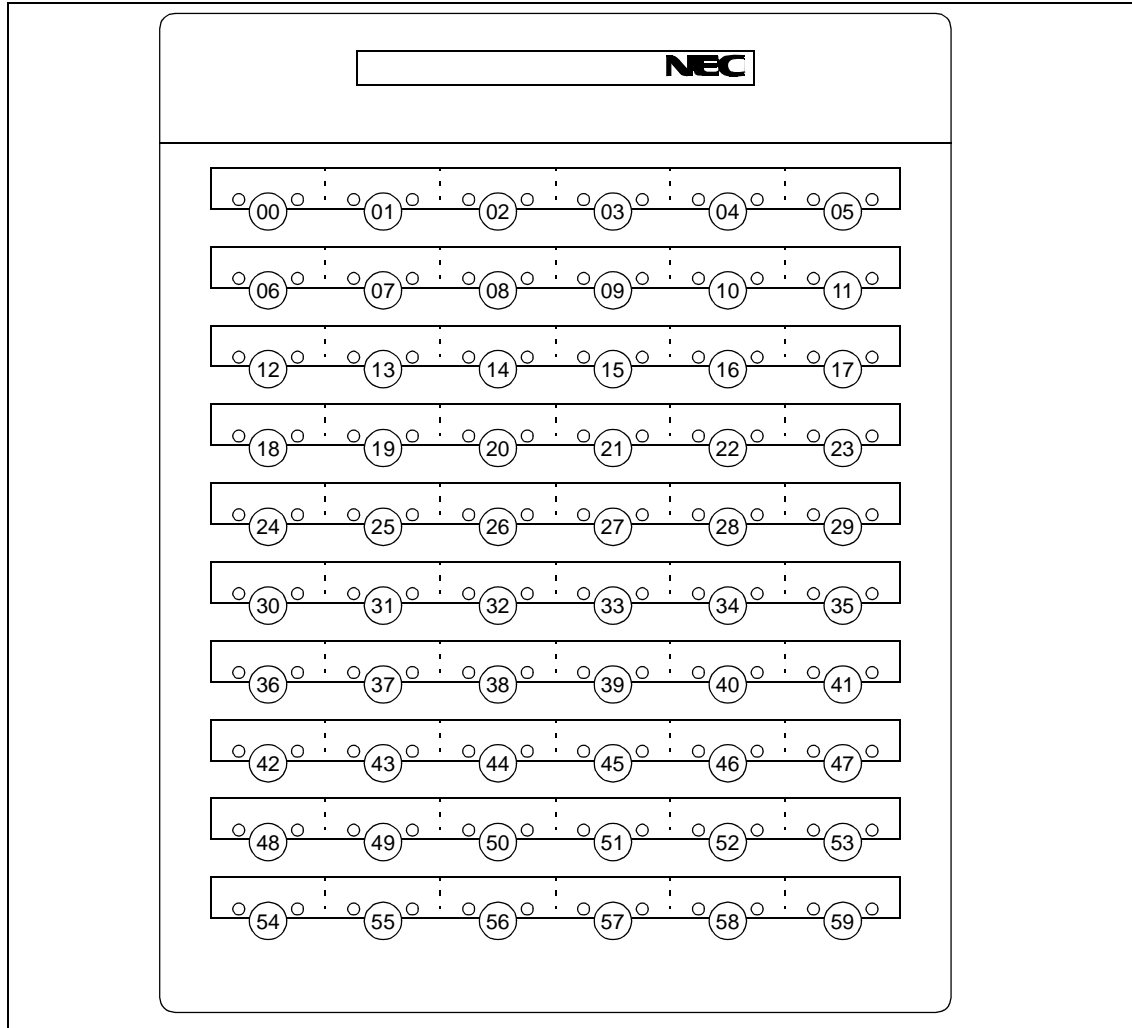
2. On the 25th key and after, MESSAGE REMINDER [M-19], D^{term} my line/prime line cannot be assigned.

3. The 48th key and after can be used only as the feature keys, not as the line keys. (These keys do not have the green lamps, therefore, I-used or I-hold cannot be indicated.)

4. Only 8-button and 16-button D^{term} can be used when using the DSS console in the ADM mode.

5. The D^{term} to be connected to the DSS console should be accommodated in the same circuit card as the DSS consoles on the even-numbered port, using a number smaller than the one where the DSS console is accommodated.

Programming

This section describes how to program office data associated with the DSS.

DSS/BLF

This section covers how to assign a DSS/BLF. For ease in understanding, the associated data programming is explained using the example below:

Terminal	Line equipment number (LEN)	Station number (STN)
DSS/BLF **(Note)**	000100	200
	000101	201
D^{term}	000107	400

Note: *Two station numbers are required only for programming DSS keys. Accordingly, these numbers are not used when operating the DSS/BLF.*
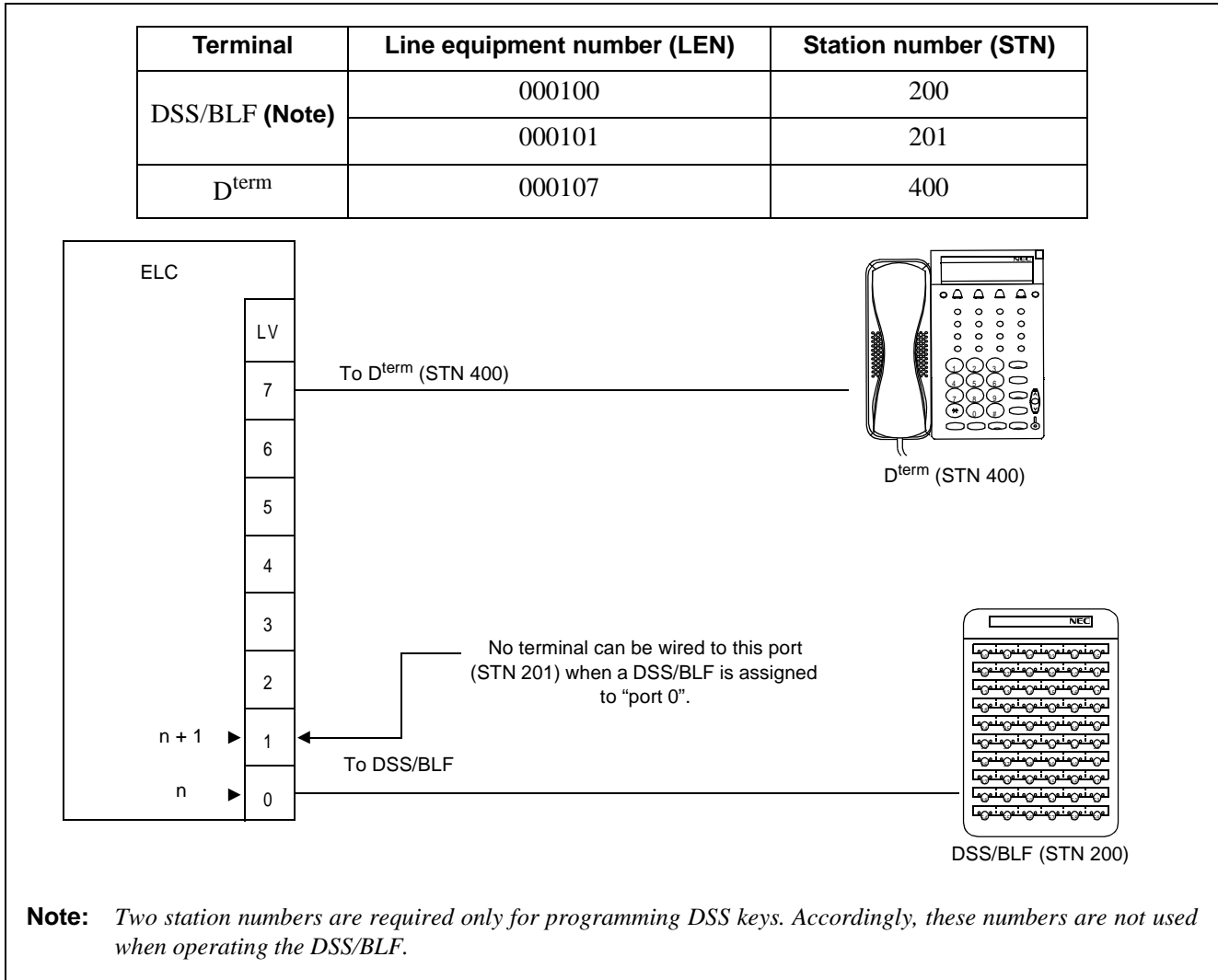
Example of Data Programming for DSS/BLF

Data Programming Procedure (DSS/BLF)

When assigning DSS/BLF data, perform the following procedure. Note that "X" indicates the value should be tailored to the existing system.

STEP 1:   Assign the DSS/BLF to an even-numbered LEN level. (In this example "LV 0" is used.)

TN: X

STN: 200

LEN: 000100 ◄——— even-numbered LEN level

TEC: 12 ◄——— fixed

RSC: X

Programming (cont'd)

        SFC: X

        Assign a station which is used for programming DSS keys (KYNs 31-60) to the subsequent LENs. (In this example "LV 1" is used.)

        TN: X

        STN: 201

        LEN: 000101 ⬅— to the subsequent LEN

        TEC: 12 ⬅— fixed

        RSC: X

        SFC: X

STEP 2:   Assign key data for 60 DSS keys. The upper 30 DSS keys (KYNs 1-30) are assigned using the first port ("LV 0" in this example) and the remaining lower 30 DSS keys (KYNs 31-60) are assigned using the second port ("LV 1" in this example). Be sure to assign the associated D^{term} station number as the Station Number of Prime Line.

        TN: X

        STN: 200 or 201

        TP: 1 ⬅— Buttons 1-40 assignable

        RING: X

        PRI: 0

        LN PRE: 0 (=Prime Line Pick up)

        MWD: X

        PL TN: X

        STN: 400 ⬅— Enter the associated D^{term} as a PL STN

        S: 0 (=Off Hook Suppression is off)

        KYN 1 must be programmed as the DSS/BLF station which has been assigned in ASDT.

        KYN: 1

        KYI: 2 (=Multi Line)

        KD: 0 (=Line)

        TN: X

        STN: 200 or 2 ⬅— 0   1DSS/BLF station number

        KYN 2 must be programmed as the associated D^{term} station.

        KYN: 2

        KYI: 2 (=Multi Line)

        KD: 0 (=Line)

        TN: X

        STN: 400 ⬅— associated D^{term}

        Assign desired station numbers to the corresponding DSS keys on the console. In this instance, KYNs 10-39 are used. The upper and lower 30 keys are associated with even-numbered port and odd-numbered port respectively as shown on the following page.

Programming (cont'd)

KYN: 10-39
KYI: 2 (= Multi Line)
KD: 2 (= For DSS Console Key)
TN: X
STN: XXXXX   ←   desired station number (maximum five digits)

Use KYNs 10-39 of an even-numbered LEN level (0,2,4,6) for programming the upper 30 DSS keys on the DSS/BLF

Use KYNs 10-39 of an odd-numbered LEN level (1,3,5,7) for programming the lower 30 DSS keys on the DSS/BLF
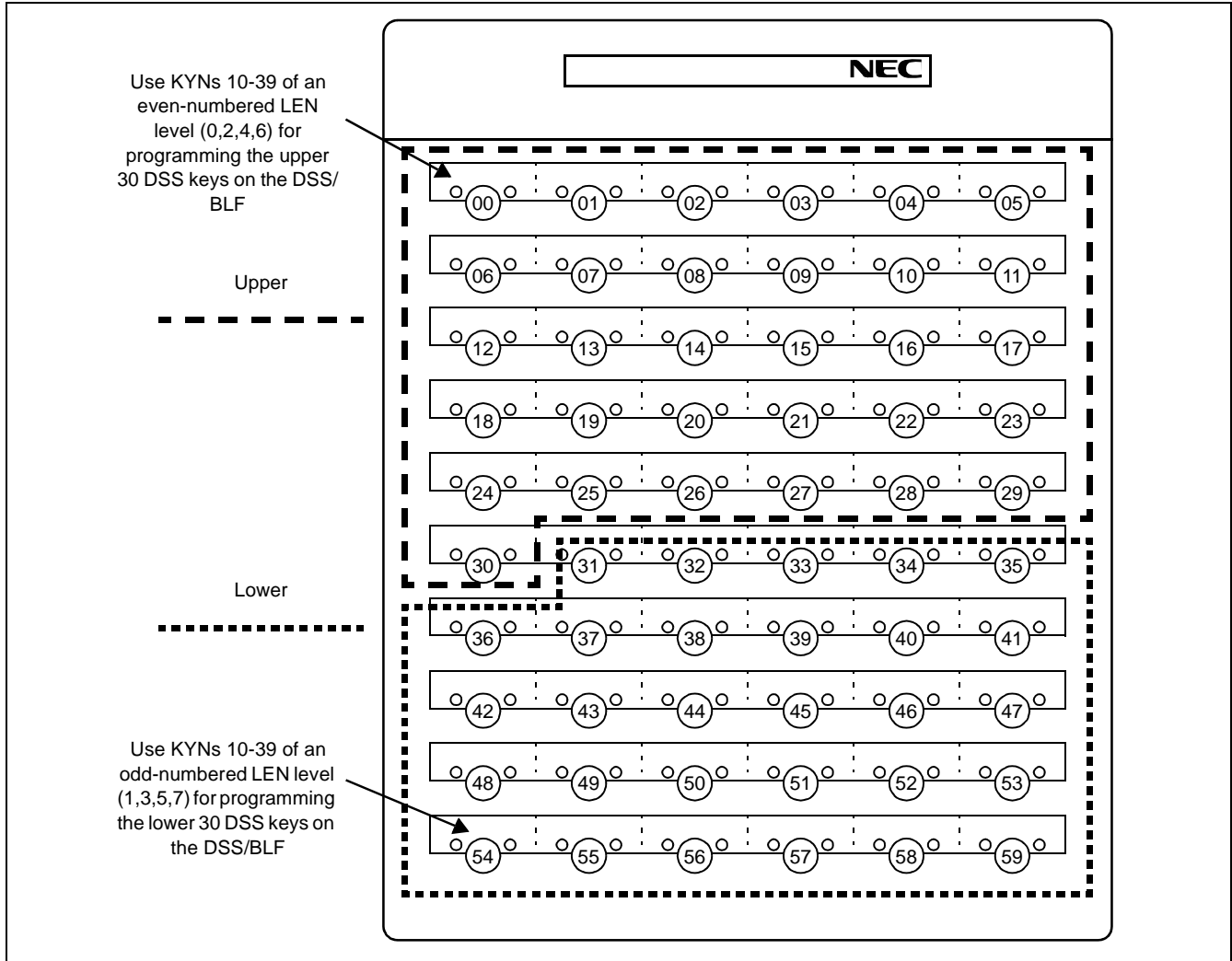
DSS Key Assignment for DSS/BLF

Example of Data Programming for DSS/BLF

ASDT

Tenant Number (TN) 1-63	Station Number (STN) Max. 5 Digits	Line Equipment Number (LENS)				Tele. Equip. Class (TEC) 1-31	Route Rest. Class (RSC) 0-15	Service Feature Class (SFC) 0-15	Remarks
		MG	U	G	LV				
	200	0 0	0	1 0	*0	X	X	X	For DSS/BLF
X	201	0 0	0	1 0	**1	X	X	X	For DSS/BLF
	400	0 0	0	1 0	7	X	X	X	For Assoc. D^term

Note: *0=Even-numbered LEN level
              **1=Odd-numbered LEN level

Programming (cont'd)

AKYD

For even-numbered LV (2n)

My Line		Type of D^term (TP) 0/1	Ring Data (RING) 0-3	Form of Line Preference (PRI) 0-3	Line Preference (LN PRE) 0/1	Line Preference for Speaker Button (SPK) 0	
Tenant Number (TN) 1-15/63	Station Number (STN) Max. 5 Digits						
*X	200	1	X	0	0	0	

Line Preference for Answer Button (ANS) 0-2	Line Preference for Originating Button (ORG) 0/1	Message Waiting Data Display Selection (MWD) 0/1		Prime Line		OG From Prime Line (S) 0/1	
				Tenant Number (TN) 1-63	Station Number (STN) Max. 5 Digits		
		X		X	400 (=D^term)	0	

Key Number (KYN) 1-16	Service Key Index (KYI) 0-2	Feature key Number (FKY) 1-65	Multi Line			Intercom	
			Line Identity (KD) 0-3	Tenant Number (TN) 1-15	Station Number (STN) Max. 5 Digits	Kind of Intercom (ICM) 0-2	Group ID Number (G-ID) 1-50
**1	2 (=Multi Line)		0 (=Line)	X	200		
**2	2 (=Multi Line)		0 (=Line)	X	400 (D^term)		
**3	/	/	/	/	/	/	/
**4	/	/	/	/	/	/	/
**5	/	/	/	/	/	/	/
**6	/	/	/	/	/	/	/
**7	/	/	/	/	/	/	/
**8	/	/	/	/	/	/	/
**9	/	/	/	/	/	/	/
**10	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**11	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**12	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**13	2 (=Multi Line)		2 (=DSS)	X	X	X	X
"	"	"	"	"	"	"	"

Note: *Buttons 1-40 are assignable / **Assignment of DSS keys (KYNs 1-30) using even-numbered LEN level*

31	2 (=Multi Line)		2 (=DSS)	X	X	X	X
32	2 (=Multi Line)		2 (=DSS)	X	X	X	X
33	2 (=Multi Line)		2 (=DSS)	X	X	X	X
34	2 (=Multi Line)		2 (=DSS)	X	X	X	X
35	2 (=Multi Line)		2 (=DSS)	X	X	X	X
36	2 (=Multi Line)		2 (=DSS)	X	X	X	X
37	2 (=Multi Line)		2 (=DSS)	X	X	X	X
38	2 (=Multi Line)		2 (=DSS)	X	X	X	X
39	2 (=Multi Line)		2 (=DSS)	X	X	X	X

Programming (cont'd)

For odd-numbered LV (2n+1)

My Line		Type of D^{term} (TP) 0/1	Ring Data (RING) 0-3	Form of Line Preference (PRI) 0-3	Line Preference (LN PRE) 0/1	Line Preference for Speaker Button (SPK) 0	
Tenant Number (TN) 1-15/63	Station Number (STN) Max. 5 Digits						
*X	201	1	X	0	0	0	

Line Preference for Answer Button (ANS) 0-2	Line Preference for Originating Button (ORG) 0/1	Message Waiting Data Display Selection (MWD) 0/1	Prime Line		OG From Prime Line (S) 0/1	
			Tenant Number (TN) 1-63	Station Number (STN) Max. 5 Digits		
		X	X	400 (=D^{term})	0	

Key Number (KYN) 1-16	Service Key Index (KYI) 0-2	Feature Key Number (FKY) 1-65	Multi Line			Intercom	
			Line Identity (KD) 0-3	Tenant Number (TN) 1-15	Station Number (STN) Max. 5 Digits	Kind of Intercom (ICM) 0-2	Group ID Number (G-ID) 1-50
1	2 (=Multi Line)		0 (=Line)	X	201		
2	2 (=Multi Line)		0 (=Line)	X	400 (D^{term})		
3							
4							
5							
6							
7							
8							
9							
10	2 (=Multi Line)		2 (=DSS)	X	X	X	X
11	2 (=Multi Line)		2 (=DSS)	X	X	X	X
12	2 (=Multi Line)		2 (=DSS)	X	X	X	X
13	2 (=Multi Line)		2 (=DSS)	X	X	X	X
"	"	"	"	"	"	"	"
**31	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**32	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**33	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**34	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**35	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**36	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**37	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**38	2 (=Multi Line)		2 (=DSS)	X	X	X	X
**39	2 (=Multi Line)		2 (=DSS)	X	X	X	X

Note: *Buttons 1-40 are assignable / **Assignment of DSS keys (KYNs 31-60) using odd-numbered LEN level.*

Programming (cont'd)

Add-On Module

This section covers how to assign an Add-On Module. The associated data programming is explained in the following example:

In this example an Add-On Module and the associated D^{term} are assigned as follows:

Terminal	Line equipment number (LEN)	Station number (STN)
Add-On Module	000101	201 **(Note)**
D^{term}	000100	200

Note: *Station number "201" is used only for assigning Line/Feature access keys to the Add-On Module. Accordingly, these numbers are not used when operating the Add-On Module.*
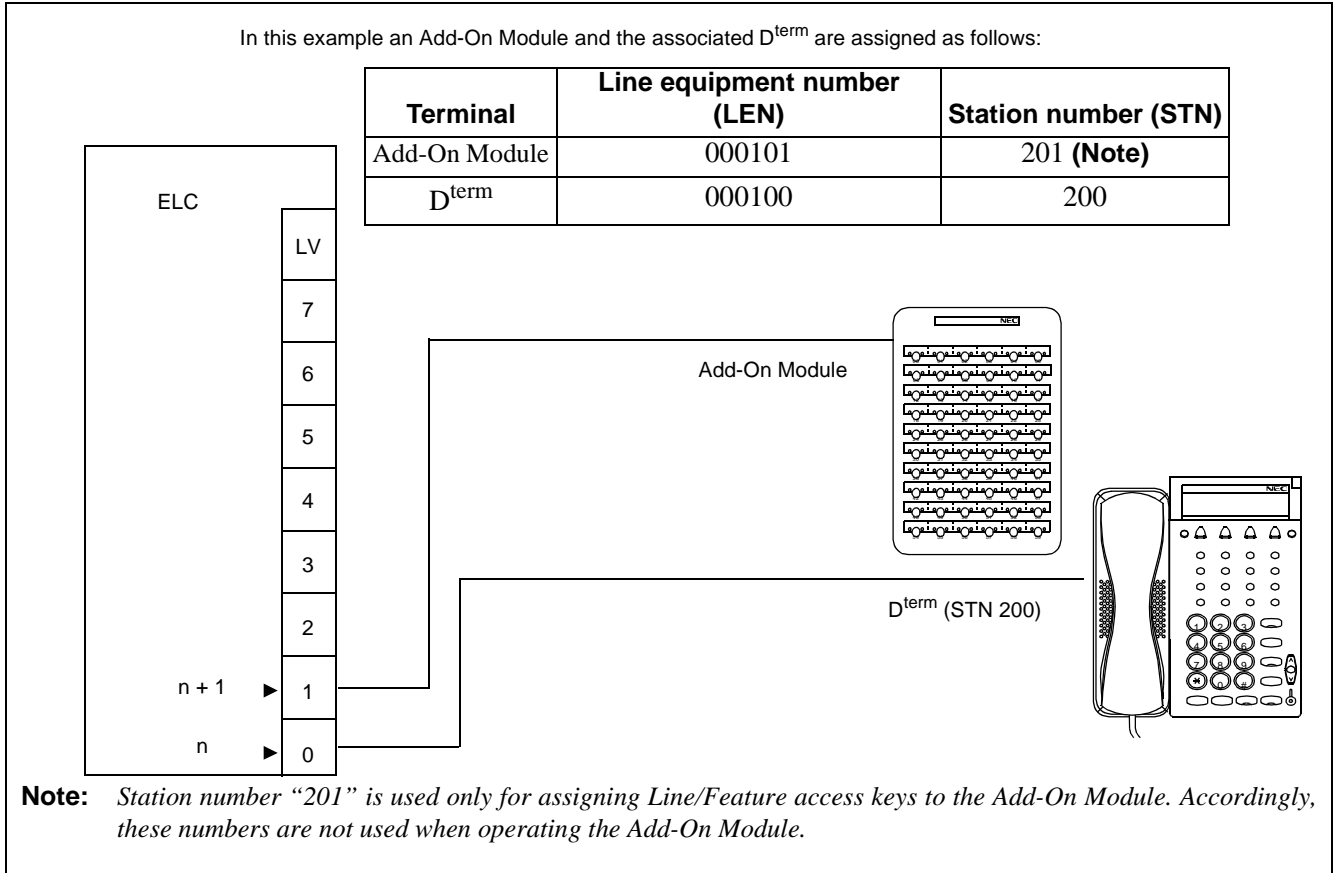
Example of Data Programming for Add-On Module

Data Programming Procedure for Add-On Module

When assigning Add-On Module data, perform the following procedure. Note that "X" indicates the value should be tailored to the existing system.

STEP 1: Assign a D^{term} to an even-numbered LEN level. (In this example, "LV 0" is used.) Assign the Add-On Module to the subsequent odd-numbered LEN level. (In this example "LV 1" is used.)

TN: X
STN: 201
LEN: 000101 ← odd-numbered LEN level
TEC: 12 ← fixed
RSC: X
SFC: X

STEP 2: Assign Line/Feature access keys to the Add-On Module. The upper 24 Line/Feature access keys belong to the associated D^{term} and the remaining lower 36 Line/Feature access keys belong to the Add-on Module. Assignment of the D^{term} and first 24 keys on the ADM: For assigning these keys' information, the associated D^{term} port is used.

Programming (cont'd)

TN:	X
STN:	200
TP:	1 ← Buttons 1-40 assignable
RING:	X
PRI:	0
LN PRE:	0 (= Prime Line Pick up)
MWD:	X
PL TN:	X
STN:	200
S:	0 (= Off Hook Suppression is off)
KYN:	1-16 (for D^{term})
	17-40 ← Correspond to KYNs (1-24) on the Add-On Module
KYI:	X
KD:	X
TN:	X
STN:	XXXX
RG:	X
ICM:	X
G-ID:	X

Assignment of the last 36 keys on the ADM: For assigning these keys' information, the Add-On Module port is used.

TN:	X
STN:	201
TP:	1 ← Buttons 1-40 assignable
RING:	X
PRI:	0
LN PRE:	0 (= Prime Line Pick up)
MWD:	X
PL TN:	X
STN:	200 ← Enter the associated D^{term} as a PLSTN
S:	0 (=Off Hook Suppression is off)
KYN:	5-40 ← Correspond to KYNs 25-60 on the Add-On Module
KYI:	X
KD:	X
TN:	X
STN:	XXXX
RG:	X
ICM:	X
G-ID:	X

Programming (cont'd)

Use KYNs 17-40 of the associated D^term for programming the first 24 Line/Feature access keys on the Add-On Module.

NEC

Upper

```
00  01  02  03  04  05
06  07  08  09  10  11
12  13  14  15  16  17
18  19  20  21  22  23
24  25  26  27  28  29
30  31  32  33  34  35
36  37  38  39  40  41
42  43  44  45  46  47
48  49  50  51  52  53
54  55  56  57  58  59
```

Lower

Use KYNs 5-40 of the Add-On Module for programming the remaining 36 Line/Feature access keys on the Add-On Module.

DSS Key Assignment for Add-On Module

Example of Data Programming for Add-On Module

ASDT

Tenant Number (TN) 1-63	Station Number (STN) Max. 5 Digits	Line Equipment Number (LENS)				Tele. Equip. Class (TEC) 1-31	Route Rest. Class (RSC) 0-15	Service Feature Class (SFC) 0-15	Remarks
		MG	**U**	**G**	**LV**				
X	200	0 0	0	1 0	*0	X	X	X	For D^term
	201	0 0	0	1 0	**1	X	X	X	For Add-On Module

Note: *0=Even-numbered LEN level
      **1=Odd-numbered LEN level

Programming (cont'd)

AKYD

For Line/Feature access keys: KYNs 1-24 (D^term)

My Line		Type of D^term (TP) 0/1	Ring Data (RING) 0-3	Form of Line Preference (PRI) 0-3	Line Preference (LN PRE) 0/1	Line Preference for Speaker Button (SPK) 0	
Tenant Number (TN) 1-15/63	Station Number (STN) Max. 5 Digits						
*X	200 (=D^term)	1	X	0	0		

Line Preference for Answer Button (ANS) 0-2	Line Preference for Originating Button (ORG) 0/1	Message Waiting Data Display Selection (MWD) 0/1	Prime Line		OG From Prime Line (S) 0/1	
			Tenant Number (TN) 1-63	Station Number (STN) Max. 5 Digits		
		X	X	200 (=D^term)	0	

Key Number (KYN) 1-16	Service Key Index (KYI) 0-2	Feature Key Number (FKY) 1-65	Multi Line			Intercom	
			Line Identity (KD) 0-3	Tenant Number (TN) 1-15	Station Number (STN) Max. 5 Digits	Kind of Intercom (ICM) 0-2	Group ID Number (G-ID) 1-50
**1	X	X	X	X	X	X	X
**2	X	X	X	X	X	X	X
**3	X	X	X	X	X	X	X
**4	X	X	X	X	X	X	X
**5	X	X	X	X	X	X	X
**6	X	X	X	X	X	X	X
**7	X	X	X	X	X	X	X
**8	X	X	X	X	X	X	X
**9	X	X	X	X	X	X	X
**10	X	X	X	X	X	X	X
**11	X	X	X	X	X	X	X
**12	X	X	X	X	X	X	X
**13	X	X	X	X	X	X	X
**14	X	X	X	X	X	X	X
**15	X	X	X	X	X	X	X
**16	X	X	X	X	X	X	X
17	X	X	X	X	X	X	X
18	X	X	X	X	X	X	X
19	X	X	X	X	X	X	X
"	"	"	"	"	"	"	"

Note: *Buttons 1-40 are assignable / **Assignment of Line/Feature access keys (KYNs 1-16) on D^term "200" / **Assignment of Line/Feature access keys (KYNs 1-24) on Add-On Module "201"*

38	X	X	X	X	X	X	X
39	X	X	X	X	X	X	X
40	X	X	X	X	X	X	X

Programming (cont'd)

For Line/Feature access keys: KYNs 25-60 (Add-On Module)

My Line		Type of D^{term} (TP) 0/1	Ring Data (RING) 0-3	Form of Line Preference (PRI) 0-3	Line Preference (LN PRE) 0/1	Line Preference for Speaker Button (SPK) 0	
Tenant Number (TN) 1-15/63	Station Number (STN) Max. 5 Digits						
*X	201 (=Add-On Module)	1	X	0	0		

Line Preference for Answer Button (ANS) 0-2	Line Preference for Originating Button (ORG) 0/1	Message Waiting Data Display Selection (MWD) 0/1		Prime Line		OG From Prime Line (S) 0/1	
				Tenant Number (TN) 1-63	Station Number (STN) Max. 5 Digits		
		X		X	200 (=D^{term})	0	

Key Number (KYN) 1-16	Service Key Index (KYI) 0-2	Feature Key Number (FKY) 1-65	Multi Line			Intercom	
			Line Identity (KD) 0-3	Tenant Number (TN) 1-15	Station Number (STN) Max. 5 Digits	Kind of Intercom (ICM) 0-2	Group ID Number (G-ID) 1-50
**1	2(=Multi Line)		0 (=Line)	X	201 (=Add-On Module)		
2	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/
4	/	/	/	/	/	/	/
5	X	X	X	X	X	X	X
6	X	X	X	X	X	X	X
7	X	X	X	X	X	X	X
8	X	X	X	X	X	X	X
9	X	X	X	X	X	X	X
10	X	X	X	X	X	X	X
"	"	"	"	"	"	"	"
***32	X	X	X	X	X	X	X
***33	X	X	X	X	X	X	X
***34	X	X	X	X	X	X	X
***35	X	X	X	X	X	X	X
***36	X	X	X	X	X	X	X
***37	X	X	X	X	X	X	X
***38	X	X	X	X	X	X	X
***39	X	X	X	X	X	X	X
***40	X	X	X	X	X	X	X

Note: *Buttons 1-40 are assignable / **Assignment of Line Appearance data for Add-On Module "201" / ***Assignment of Line/Feature access keys (KYNs 25-60) on Add-On Module "201"*

D-153 Distinctive Ringing - Caller ID

General Description

This feature is a part of CALLER ID service. This feature provides a distinctive ringing pattern (0, 1, 5, 6 or 7) according to the received calling number.

Operating Procedure

No manual operation is required.

Service Conditions

1. On-off timing of Ringer Patterns 0, 1, 5, 6 and 7 can be changed using ASYD command. System data assigned for Ringer Patterns 6 and 7 cannot be applied to the analog telephone.

2. Ringer patterns 6 and 7 can be used for ELC circuit cards and the following LC circuit cards. With regard to other LC cards, ringer patterns 0, 1, 5 are available for this feature.

Circuit Card Name	Remarks
PA-16LCBE	
PA-16LCBJ	
PA-16LCBJ-A	
PA-16LCBJ-B	
SN868 DRE-A	
SN880 DRE-A	

3. When the calling number is not received, this service is not available (the ringing pattern is determined according to the parameter 12:DR of ARTD).

4. The calling number for this service is assigned to the parameter CID of ACID. When only the first part of the calling number is assigned to the CID, this feature is applied to any calling number that begins with the assigned number. For example, when "1471" is assigned to the CID, this feature is applied to any calling number that begins with "1471" such as 1471-12-3456 and 1-471-234-5678.

5. The following numbers cannot be assigned to the parameter CID of ACID command:
    • The first part of the already assigned number
    • The number whose first part is the same as the already assigned number
    For example, when "123" is already assigned to the CID, such numbers as "1", "12" or "1234" cannot be assigned.

6. When the calling number is received via CCIS line, this feature is available for the first 16 digits (provided that "1" is assigned to 98: CI of ARTD).

7. This service is available only for stations (single line telephone and D^{term}).

8. This service is available when an incoming call is directly terminated to a station and/or an incoming call is transferred to a station using Call Forwarding - All Calls/Busy Line/Don't Answer.

9. This service is not available when a call is terminated to an ISDN terminal.

10. FAX Ringer overrides this feature.

11. This feature takes precedence over the Personal Ringer function.

12. A maximum of 12 calling numbers can be assigned for a single station.

Service Conditions (cont'd)

13. Ringer patterns 2, 3 or 4 cannot be assigned for this feature. When one of those ringer patterns is assigned from the MAT, default value "Ringer pattern 6" is automatically set.

14. When System Data 3 is changed, circuit card (LC,ELC) initialization is required.

15. The following circuit card is required for Analog Caller ID:

Circuit Card Name	Remarks
PA-8COTBJ	

16. When the multiple incoming calls are simultaneously terminated to the multi-line on the D^{term}, the priority of ringing pattern is as follows:

Priority	1st	2nd	3rd	4th	5th
Ringing pattern	RG7	RG6	RG5	RG0	RG1

Programming

STEP 1: **ASYD** - System Data 1, Index 417, Bit 0. Recall Ringer Pattern for CALL BACK [C-1], CALL WAITING - ORIGINATING [C-31], and OUTGOING TRUNK QUEUING [O-2].

0/1 = Ringer pattern 5/Ringer pattern 1.

System Data 3, Index 0. Assign Timer Value for Ringer Pattern 0.

System Data 3, Index 1: Assign Timer Value for Ringer Pattern 1.

System Data 3, Index 3, Bit 0. 2 Burst on the ON Time for Ringer Pattern 0. 0/1 = Not required/ Required.

System Data 3, Index 3, Bit 1. 2 Burst on the ON Time for Ringer Pattern 1. 0/1 = Not required/ Required.

System Data 3, Index 3, Bit 5. 3 Burst on the ON Time for Ringer Pattern 5. 0/1 = Not required/ Required.

System Data 3, Index 7: Assign Timer Value for Ringer Pattern 5.

System Data 3, Index 8: Assign Timer Value for Ringer Pattern 6.

System Data 3, Index 9: Assign Timer Value for Ringer Pattern 7.

STEP 2: **ACID** - Assign the calling number for this service.

TYPE: 1
TN: Tenant number
STN: Station number
CID: Calling number (Maximum 28 digits)
SRV: 6 (Distinctive Ringing - Caller ID)
RGP: Ringer pattern (0, 1, 5 - 7)

FCCS Programming

No unique programming is required for the FCCS network.

D-156 Dual Station Call

General Description

This feature allows a user to simultaneously call two stations (referred as a Main Station and Sub Station), which are accommodated in two different nodes within an FCCS network, by dialing one telephone number of the Main Station. At that time, the call can be answered from either the Main or the Sub Station. Additionally, when this service is used with BOSS-SECRETARY service, the Main Station can forward a call automatically from a secretary station.

This service requires the data setting of FCCS link. For more information on FCCS data, see the NEAX2400 IMX Fusion Network System Manual.

Operating Procedure

When DUAL STATION CALL is activated without BOSS-SECRETARY service:
1. To call two D^{term}s from the station:
   a.) Lift the handset.
   b.) Receive dial tone.
   c.) Dial the telephone number of a Main Station.
   d.) Main Station and Sub Station ring.
2. To pick up a call:
   a.) A station answers the call.
   b.) The caller is connected with the station which picked up the call (the other station stops ringing).

Note: *If the call is abandoned, both D^{term}s stop ringing.*

When DUAL STATION CALL is activated with BOSS-SECRETARY service (B-MOVE key is not set):
Station A ⟶ Main Station (Boss Station)
Station B ⟶ Sub Station
Station C ⟶ Secretary station which accommodates sub line to be assigned the Main Station's number
1. To call two D^{term}s from a station:
   a.) Lift the handset.
   b.) Receive dial tone.
   c.) Dial Station A's telephone number.
   d.) Station A, Station B and Station C ring.
2. To pick up a call via Station C:
   a.) Station C answers the call.
   b.) The caller is connected with Station C.
   c.) Station A and Station B stop ringing.
   d.) Station C presses Station A's line.
   e.) The caller hears MSC.
   f.) Station C calls Station A.

When DUAL STATION CALL is activated with the BOSS-SECRETARY service (B-MOVE key is set):
Station A ⟶ Main Station (Boss Station)
Station B ⟶ Sub Station (the destination for the B-MV key)
Station C ⟶ Secretary station which accommodates sub line to be assigned the Main Station's number
1. To call two D^{term}s from a station:
   a.) Lift the handset.
   b.) Receive dial tone.

Operating Procedure (cont'd)

        c.) Dial Station A's telephone number.

        d.) Station A, Station B and Station C ring.

    2.   To answer a call via Station C:

        a.) Station C answers.

        b.) The caller is connected with Station C.

        c.) Station A and Station B stop ringing.

        d.) Station C presses Station A's line.

        e.) The caller hears MSC and Station C's user hears ringback tone.

        f.) Station C calls Station B as assigned Station A's destination for B-MV key. Station B rings.

Note 1: *When Station B is busy, Station C hears busy tone. Station C can perform a switch hook flash to connect with the calling party again. This operation is the same as CONSULTATION HOLD-ALL CALLS [C-17].*

Note 2: *When a Sub Station is programmed as BOSS station, the current BOSS-SECRETARY service is activated.*

Note 3: *When the destination for NUMBER SHARING is set by pressing the PS key, the secretary station cannot transfer a call to the Sub Station.*

To set/cancel the B-MV key:

    1.   To set the B-MV key:

        a.) When a D^{term} is idle, press the B-MV key.

        b.) Lamps of the B-MV key accommodated in the Main Station and Sub Station light. (When the PS key is assigned to the D^{term}, PS key lights also.) The LCD displays as shown below:

```
FORWARD SET
```

    2.   To cancel the B-MV key:

        a.) Press the B-MV key while the D^{term} is idle.

        b.) Lamps of the B-MV key accommodated in the Main Station and Sub Station go off. (When the PS key is assigned to the D^{term}, PS key also goes off.) The LCD displays as shown below:

```
FORWARD CANCEL
```

Service Conditions

    1.   A telephone number must be assigned to Main Station and Sub Station.

    2.   Only the D^{term} can be programmed as Main Station and Sub Station.

    3.   Any station within the FCCS network can be a pair of Main Station and Sub Station.

    4.   Main Station or Sub Station assignment cannot be duplicated for another pair.

    5.   Only one telephone number as Sub Station can be assigned to a Main Station.

    6.   B-MV feature key can only be set when the station is idle.

    7.   The calling party's LCD will display the telephone number of a Main Station no matter which station picks up the call. Also, when Sub Station picks up a call from CCIS line, the telephone number of the Main Station is sent to the calling party.

    8.   MESSAGE REMINDER [M-19] is available for the terminating station service (all stations).

    9.   MESSAGE WAITING service set by the CMWL command is available for the preassinged station.

    10.   CALL BACK [C-1] is available for only the station to be set CALL BACK.

Service Conditions (cont'd)

11. This service is activated in a Hotel/Motel system, but not activated with Hotel/Motel application service.

12. When a Sub Station is in communication, the telephone number of the Sub Station is sent to OAI or MFC as Calling Number notification.

13. When a Sub Station is busy, a call terminates to the Main Station only. However, when a Main Station is busy, a call is not terminated to an idle Sub Station.

14. When the telephone number of a Sub Station is dialed, a call is terminated to the Sub Station only.

15. When this service is activated with BOSS-SECRETARY service and a Sub Station is assigned as a BOSS station, the BOSS-SECRETARY service is activated as usual by pressing Boss's line accommodated in secretary station's sub line.

16. When a Sub Station is called through FCCS link, FLEXIBLE ROUTING - FCCS [F-35] is not available, even though all FCCS links are busy.

Interactions

1. When any of these services is set to a Main Station, the service has priority over DUAL STATION CALL:

CALL FORWARDING-BUSY LINE	[C-2]
CALL FORWARDING-ALL CALLS	[C-5]
DO NOT DISTURB	[D-11]

2. When CALL FORWARDING - DON'T ANSWER is set to a Main Station, it is activated depending on the time-out data programmed in the Main Station.

3. When CALL BLOCK is set to a Main Station, which is in the middle of being called for DUAL STATION CALL, CALL BLOCK has priority over this feature. (CALL BLOCK cannot be set to Sub Station while DUAL STATION CALL is activated.)

4. The LCD indication for My Line displays each station's telephone number.

5. When a Main Station is assigned as a member of a UCD group or a STATION HUNTING group, the priority order of these services is shown in the table below:

Main Station		Controlling/Pilot Station (Note)		The Other Member Station	
B-MV Key		**None**	**Set**	**None**	**Set**
Group	Station Hunting-Pilot	1	1	1	2
	Station Hunting-Circular	1	1	1	2
	UCD	1	2	1	2

Legend:
1 = Both Main Station and Sub Station are called (DUAL STATION CALL is activated).
2 = UCD/STATION HUNTING is activated.

6. When CALL FORWARDING-ALL CALLS/-BUSY LINE/-DON'T ANSWER is set to a Sub Station:

   a.) DUAL STATION CALL is activated by dialing the Main Station's telephone number.

   b.) The services shown above are activated by dialing the Sub Station's telephone number.

7. A station cannot be used simultaneously for DUAL STATION CALL and NUMBER SHARING since the data of these services are used in common. For more detailed information on NUMBER SHARING, refer to the NEAX2400 IMX PCS Features and Specifications.

8. When a calling party sets VOICE CALL [V-2] or performs switch hook flash while calling a Main Station and Sub Station, the Sub Station stops ringing.

Interactions (cont'd)

9. This service is not activated when a call is terminated via INTERCOM CALLING [I-9], AUTOMATIC/ MANUAL INTERCOM [A-30], DIAL INTERCOM [D-87] or MANUAL SIGNALING [M-47] (only the Main Station rings).

10. This service is not activated while CALL BACK [C-1], CALL BACK DELAYED [C-73], CALL BACK-CCIS [C-44], ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] or ATTENDANT CAMP-ON WITH TONE INDICATION-CCIS [A-45] is activated.

11. When a Main or Sub station accommodates PS key and B-MV key, both keys light by pressing any of these keys.

12. When Do Not Disturb [D-11] is set to Sub Station, the incoming call routed to Main Station is terminated to Main Station only.

13. When Sub Station is set Call Block [C-150], the incoming call routed to Main Station terminates to both Main Station and Sub Station.

14. When Do Not Disturb [D-11] or Call Block [C-150] is set to Sub Station, the incoming call routed to Sub Station is restricted.

15. When a Sub Station is called through an FCCS link, FLEXIBLE ROUTING - FCCS [F-35] is not available.

16. When a Main Station does not pick up a CALL FORWARDING-DON'T ANSWER call within the preassigned time via system data, the Sub Station stops ringing.

Programming

STEP 1: **ASYDL** - System Data 1, Index 513: Assign 01 (hex) as the LDM's memory block number

System Data 1, Index 514: Assign 01 (hex) as the NDM's memory block number

STEP 2: **ANSDL/ANSDN** - Assign the related data of Dual Station Call.

MAIN UGN, MAIN TELN:

SUB UGN, SUB TELN:

OD: 0 = Only Main Telephone Number is used for SMDR and MCI Mailbox Number

       1 = Both Main Telephone Number and Sub Telephone Number are used for SMDR and MCI Mailbox Number

Note 1: *When OD=0, the mailbox for the Sub Station must be deleted.*

MW (This data is available when OD=0)

       0 = Message Waiting Control for Main and Sub Telephone Numbers

       1 = Message Waiting Control for Main Telephone Number only

Note 2: *When the data value for MV changes from 0 to 1, make sure there are no messages left (MWL is OFF). If MWL is ON at that time, the old lamp indication stays after the data is changed.*

LM: 0 = Number Sharing

      1 = Dual Station Call

STEP 3: **AKYD** - Assign sub-line appearance on secretary phone of Main Station and Sub Station. Assign KYI=1 (Feature key) and FKY=127 (B-MV key).

STEP 4: **ADSL** - Assign the soft key pattern data.

SN=0

FKY=127 (B-MV key)

STEP 5: **ADKS** - Assign the B-MV key to the soft key of each station. **(Note)**

TN (tenant number), STN (station number)

SKP (soft key pattern):1~15

Programming (cont'd)

LKP (Key Pattern Data):1=16 Line/Feature buttons + 16 DSS keys

        2 = 24 Line/Feature buttons + 8 DSS keys

        3 = 32 Line/Feature

PG: 0 = Page Change key appears on the soft key (>>>)

        1 = Page Change key appears on the feature key

Note 3: *When the soft key data is used on a system basis (SKP=0 is assigned by the ADSL command), this data is not necessary.*

FCCS Programming

Refer to the NEAX2400 IMX Fusion Network System Manual.

E-1 Executive Right-of-Way

General Description

This feature enables selected users, upon encountering a busy condition at an internal station, to bridge into the busy connection.

Operating Procedure

To enter a busy connection:
1. Dial the busy station; receive busy tone.
2. Switch hook flash; receive special dial tone.
3. Dial the EXECUTIVE RIGHT-OF-WAY access code; warning tone is sent.
4. The calling station is now bridged into a three-way call.

Service Conditions

1. Two tone bursts of.08 second duration are transmitted upon activation of this feature to alert the connected parties that an executive override connection is being made.
2. The LCD display on the interrupted party's D^{term} will give an indication only if INTERMEDIATE STATION NUMBER DISPLAY - D^{term} [I-10D] has been programmed in System Data.
3. EXECUTIVE RIGHT-OF-WAY is denied if the busy station is:

    a.) dialing or in a LINE LOCKOUT [L-3] state
    b.) listening to a tone
    c.) being rung
    d.) protected from override via CLASS OF SERVICE - INDIVIDUAL [C-15]
    e.) being connected to an ATTENDANT CONSOLE [A-3] loop
    f.) activating a conflicting feature, such as:

ATTENDANT OVERRIDE	[A-7]
BOSS - SECRETARY OVERRIDE - D^{term}	[B-5, B5-D]
BUSY VERIFICATION	[B-3, B-9]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10, C-11, C-50, C-54]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-58]
DATA LINE SECURITY	[D-12, D-66]
DATA PRIVACY ON DEMAND	[D-17, D-68]
DIAL ACCESS TO ATTENDANT	[D-2, D-71]
EXCLUSIVE HOLD - D^{term}	[E-4D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7, O-11]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL - D^{term}	[V-2, V-7]
Data Call through a Data Adapter / Data Call through a Data Module	

Note: *In any of the above instances, the calling station will receive reorder tone.*

Service Conditions (cont'd)

4. If one party disconnects after the three-way conference bridge is established, the remaining two parties will still be connected.

5. The EXECUTIVE RIGHT-OF-WAY access code may be assigned according to customer preference.

6. The maximum number of simultaneous Executive Overrides allowable is dependent on the number of conference function trunks in the system. (Conference function is included in TSW and MUX circuit cards.)

7. This feature can be denied on DICTATION ACCESS [D-3] and PAGING ACCESS [P-1, 28] connections through programming in System Data.

8. If the called station has activated CALL FORWARDING - ALL CALLS [C-5] or - BUSY LINE [C-2] and the forwarded-to station is busy, the EXECUTIVE RIGHT-OF-WAY call will bridge into the forwarded-to station.

9. If the called station line has a party on CALL HOLD [C-6], override is not allowed to the called station line, and reorder tone is provided. Terminating override calls are denied when the called party has another party in a CONSULTATION HOLD [C-17] condition.

10. If the called station is maintenance busy and EXECUTIVE RIGHT-OF-WAY is invoked, override is denied and reorder tone is returned to the calling station.

11. It is possible, via System Data, to disable the sending of a warning tone during an EXECUTIVE RIGHT-OF-WAY connection. Normally the two burst warning tone is sent when the connection is initiated.

12. The node accommodating the called station requires Conference Trunk (CFT) function in the FCCS network.

Programming

STEP 1:   **ASYD** - System Data 1, Index 70, Bit 7. Send Warning Tone to interrupted parties when Executive Right-of-Way is in operation 0/1: Required/Not Required.
               System Data 2, Index 0, Bit 1. Busy station service. Assign data "1".

STEP 2:   **ANPD** - Assign first digit of access code for EXECUTIVE RIGHT-OF-WAY.

STEP 3:   **ASPA** - Assign an access code for EXECUTIVE RIGHT-OF-WAY, SID 4 for Connection Status Index (CI) of Busy (B).

STEP 4:   **ASFC** - Assign Service Feature Indexes of 3 (EXECUTIVE RIGHT-OF-WAY calling side), 4 (EXECUTIVE RIGHT-OF-WAY called side), and 11 (Data Line Security).

STEP 5:   **AKYD** - Assign EXECUTIVE RIGHT-OF-WAY to a programmable line/feature key. Assign Type:Function:EXECUTIVE RIGHT- OF- WAY [3].

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ANPDL** - Assign first digit of access code for EXECUTIVE RIGHT-OF-WAY.

STEP 2:   **ASPAL** - Assign an access code for EXECUTIVE RIGHT-OF-WAY, SID 4 for Connection Status Index (CI) of Busy (B).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

E-1D   Executive Right-of-Way - D^term

General Description

This feature enables selected D^term users, upon encountering a busy condition at an internal station, to bridge into the busy connection after transmitting a warning tone.

Operating Procedure

To enter a busy connection from a D^term:
1. Dial the busy station; receive busy tone.
2. Press the EXECUTIVE RIGHT-OF-WAY OVER key; the associated LED lights and warning tone is sent.
3. The calling station is bridged into a THREE-WAY CALLING [T-2]; the LCD displays:

```
        Interrupted Party                    Called Party
       ┌─────────────────────────────────────────────────┐
       │  OVERRIDE      XXXX              XXXX             │
       │              (Time Display)                      │
       │                                                  │
       │                                                  │
       └─────────────────────────────────────────────────┘
```

The LCD then displays:

```
       ┌─────────────────────────────────────────────────┐
       │    CONF                                          │
       │               (Time Display)                     │
       │                                                  │
       │                                                  │
       └─────────────────────────────────────────────────┘
```

Service Conditions

1. Two burst tones (.08 second) are transmitted upon activation of this feature to alert the connected parties that an EXECUTIVE RIGHT-OF-WAY call has been bridged into the connection.
2. The LCD display on the interrupted party's D^term will give an indication only if INTERMEDIATE STATION NUMBER DISPLAY - D^term [I-10D] has been programmed in System Data.
3. EXECUTIVE RIGHT-OF-WAY is denied if the busy station is:
    a.) dialing or in a LINE LOCKOUT [L-3] state
    b.) receiving a tone
    c.) being rung
    d.) protected from override via CLASS OF SERVICE - INDIVIDUAL [C-15]
    e.) being connected to an Attendant loop
    f.) activating a conflicting feature, such as:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS - SECRETARY OVERRIDE	[B-5D]
BUSY VERIFICATION	[B-3, B-9]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10,C-11,C-50, C-54]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-58]
DATA LINE SECURITY	[D-12, D-66]
DATA PRIVACY ON DEMAND	[D-17, D-68]
DIAL ACCESS TO ATTENDANT	[D-2, D-71]

Service Conditions (cont'd)

EXCLUSIVE HOLD - D^{term}	[E-4D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7, O-11]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY - D^{term}	[P-14D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL	[V-2, V-7]
VOICE CALL - D^{term}	[V-2D]

Data Call through Data Adapter / Data Call through Data Module

Note: *In any of the above instances, the calling station will receive reorder tone.*

4. If one party disconnects after the THREE-WAY CALLING [T-2] has been established, the other two parties will remain connected.

5. EXECUTIVE RIGHT-OF-WAY can also be accessed via the dial pad (access code) or SPEED CALLING - ONE TOUCH - D^{term} [S-26D].

6. The maximum number of simultaneous executive overrides allowable is dependent on the number of conference function trunks in the system. (Conference function is included in TSW and MUX circuit cards.)

7. This feature can be denied on DICTATION ACCESS [D-3] and PAGING ACCESS [P-1, 28] connections through programming in System Data.

8. If the called station has activated CALL FORWARDING - ALL CALLS [C-5] and the forwarded-to station is busy, EXECUTIVE RIGHT-OF-WAY will bridge into the forwarded-to station.

9. It is possible, via System Data, to disable the sending of a warning tone during an EXECUTIVE RIGHT-OF-WAY connection. Normally, the two-burst warning tone is sent when the connection is initiated.

10. If the called station line has a party on CALL HOLD [C-6], override is not allowed to the called station line. Also override to a station line in CALL HOLD [C-6] is denied and reorder tone is provided. Terminating override calls are denied when the called party has another party in a CONSULTATION HOLD [C-17] condition.

11. If the called station is maintenance busy and EXECUTIVE RIGHT-OF-WAY is invoked, override is denied and reorder tone is returned to the calling station.

12. The node accommodating the called station requires Conference Trunk (CFT) function in the FCCS network.

Programming

STEP 1: **ASYD** - System Data 1, Index 70, Bit 7. Send Warning Tone to interrupted parties when Executive Right-of-Way service is in operation 0/1: Required/Not Required.

System Data 2, Index 0, Bit 1. Busy station service. Assign data "1".

STEP 2: **ANPD** - Assign first digit of access code for EXECUTIVE RIGHT-OF-WAY.

STEP 3: **ASPA** - Assign an access code for EXECUTIVE RIGHT-OF-WAY, SID 4 for Connection Status Index (CI) of Busy (B) and Hooking (H).

STEP 4: **ASFC** - Assign Service Feature Indexes of 3 (EXECUTIVE RIGHT-OF-WAY calling side), 4 (EXECUTIVE RIGHT-OF-WAY called side), and 11 (Data Line Security).

STEP 5: **AKYD** - Assign EXECUTIVE RIGHT-OF-WAY to a programmable line/feature key. Assign Type:Function:EXECUTIVE RIGHT- OF- WAY [3].

STEP 6: **ADSL** - Assign SN=3 (Called Station is Busy) and FKY=3 (Executive Right-of-Way; BV).

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 7: **ANPDL** - Assign first digit of access code for EXECUTIVE RIGHT-OF-WAY.

STEP 8: **ASPAL** - Assign an access code for EXECUTIVE RIGHT-OF-WAY, SID 4 for Connection Status Index (CI) of Busy (B) and Hooking (H).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

E-3D   Elapsed Time Display - D^{term}

General Description

This feature provides an LCD display of the time elapsed while a D^{term} is connected to any trunk.

Operating Procedure

No manual operation is required.

Service Conditions

1. The ELAPSED TIME is displayed in the eight left-side positions of the LCD display.
2. The ELAPSED TIME can reach a maximum of 9 hours, 59 minutes and 59 seconds. After that time, the clock returns to zero.
3. A continuous time display will occur during CONSULTATION HOLD - ALL CALLS [C-17] and THREE-WAY CALLING [T-2].
4. When a call is transferred, the time display of the party receiving the transfer begins from zero.
5. The elapsed time is not displayed when the station is in a specific condition such as:
   a.) THREE-WAY CALLING [T-2]
   b.) connected to a trunk with held trunk, as in the case of CONSULTATION HOLD [C-17].

Programming

       No programming is required.

E-4D   Exclusive Hold - D$^{\text{term}}$

General Description

This service feature allows a user to place a call on hold and to exclude all other users from retrieving the held call.

Operating Procedure

While a call is in progress:

1.   Press the HOLD key twice; the LCD displays:

<div align="center">Held Station or Trunk</div>

E_HOLD	**XXXX**
(Time Display)	

2.   To return to the held call, press the held line key; the conversation is reestablished.

Service Conditions

1.   EXCLUSIVE HOLD - D$^{\text{term}}$ may be activated from any line appearing on a D$^{\text{term}}$.

2.   After EXCLUSIVE HOLD has been set, the user can make or answer calls from any other line appearing on the D$^{\text{term}}$.

3.   Only the D$^{\text{term}}$ that sets EXCLUSIVE HOLD may retrieve the held call.

4.   After a variable programmable period of time, the held call will enter AUTOMATIC RECALL [A-8] regardless of the status of the D$^{\text{term}}$. Ringing, however, is disabled while DO NOT DISTURB - D$^{\text{term}}$ [D-11D] is activated.

5.   The LCD of other D$^{\text{term}}$ stations on which the held line appears will be lit steadily.

6.   Two-Party Hold is not available when a D$^{\text{term}}$ is engaged in a 3-party conference with a station and/or trunk.

7.   The held station is denied the following services:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D$^{\text{term}}$	[B-5D]
BUSY VERIFICATION	[B-3, B-9]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]

Programming

ASYD - System Data 1, Index 144. Automatic Recall Timer for D$^{\text{term}}$ hold. Assign as data 00H for default value of 30 seconds.

System Data 2, Index 12, Bit 1: Automatic Recall Ringer for Exclusive Hold.

0/1 = Recall/No Recall

E-11   Emergency Call

General Description

This feature allows a user to make an EMERGENCY CALL by dialing a special telephone number (emergency telephone number). Even if the calling station goes on-hook, the calling station is recalled and the speech path is maintained until the emergency telephone goes on-hook. When a station dials the emergency telephone number, a system message is printed out to report the EMERGENCY CALL.

Operating Procedure

The operation of EMERGENCY CALL is the same as STATION-TO-STATION CALL [S-11].

Service Conditions

1. This service feature is available when an emergency telephone number is dialed via STATION-TO-STATION CALLING [S-11].
2. This service feature is also available when an emergency call is made via CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY LINE [C-2].
3. Switch hook flash services, such as CONSULTATION HOLD - ALL CALLS [C-17], may be restricted.
4. Only the emergency telephone is allowed to disconnect from an emergency call. Upon disconnection, the calling station will hear reorder tone.
5. This service feature is not available between emergency stations. When either of the emergency stations goes on-hook, the other emergency station receives reorder tone, and CALL BACK [C-1] is not performed.
6. When a station makes an EMERGENCY CALL by any method, other than STATION-TO-STATION CALLING [S-11] (e.g., STATION-TO-STATION CALLING - OPERATOR ASSISTANCE [S-12], OFF-HOOK ALARM [O-6], etc.), there is no system message printout, but CALL BACK [C-1] to the calling station is performed.
7. When a D^{term} is used for an EMERGENCY CALL, VOICE CALL [V-2] can be used.
8. An emergency telephone can assign CALL FORWARDING - BUSY LINE [C-2] or CALL FORWARDING - ALL CALLS [C-5], but when transfer is made to other than an emergency station, this service feature is not available.
9. An emergency station can assign CALL FORWARDING - DON'T ANSWER [C-3]. In this case, when a call terminates to the emergency station, a system message printout is performed. When a call is transferred by CALL FORWARDING - DON'T ANSWER [C-3], the situation regarding when the station goes on-hook is as follows:
   a.) If neither the calling station nor the transfer destination station is an emergency station, there is no CALL BACK [C-1].
   b.) If either the calling station or the transfer destination is an emergency station, CALL BACK [C-1] is operative. (No printout is performed).
   c.) If both the calling and destination stations are emergency stations, there is no CALL BACK [C-1]. (No printout is performed).
10. When the emergency station is busy, the caller receives busy tone, and this service feature is not available.
11. The emergency station can be a member of a hunting group. If hunting results in transfer to a station other than an emergency station, this service is not available.
12. The emergency station can be a member of a UCD [U-1] group. If a call is distributed to the emergency station after queuing, system message printout is not performed.

Service Conditions (cont'd)

13. When the emergency station is busy, CALL BACK [C-1] to the emergency station is effective (no printout is performed).

14. When the emergency station is busy, CALL WAITING - ORIGINATING [C-31] and CALL WAITING - TERMINATING [C-12] are effective, but this service feature is not available. However, when a 2-way call is made between an emergency station and another station, CALL BACK [C-1] is performed when the station releases.

15. When an emergency station is busy, ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] to the emergency station is effective, but the service feature is not available to the CAMP-ON call.

16. When a D^{term} is used as an emergency station, VOICE CALL [V-2] to the emergency station is possible. If the calling station goes on-hook before the emergency station answers by pressing the SPEAKER key or going off-hook, CALL BACK [C-1] is not possible.

17. When Camp-On or Privacy is set to a station, the station cannot be recalled from the emergency station. Therefore, data security (SFI=11 should be 0) must be assigned to the emergency stations, so that Camp-On and Privacy cannot be set.

Interactions

1. STATION-TO-STATION CALLING [S-11] must first be provided.
2. SINGLE-DIGIT STATION CALLING [S-1] may be utilized with this feature.
3. If re-ring is not in service, the Emergency Station can press the TRANSFER key to re-ring the calling station.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, Bit 1. Is EMERGENCY CALL re-ring in service? 0/1: No/Yes. This allows for Called Party release only on an emergency call. If the Calling Party releases, the calling party is rung by the emergency telephone.

System Data 1, Index 4, Bit 7: Printout of Emergency Call System Messages.

0/1 = No printout/printout

STEP 2: **ASFC** - Assign to the Emergency Call telephone a Service Feature Class that allows Service Feature Index (SFI) 24, EMERGENCY CALL (**Note**). Stations that may call the emergency call telephone are not allowed SFI 24.

Note: *The SFC must be allowed for MY Line of the telephone, even if the sub-line is assigned as Emergency call telephone.*

FCCS Programming

No unique programming is required for the FCCS network.

E-18   E911-ANI Unified Number Of Digits

General Description

This service unifies the number of ANI information digits sent out by E911-ANI service.

Operating Procedure

The operating procedure is the same as for a normal outgoing connection.

Service Conditions

1. The ANI function for E911 outgoing connections is the same as in previous E911-ANI service and is applicable to the following connections:

   a.) LCR call from a station by MF signalling

   b.) LCR call from an Attendant Console by MF signalling.

2. ANI sending number by this enhanced service is NXX-XXXX.

3. The method of obtaining the ANI sending number is shown below:

   Caller's telephone number: 12345 (closed numbering)

   Outgoing route number (RT): **

   Station outgoing: (AT = 0)

   Number of digits of caller's telephone number: 16

   ANI assigned data (from the above data):

   Skip: 2 (Number of digits to be skipped from the top of the telephone number)

   Add: 4 (Number of digits to be added to ANI information)

   ANI information: 7890

   a.) The specified number of Skip digits is deleted from the telephone number: 12<u>345</u>

   b.) The ANI sending number is created by combining these digits with the ANI information: <u>7890</u>345

   c.) Sending ANI information: KP-0-<u>789-0345</u>-ST

4. Sending digit patterns in E911-ANI:

   a.) Outgoing call from station.

   • If ANI data is assigned:

   KP-<u>0</u>-<u>NXX-XXXX</u>-ST

   ┌─────────┴──── ANI sending number
   └──────────────── Information digit

   • If ANI data is not assigned:

   KP-<u>2</u>-ST

   └──────────── Information digit

   b.) Outgoing call from Attendant:

   • If Individual Attendant Access Code is assigned, and also ANI data is assigned:

   KP-<u>0</u>-<u>NXX-XXXX</u>-ST

   ┌─────────┴──── ANI sending number
   └──────────────── Information digit

   • If Individual Attendant Access Code is not assigned, and ANI data is assigned:

   KP-<u>0</u>-<u>NXX-XXXX</u>-ST

   ┌─────────┴──── ANI sending number
   └──────────────── Information digit

Service Conditions (cont'd)

- If ANI data is unassigned:

  KP-<u>1</u>-ST

  └─────────────────── Information digit

5. An independent route is required for E911 interface.
6. After the caller's number is sent to the distant office by E911-ANI, it takes some time until a speech path is established.
7. Sending data is considered to be not assigned if:
   - a.) Service version data specifies that Unified Number of Digits is provided,
   - b.) No data is assigned for Unified Number of Digits service, and
   - c.) Data for previous E911-ANI service is assigned
8. After digits have been sent out, DDD seizure tone is not sent.
9. Other interactions are the same as those of outgoing calls by MF signaling.
10. An 8RST-K circuit card is used.

Programming

STEP 1: **ARTD** - Assign RT: 4, with the following conditions set:

RT: 4

1-OSGS	:7	2-ONSG	:4	3-ISGS	:7	4-INSG	:4	5-TF	:3
6-TCL	:5	7-L/T	:1	8-RLP	:2	10-SMDS	:1	13-AC	:1
15-LSG	:5	19-ANI	:1	30-PAD	:4	43-BT	:1	73-KPST	:7
74-KPPT	:13	75-STC	:15	77-MT	:1						

STEP 2: **ATRK** - Assign RT 905 to LEN for TK1, TK2 (depending on register location). Assign RT 904 to LEN for TK1, TK2 (depending on register location).

STEP 3: **AAND** - Assign the following parameters:

RT: 0 (Outgoing RT number)

AT: 0 (0/1: Station/Individual Attendant)

CC: 0 (0/1: Main Central/Satellite Central) Programming is only necessary at the Main node.

COC: (Central Office code, CCIS office code, or first digit of CCIS remote station number). Use CCIS office code.

STNL: (number of digits in caller's number)

SKIP: (number of digits to be skipped from caller's number) This strips the office code from being sent out in front of the calling station number.

ADD: 3 (number of digits to be added to the ANI information).

DC: 753 (ANI sending number)

Note: *Using this programming, if the call was originated at remote node station number 2000, the number being sent to the E911 Central Office would be "753-2000"*

AANDE - Assign the following parameters

TN: (1-255)

Skip: Call Originator digit

ADD: Office Code to be added (1-10)

DC: Office Code (1-10)

FCCS Programming

No unique programming is required for the FCCS network.

E-26   Expanded Multiple Line Operation - D^{term}
(Series 7400 software feature)

General Description

This feature allows operation of whichever lines from ELC card(s) in the same IMG or in different IMGs in the same node, as a D^{term}'s programmable Multiple Lines (My Line + Prime Line/Sub Lines). While Multiple Line Operation - D^{term} [M-20] only allows such a programming within the reach of ELC card(s) in the same IMG, this feature enables the Multiple Line Operation beyond the reach of a single IMG (though the ELCs cannot be in different nodes).

Note: *To use Multiple Lines beyond different IMGs, the D^{term} My Line must be accommodated on the PA-16ELCJ-B card. For details, refer to the figure (and Service Conditions) below:*
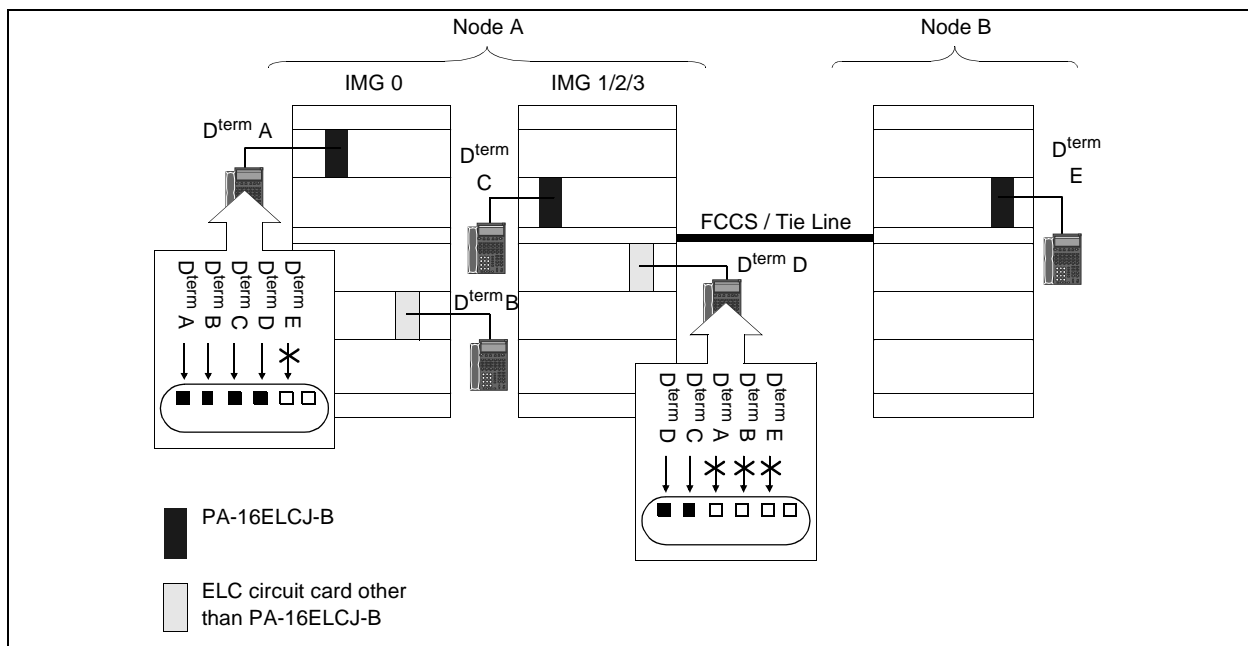
Operating Procedure

No manual operation is required.

Service Conditions

1.   To use this feature (operation of Multiple Lines beyond different IMGs), a PA-16ELCJ-B(ELC) circuit card is required.
2.   Depending on the switch setting on PA-16ELCJ-B, the assignable Multiple Lines vary.
      a.) PA-16ELCJ-B, SW10, Element 1 = ON: A D^{term} My Line, accommodated on this card, and the other Lines (other analog telephone/D^{term}) must be in the same IMG. **(Note)**

Service Conditions (cont'd)

b.) PA-16ELCJ-B, SW10, Element 1 = OFF: A D^{term}, accommodated on this card, and the other Lines (other analog telephone/D^{term}) can be in different IMGs (but in the same node). For more details on the PA-16ELCJ-B circuit card, refer to the NEAX2400 IMX Circuit Card Manual.

Note: *Even when Element 1 of SW10 is ON, data programming for this feature (Multiple Lines beyond different IMGs) is possible. However, the data does not become effective until the switch is manually placed to OFF.*

3. A D^{term} cannot register a Sub Line accommodated on an ELC card in a different node (having a different CPU). Therefore, if your system is an IMX-U (16-IMG) type, this feature must be programmed on a node basis.

4. Three kinds of lines can appear on a D^{term} line/feature key:
    - MY Line (ML):This line is associated with the extension number assigned to the port on the interface circuit.
    - Prime Line (PL):This line is given priority for outgoing and incoming calls. The prime line is automatically seized when going off-hook.
    - Sub Line (SL):This line designates any other line appearing on a D^{term}. The MY Line will serve as a prime line, unless differentiated in system data programming.

5. A maximum of 32 PA-16ELCJ-B cards (a total of 512 ports) can be used for this feature (Multiple Lines beyond different IMGs), per node.

Note: *This is not the case if the Multiple Lines are programmed in a single IMG.*

6. If the system is a 1-IMG type, this feature is not available.

7. A virtual line (Software Line Appearance [S-33]), single line telephone or D^{term} can be assigned as a subline.

8. To use this feature, flag "1" to the ASYD command, SYS 1, INDEX 321, b0.

9. When KD = 1 (Intercom) or KD = 2(DSS Key) is assigned on the AKYD command, this service is not available. Be sure to assign KD = 0 (Line).

Interactions

1. This feature is effective with the following services:

Call Hold	[C-6, 6D]
Call Forwarding - Busy Line	[C-2, 2D]
Call Forwarding - Don't Answer	[C-3, 3D]
Call Forwarding - All Call	[C-5, 5D]
Voice Call	[V-2]
Call Pick Up - Group	[C-7, 7D]
Boss - Secretary Override - D^{term}	[B-5D] **(Note)**
Boss - Secretary - Message Lamp Control	[B-8] **(Note)**
Boss - Secretary Transfer	[B-11] **(Note)**
Station Hunting - Circular	[S-7]
Station Hunting - Secretarial	[S-8]
Station Hunting - Terminal	[S-9]
Three Way Calling	[T-2, 2D]
Call Transfer	[C-11, 11D]
Consultation Hold - All Calls	[C-17, 17D]
Blind Transfer To Attendant	[B-17]
Blind Transfer To Station	[B-18]

Interactions (cont'd)

Serial Call	[S-15]
Serial Call - Loop Release	[S-64]
Serial Call - CCIS	[S-52]
Serial Call - D^{term}	[S-127]
Executive Right-of-Way	[E-1, 1D]
Call Back	[C-1, 1D]
Message Reminder	[M-19, 19D]
Brokerage - Hot Line	[B-6]
Split Call Forwarding	[S-99]
Call Waiting - Terminating	[C-12]
Call Waiting - Answer - D^{term}	[C-27D]
Call Waiting - Originating	[C-31]

Note: *Boss-Secretary features are not available via ISW.*

2. This feature does not support OAI/ACD related services.
3. This feature does not support Hotel related services.
4. This feature does not provide Privacy Release [P-18], if the Multiple Lines are programmed beyond different IMGs.
5. Follow Phone [F-31] is not available for this feature.

Programming

STEP 1:   **ASYD** - Flag "1" to SYS 1, INDEX 321, b0 (Extended Multiple Line Operation is allowed).

STEP 2:   **ASDT** - A LEN equipped with a D^{term} Circuit Board must be assigned a station number and a Telephone Equipment Class (TEC) of 12.

STEP 3:   **AKYD** - Assign a MY Line, a Prime Line, and various sublines to the D^{term}s.

    ⟶ TN: 1

    ⟶ STN: Station Number

TP: Type of D^{term} 0/1

PL TN STN: Prime Line Tenant and Station Number

KYN: Key Number (1-40)

KYI: Service Index

    0:   Key Not Used

    1:   Feature Key

    2:   Multi-line Key

KD: Not assigned for Feature Key

TN STN: Tenant Number and Station Number of Multi-line

RG: Ringing Assignment per Multi-line Appearance

    0:   No Ringing

    1:   Ringing in Day Mode Only

    2:   Ringing in Night Mode Only

    3:   Ringing in Day and Night Mode

FCCS Programming

No unique programming is required for the FCCS network.

F-1 Flexible Numbering of Stations

General Description

This feature provides the ability to assign telephone numbers of the voice station and data station to any corresponding instrument location, depending solely upon numbering plan limitations.

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

1. Careful consideration should be given to any numbering assignment, especially in larger systems, to avoid the unnecessary loss of access codes or duplication of telephone numbers. There is no limit to the number of groups that can be assigned per system.

2. Where TENANT SERVICE [T-12] is provided, telephone numbers may not be duplicated between tenants. A combination of one, two, three, four and five-digit numbering may be used.

    Example: a.   3   1
                b.   3   2   1
                c.   3   2   2   1

    Example a., b., c., can be assigned as 3 different stations.

3. BUSY LAMP FIELD - FLEXIBLE [B-2] service can be provided only when the defining telephone number digits exceed two.

4. The FCCS network allows the user to use a telephone number in addition to the existing station numbers. FCCS service features are activated when a telephone number is dialed. A telephone number, which can be assigned on a station basis, is a unique number on the FCCS network.

Note: *A maximum of 16 digits can be used as a telephone number. When OAI/ACD/Hospitality features are used, a maximum of 5 digits can be used.*

Interactions

Caution should be exercised when programming this feature. Large quantities of potential telephone numbers are consumed. As programmed below, the system will be equipped with just one 2-digit station and one 3-digit station.

Programming

STEP 1: **ASYD** - System Data 1, Index 16. Enable 1 to 5-digit station numbering for the system. Assign 3FH. System Data 1, Index 92, Bit 3. Must be assigned as data "1".

STEP 2: **ANPD** - Reserve an access code for station numbering. For the NND parameter, assign the NND = l. Only the stations with the NND assigned here will appear on the BLF.

Programming (cont'd)

STEP 3: **ASPA** - Assign the station numbering in such a way that the system will differentiate the station numbering via the access codes programmed here. The following data is programmed:

For station 31:	For station 321:	For station 3221:
TN:1	TN:1	TN:1
ACC:31	ACC:321	ACC:322
CI: N, H.	CI: N, H.	CI: N, H.
SRV = STN (Station)	SRV = STN (Station)	SRV = STN (Station)
NND: 2	NND: 3	NND: 4

The following access codes should also be assigned: 323, 324, 325, 326, 327, 328, 329, 320. CI: N, H; SRV = STN (Station); and NND: 4 will be assigned with each of the above.

FCCS Programming

No unique programming is required for the FCCS network.

F-2 FX Access

General Description

This feature provides dial access to distant Central Offices using Foreign Exchange (FX) trunks. All incoming calls to the NEAX2400 IMX from the FX Central Office area are placed to the listed Foreign Exchange Directory number and are answered by the Attendant in a manner similar to LDN service. Outgoing calls can be made on an Attendant handled basis using direct or dial access and/or on a direct basis by stations.

Operating Procedure

To place an outgoing FX call from a station:
1. Lift the handset and receive dial tone.
2. Dial the FX trunk access code and receive second dial tone.
3. Dial the desired telephone number.

To answer an incoming FX call at the ATTENDANT CONSOLE [A-3]:
1. The FX lamp flashes.
2. An audible signal is received.
3. Press the FX or ANSWER key to answer.
4. Process the call in a normal manner.

Service Conditions

1. One INCOMING CALL IDENTIFICATION [I-2] key may be used for all FX groups.
2. Access to various types of trunks may be denied to certain stations according to CLASS OF SERVICE - INDIVIDUAL [C-15] programming.
3. TOLL DENIAL/TOLL DIVERSION [T-6] may be provided for FX ACCESS [F-2].
4. TOLL RESTRICTION - 3/6-DIGIT [T-7] may be provided for FX trunks on a per-route basis.
5. Care should be exercised in system data assignment when utilizing this feature in conjunction with LEAST COST ROUTING - 3/6-DIGIT [L-5] since Foreign Exchange trunks may require that the digit 1 be dialed as a prefix to the desired number.

Interactions

1. LEAST COST ROUTING - 3/6-DIGIT [L-5]: FX trunk groups may be assigned to a LEAST COST ROUTING [L-5] list.
2. ROUTE ADVANCE [R-6]: This feature routes outgoing FX calls over alternate facilities when the first-choice trunk group is busy.
3. UNIFORM CALL DISTRIBUTION [U-1]: This feature permits incoming calls, including FX calls, to be terminated directly from the Central Office to the next idle station in a prearranged group of stations without Attendant assistance.
4. DIRECT-IN TERMINATION [D-7]: This feature allows one FX trunk to terminate directly to a designated station. Incoming FX calls to this station are queued if the station is busy.
5. OUTGOING TRUNK QUEUING [O-2]: This feature provides a means for users to dial a busy FX trunk group to be automatically placed in a queue, and to be called back when a trunk in the trunk group becomes available.

Interactions (cont'd)

6. When the system is in the night mode of operation, incoming FX calls can be answered using NIGHT CONNECTION - FIXED [N-1], FLEXIBLE [N-2] or TRUNK ANSWER FROM ANY STATION [T-8] feature.

7. DIRECT INWARD DIALING [D-8] is not provided for FX trunks. All calls are normally routed to the Attendant, UCD group, or a CAS Attendant.

8. Outgoing FX trunk calls can be restricted from preselected stations by the assignment of one or more of the following restrictions:
   a.) Restriction from Outgoing Calls
   b.) Miscellaneous Trunk Restrictions
   c.) Toll Restriction

9. FX CO Access: This service provides access to a distant CO via FX trunks. All incoming calls to the system (from the FX, CO area) are placed to the listed FX directory number and are answered by the Attendant in a similar way to Listed Directory Number (LDN) service. Outgoing calls are made on an Attendant-handled basis or on a dial access basis by stations.

10. A unique Attendant Console INCOMING CALL IDENTIFICATION (ICI) [I-2] may be displayed for each local and FX LDN.

11. A unique Attendant Console trunk group busy lamp may be assigned to indicate the busy/idle status for an FX trunk group.

12. The COT circuit packages are used to provide the trunk interface circuit.

13. An FX route may be used with any other feature available to any other route, including the following:

DIRECT OUTWARD DIALING	[D-9]
REMOTE ACCESS TO SYSTEM	[R-2]
TRUNK-TO-TRUNK CONNECTION	[T-10]
TRUNK ANSWER FROM ANY STATION (TAS)	[T-8]
TOLL RESTRICTION-3/6 DIGIT	[T-7]

Programming

STEP 1: **ARTD** - Assign the FX ACCESS route as shown below:

GROUND START:

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:3
6-TCL	:2	7-L/T	:1	8-RLP	:2	15-LSG	:1		

LOOP START:

RT: 31

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:3
6-TCL	:2	7-L/T	:1	8-RLP	:2				

STEP 2: **ATRK** - Assign the LENs, FX ACCESS Trunk Route Number, Trunk Number, and Tenant Number.

STEP 3: **MBTK** - Assign the Make Idle Status to the FX access Trunks.

STEP 4: **ANPD** - Reserve a number level for trunk access. Assign for Normal (N) and Hooking (H) service. Number of Necessary Digits (NND) is usually 1 or 2. Busy Lamp Field is not activated.

STEP 5: **ASPA** - Assign the access code to the FX route. The type of service is SRV = OGC (Outgoing Call), Outgoing Trunk. Assign the route number associated with this access code.

STEP 6: **ARSC** - The Route Restriction Class must be constructed in a manner to allow the station access to the involved routes.

F-3D   Flash Button - D^term

General Description

This feature provides for a D^term set to program one of the programmable line/feature keys to function as a FLASH BUTTON. The FLASH BUTTON will function in the manner a switch hook flash does for a single-line set.

Operating Procedure

When activating features common to both D^term and single-line sets:
1.   Press the FLASH BUTTON to receive special dial tone,
2.   Dial the access code of the desired feature.

Service Conditions

1.   When using the FLASH BUTTON, the feature will not be activated again until digits are dialed. The FLASH BUTTON may function during a two-way connection.

Note: *If a transfer is attempted via the FLASH BUTTON, three-way conference will be established by pressing the FLASH BUTTON again. To retrieve the original connection after the connection with the transferred station, the TRANSFER key should be pressed.*

2.   The FLASH BUTTON is optional. Its use in various features will be explained throughout this document.

Interactions

1.   This feature provides switch hook flash capabilities to a D^term with a Connection Index (CI) of Busy. See ASPA. The features in which a FLASH key are used include CALL BACK [C-1] and OUTGOING TRUNK QUEUING [O-2]. The FLASH BUTTON is usually required with the 4-button D^term.
2.   See ASYD, System Data 3, Index 2 for programming the characteristics of a switch hook flash (Hooking).

Programming

STEP 1:   **AKYD** - When assigning key data for the D^term, assign the following:

   TN: 1
   STN: Station Number
   TP: Type of D^term 0/1:
   RING:

         0:   No Ringing
         1:   Ringing All Lines
         2:   Ringing on Prime Line Only
         3:   Flexible Ring Assignment, enables RG parameter.
   KYN: Key Number (1-40)
   KYI: Service Index
         0:   Key Not Used
         1:   Feature Key
         2:   Multi-line Key
   KD: Not assigned for Feature Key
   KYN: Feature key Number
   FKY   = 21, FLASH BUTTON

Programming (cont'd)

STEP 2:   **ADSL** - SN=5 (Consultation Hold) and FKY=21 (Flash Button; FLASH).

         This command is used for assigning the function to each soft key.

F-4D Flash Entry - D^term

General Description

This feature allows a D^term user to insert a switch hook flash as the first digit in a stored SPEED CALLING-ONE TOUCH-D^term [S-26D] number.

Operating Procedure

To add a flash to a stored SPEED CALLING-ONE TOUCH-D^term [S-26D] number to a D^term:
1. Stay on-hook.
2. Press the Feature key and the SPEED CALLING-ONE TOUCH-D^term [S-26D] key; the LCD display will either be blank or a display of previously stored digits.
3. Press RECALL key as first digit; a switch hook flash is entered into the memory and the LCD displays:

```
                                          !
            (Time Display)
```

4. If a feature access code is to follow the Flash Entry, dial the desired digits.
5. Press the Feature key; the LCD displays:

```
    SPEED SET
            (Time Display)
```

To add a flash to a stored SPEED CALLING - ONE TOUCH [S-32D] number to a D^term:
1. Stay on-hook.
2. Press the feature key and the SPEED CALLING - ONE TOUCH [S-32D] key; LCD will either be blank or display previously stored digits.
3. Press the RECALL key as the first digit; a switch hook flash is entered into the memory and the LCD displays:

```
                                         !
            (Time Display)
```

4. If a feature access code is to follow the FLASH ENTRY, dial the desired digits.
5. Press the feature key; the LCD displays:

```
    SPEED SET
            (Time Display)
```

Service Conditions

1. A FLASH ENTRY may be entered only as a first digit.

    Example:
    a.) Call Transfer - "!+Telephone Number"
    b.) Busy Service - "+Calling Waiting - Originating access code" "!+Executive Right-of-Way access code"
    c.) Call Hold - "!+Call Hold access code"

Service Conditions (cont'd)

2.   A FLASH ENTRY, stored as a flash, may be used only once, unless digits are dialed between use.

Interactions

Refer to the NEAX2400 IMX Office Data Specification, ASYD, System Data 3, Index 2 for programming the characteristics of a switch hook.

Programming

This is a D^{term} feature. It is inherent to the instrument and requires no programming via the MAT.

F-5D   Flexible Ringing Assignment - D^{term}

General Description

This feature enables D^{term} line appearances to be individually programmed for ringing, not ringing, ringing (day only), or ringing (night only).

Operating Procedure

No manual operation is required once FLEXIBLE RINGING ASSIGNMENT has been programmed in System Data.

Service Conditions

1. Recall ringing supersedes all ringing possibilities and will ring regardless of other programming.
2. Incoming Central Office ringing supersedes internal calls and will interrupt internal call ringing while it is in progress.
3. Recall ringing, Central Office ringing, and internal call ringing all vary. Refer to DISTINCTIVE RINGING [D-10].

Interactions

The following ASYD assignments are for normal ringer patterns. For more information, refer to DISTINCTIVE RINGING [D-10].

Programming

STEP 1:   **ASYD** - System Data 3, Indexes 0 & 1. Assign Index 0 as 21 for 1 second ON, 2 seconds OFF (trunk calls). Assign Index 1 as "42" for 2 seconds ON, 4 seconds OFF (station calls).

STEP 2:   **AKYD** - Assign the station according to the following parameters:

TN: 1
STN: Station Number
TP: Type of D^{term} 0/1:
RING:
      0: No Ringing
      1: Ringing All Lines
      2: Ringing on Prime Line Only
      3: Flexible Ring Assignment, enables RG parameter.
KYN: Key Number (1-40)
KYI: Service Index
      0: Key Not Used
      1: Feature Key
      2: Multi-line Key
KD: Not assigned for Feature Key
TN: TN Number
STN: Station Number

Programming (cont'd)

RG: Ringing Assignment per Multi-line Appearance

0:   No Ringing.

1:   Ringing in Day Mode Only.

2:   Ringing in Night Mode Only.

3:   Ringing Day and Night.

F-6   Faulty Trunk Report

General Description

This feature allows a station to report a noisy or faulty trunk number by dialing a special access code before hanging up. The FAULTY TRUNK REPORT consists of a trunk number, telephone number, associated time division switch and reported time. This information is displayed at the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18] and/or system printer.

Operating Procedure

To enter a FAULTY TRUNK REPORT:
1. Switch hook flash before disconnecting; receive special dial tone.
2. Dial the FAULTY TRUNK REPORT access code; receive service set tone.
3. The MAT records the FAULTY TRUNK REPORT and returns the line to the original connection.

Service Conditions

1. This feature may be accessed during any station-to-station or station-to-trunk connection.
2. The following information will appear on a station-to-station FAULTY TRUNK REPORT:
    a.) station at which the operation was performed
    b.) called telephone number
    c.) time division switch
    d.) time and date.
3. The following information will appear on a station-to-trunk FAULTY TRUNK REPORT:
    a.) station at which the operation was performed
    b.) route number and trunk number
    c.) time division switch
    d.) time and date.
4. Stations are assigned this feature according to CLASS OF SERVICE - INDIVIDUAL [C-15] programming in system data.
5. When this feature is activated, a supervisory alarm (SUP) will appear on the system.

Interactions

1. When this feature is activated, System Message [6-H] Faulty Trunk is generated. This message is sent to the MAT or fault printer.
2. FAULTY TRUNK REPORT data is displayed/printed in the hexadecimal numbering system.
3. The FAULTY TRUNK REPORT is displayed/printed periodically or can be obtained directly with the DFTD, Display of System Message command.

Programming

STEP 1:   **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPA** - Assign an access code to FAULTY TRUNK REPORT, SRV = SSC (Service Code), SID = 46 and a Connection Status of Hooking (H), CI = H.

STEP 3:   **ASFC** - Assign to the stations allowed FAULTY TRUNK REPORT a Service Feature Class that allows SFI 46.

F-7 Forced Account Code

General Description

This feature is a variation of the ACCOUNT CODE [A-18] feature, which makes it mandatory to enter an ACCOUNT CODE (up to 10 digits) for all outgoing calls. The account code must be dialed before dialing the outgoing number. Calls are processed only when the dialed account code is valid.

The FORCED ACCOUNT CODE can be masked on the D^{term} display if necessary using the AUTHORIZATION CODE DISPLAY ELIMINATION [A-99].

Operating Procedure

When dialing an outgoing call:
1. Lift the handset; receive dial tone.
2. Enter the access code; receive service set tone.
3. Enter the FORCED ACCOUNT CODE (up to 10 digits); receive dial tone.
4. Dial the desired number.

Note: *The access code for FORCED ACCOUNT CODE will be a maximum of 3 digits.*

Service Conditions

1. The maximum number of digits per ACCOUNT CODE [A-18] is ten.
2. If both FORCED ACCOUNT CODE and AUTHORIZATION CODE [A-20] are provided in the system, the maximum number of codes are 20,000. **(Note)**

Note: *Capacity depends on system configuration.*

These specifications are based on the digits being assigned as follows:

1st digit:	A (when A equals a unique digit from 0 - 9)
2nd digit:	B - C (when b, c equal any two unique digits from 0 - 9)
3rd digit:	D-E (when d, e equal any two unique digits from 0 - 9)
4th digit:	F-G-H (when f, g, h equal any three unique digits from 0 - 9)
5th - 8th digits:	Any combination 0 - 9
9th & 10th digits:	Assigned using the checksum. These are for validation purposes only.

Note: *See ETI: 082 for details on AUTHORIZATION CODE/FORCED ACCOUNT CODE [F-7] assignment.*

3. AUTHORIZATION CODE [A-20] and FORCED ACCOUNT CODE cannot be provided simultaneously for the same TENANT SERVICE [T-12] group. System Data programming determines whether AUTHORIZATION CODE [A-20] or FORCED ACCOUNT CODE is provided for each Tenant.
4. Stations are assigned this feature according to CLASS OF SERVICE - INDIVIDUAL [C-15] programming in System Data.
5. An assigned FORCED ACCOUNT CODE can be used for REMOTE ACCESS TO SYSTEM [R-2].
6. FORCED ACCOUNT CODE can be recorded on SMDR [S-10] for INWATS and central office incoming calls, when used in conjunction with REMOTE ACCESS TO SYSTEM [R-2]. A maximum of 10 digits can be registered as an account code for SMDR purposes.
7. When used in conjunction with REMOTE ACCESS TO SYSTEM [R-2], FORCED ACCOUNT CODE cannot be registered on SMDR if the incoming calls are terminated to stations via night service or DID [D-8].
8. FORCED ACCOUNT CODE can be output in the SMDR [S-10] record for outgoing calls from a station handled with OUTGOING TRUNK QUEUING [O-2].

Service Conditions (cont'd)

Note: *There are two methods of FORCED ACCOUNT CODE assignment. These methods are Full Implementation and the Check Sum method. In the Full Implementation method, the whole FORCED ACCOUNT CODE is assigned in the AATC command and System Data 1, Indexes 12, 13, & 14 are assigned 00H. In the Check Sum method, partial assignment for each FORCED ACCOUNT CODE is assigned in the AATC command. The last one or two digits (programmable option) are determined according to the data assignments in ASYD, System Data 1, Indexes 12, 13, & 14.*

Interactions

1. If FORCED ACCOUNT CODES are used on a per-tenant basis, AUTHORIZATION CODES [A-20] and ACCOUNT CODES [A-18] are not.
2. Station and Remote Access users share the same FORCED ACCOUNT CODES, assigned in AATC.
3. There are no restrictions regarding the first digit of FORCED ACCOUNT CODES except what is programmed in AMND. Tenant 0 does not conflict with the PBX numbering plan. This is true when separate tenant tables are provided. If common tenant tables are used, a conflict between LCRS and OGC (A) used with SMDR will occur.

Note: *The Access Code to the FORCED ACCOUNT CODES feature must be assigned within the PBX numbering plan.*

4. When a D^{term} user initiates the LAST NUMBER CALL-D^{term} [L-6D] feature, the FORCED ACCOUNT CODE will be recorded if previously dialed.
5. The AMND command determines the length of FORCED ACCOUNT CODES based on the first digit of the code. For example, FORCED ACCOUNT CODES beginning with the digit 4 can be assigned as six digits long, and codes beginning with 5 can be assigned as three digits long.
6. PEG COUNTS [P-7] of invalid FORCED ACCOUNT CODES are not available.
7. FORCED ACCOUNT CODES can be dialed by a user when establishing a CONSULTATION HOLD [C-17] connection.
8. Access to the FORCED ACCOUNT CODE feature is determined by the station's CLASS OF SERVICE-INDIVIDUAL [C-15].
9. FORCED ACCOUNT CODES cannot be programmed for use via SPEED CALLING-SYSTEM, GROUP, INDIVIDUAL [S-7, 8, 9] features. As a feature to make outgoing calls, SPEED CALLING [S-7, 8, 9] does not first provide translation for feature access. However, FORCED ACCOUNT CODES can be programmed as part of the D^{term} SPEED CALLING-ONE TOUCH [S-26D] feature.

Programming

STEP 1:   **ASYD** - System Data 1, Index 12. If Index 12 = 0, no Check Sum method is used and Indexes 13 and 14 are ignored regardless of their assignments.

Each bit in Index 12 directly correlates to a digit in the FORCED ACCOUNT CODE assigned in AATC, and will determine the first digit of the Check Sum method. For this example, 26428 has been assigned as the FORCED ACCOUNT CODE in AATC. Arbitrarily pick any bits, 0 to 4, and flag those bits as data 1.

Note: *Bit 0 through bit 7 may be used when 8-digit FORCED ACCOUNT CODES are assigned in the AATC command.*

	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Remarks
AATC	8	2	4	6	2	
SYS1, INDEX 12	0	1	0	0	1	
Designation	d4	d3	d2	d1	d0	

Programming (cont'd)

System Data 1, Index 13. Each bit in Index 13 directly correlates to a digit in the FORCED ACCOUNT CODE assigned in AATC, and will determine the second digit of the Check Sum method. Again pick any bits, 0 to 4, but not the same combination of bits as picked in Index 12.

	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Remarks
AATC	8	2	4	6	2	
SYS1, INDEX 13	1	0	0	1	0	
Designation	d4	d3	d2	d1	d0	

System Data 1, Index 14. Determines the algorithm used to calculate the last two digits of every FORCED ACCOUNT CODE. Only decimal numbers may be used in this index; hexadecimal values A to F may not be assigned.

System Data 1, Index 14 = XY. X and Y represent any arbitrarily chosen decimal digit 1-9; Y is used determine the first digit in the Check Sum method and X is used to determine the second digit in the Check Sum method. The following data, 37H; has been used for the example calculation:

SYS1, INDEX 14	X				Y				Remarks
	BIT 7	6	5	4	3	2	1	0	
DATA	0	0	1	1	0	1	1	1	

Note: *If only one digit is to be added via the Check Sum method, Index 13 data will be 00H and Index 14, digit X (bits 4-7) = 0.*

EXAMPLE CALCULATION

In AATC, 26428 has been assigned.

In System Data 1, Index 12, bits 0 and 3 were chosen; 26428

$2 + 2 = 4$.

The decimal value of bits 0-3 of Index 14 = 7.

$4 + N = 7$. $N = \underline{3}$.

7 is obtained as any whole number greater than 4 that ends with a 7, the decimal value as determined in Index 14, bits 0 to 3.

In AATC, 26428 has been assigned.

In Index 13, bits 4 and 1 were chosen; 26428

$8 + 6 = 14$.

The decimal value of bits 4-7 of Index 14 is 3.

$14 + N = 23$. $N = \underline{9}$.

23 is obtained as any whole number greater than 14 that ends with a 3, the decimal value determined in Index 14, bits 4 to 7.

The FORCED ACCOUNT CODE will be 26428-$\underline{39}$.

Note: *Digits 39 determined by the Check Sum method will be unique to the FORCED ACCOUNT CODE 26428. In other words, 26428 will not be followed by any digits other than 39.*

System Data 1, Index 43, bit 2. Is service set tone sent after FORCED ACCOUNT CODE ASPA feature access code? 0/1: No/Yes.

System Data 1, Index 93, bit 6. Are the AMND tables Separate or Common for tenants in the system? 0/1: Separate/Common. Assign data "0" for separate tables.

System Data 2, Index 3, bit 5. Type of code: 0/1 AUTHORIZATION CODE/FORCED ACCOUNT CODE; assign data "1".

Programming (cont'd)

STEP 2:   **ANPD** - Reserve a number level for feature access. Assign Connection Index, CI = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - For SRV = SSC (Service Code) SID = 42, assign the access code. Assign for Connection Indexes of Normal (N) and Hooking (H).

STEP 4:   **ASFC** - For stations operating via FORCED ACCOUNT CODES, assign these stations a Service Feature Class (SFC) that allows SFI 27. This SFC will be assigned to the station in the ASDT command. Presently, the SFC parameter in the AATC command is inoperative.

STEP 5:   **ARSC** - For this feature to operate properly, assign a Route Restriction Class (RSC) that Toll Restricts (see TOLL RESTRICTION-3/6 DIGIT [T-10]) or denies access to routes on a Direct Dial Access, RRI 3. This RSC is assigned in the ASDT command. Then construct an RSC appropriate for the desired operation of the station after dialing the FORCED ACCOUNT CODE. This RSC is assigned to the FORCED ACCOUNT CODE in the AATC command.

STEP 6:   **AMND** - For Tenant 0, assign the first digit of all FORCED ACCOUNT CODES as the Destination Code (DC) and the Maximum Necessary Digits (MND) of the FORCED ACCOUNT CODE.

STEP 7:   **AATC** - Assign the TN, Digit Code (DC) (the actual code itself), the FORCED ACCOUNT CODE Restriction (ACR) as data "1". Then assign the Route Restriction Class (RSC) that is appropriate for the desired level of operation.

STEP 8:   **LATC** - Listing of all the FORCED ACCOUNT CODES. This is the simplest way to determine what digits have been added to the system with the Check Sum method. This is not required if the Check Sum method is not used.

F-17 Flexible Assignment of Function Buttons

General Description

This feature allows D$^{\text{term}}$ function (feature) buttons (REDIAL, FEATURE, SPEAKER, CONF, ANSWER, RECALL, HOLD, and TRANSFER) to be flexibly assigned on each individual D$^{\text{term}}$.

Function (feature) buttons are programmed through the Maintenance Administration Terminal (MAT) and are part of System Data.

Service Conditions

1. A feature button cannot be used as a line button.
2. SPEAKER, ANSWER, FEATURE, CONF, and REDIAL should be assigned to feature buttons that have lamps.
3. SPEAKER must always be assigned.
4. RECALL and TRANSFER must be assigned because they are used to indicate a pause (-), Hooking (H) (!), and Voice Call (V) when programming a SPEED CALLING - ONE TOUCH - D$^{\text{term}}$ [S-26D] destination number.

Programming

Flex Key Assignment Example:

AKYD -

TP:	2 or 3
KYN:	1~ 8
KYI2:	0 or 1
CONF:	KYN 1
REDIAL:	KYN 2
ANS:	KYN 3
FEATURE:	KYN 4
TRANSFER:	KYN 5
RECALL:	KYN 6
HOLD:	KYN 7
SPEAKER:	KYN 8

KYN	FKY	STANDARD
3	4	Answer
2	8	Redial
1	13	Conference
6	16	Feature
5	18	Transfer
7	20	Hold
8	52	Speaker
4	67	Recall
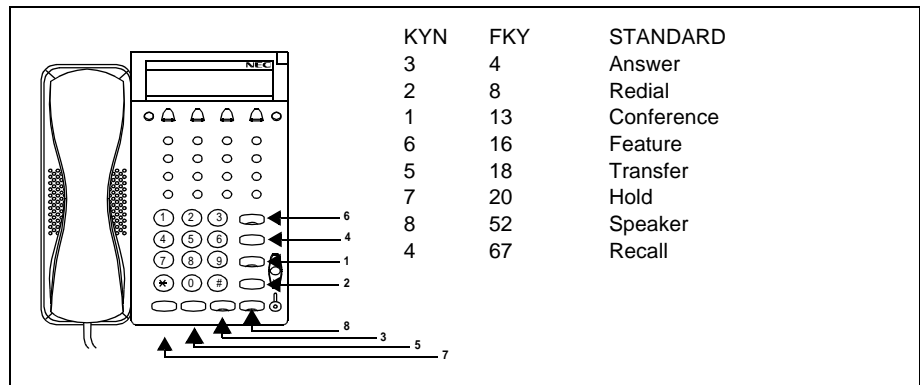
F-31 Follow Phone

General Description

This feature allows individual station data of a terminal to be exchanged with another without the assistance of MAT. The result of the exchange is printed out in the system message. The exchange of terminal data by this service is called SWAP service. The following information is included in the system message:

- a.) Successful activation: Station data change notice.
- b.) Unsuccessful activation: Station data change notice and error code to indicate the restricted condition.

Operating Procedure

To operate: (To swap the station data of Station A (202) for Station B (209), operating from Station A)

1. Go off-hook; receive dial tone.
2. Dial the Swap service access code; receive special dial tone. The LCD displays:

```
   SWAP
             (Time Display)
```

3. Dial the Station Bus number (209); receive service set tone. The LCD displays:

```
   SWAP OK                     209
             (Time Display)
```

4. Replace the handset; the service will be activated.

   When the service is restricted, the user hears reorder tone after dialing the target telephone number. The LCD displays:

   Flashing
```
   REST                        209
             (Time Display)
```

To confirm:

5. Dial 202 from Station A; Station B rings, and Station A receives ringback tone, or vice versa.

Service Conditions

1. This service is available for the following telephone class:

   TEC= 1: Analog telephone - DP (10P)
   2: Analog telephone - PB
   3: Analog telephone - DP/PB
   4: Analog telephone - DP (20P)
   12: Digital terminal (D^{term})

2. This service is available between the same type of terminals.
3. The target station has to be idle in order to activate this service. In case the station is busy or lock out is set, the service will be restricted.
4. This service is available for the terminals that belong to the same Tenant or Module Group.

Service Conditions (cont'd)

5. Following data assigned to each D^{term} will be cleared when this service is activated:

DO NOT DISTURB	[D-11]
LAST NUMBER CALL	[L-6]
MESSAGE REMINDER	[M-19]
SAVE AND REPEAT	[S-24]

6. This service is not available for the following stations:

   a.) Night station (ACSI)

   b.) HOT LINE [H-1] station

   c.) HOUSE PHONE [H-2]

   d.) Data line, or D^{term} that has a data line assigned

   e.) Station setting/being set CALL BACK [C-1] or OUTGOING TRUNK QUEUING [O-2]

   f.) Stations where following services are set:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
CALL FORWARDING - DON'T ANSWER	[C-3]
MESSAGE WAITING INDICATION - D^{term}	[M-85D]

   g.) DIT [D-7]

   h.) D^{term} calling from a sub-line.

   i.) Station which has set or has been set for Busy service.

Note: *The service is available after the message is cancelled.*

7. The following information is swapped when this service is activated:

		Station Type	
Item	**Data Swapped in FOLLOW PHONE Service**	**Single Line**	**D^{term}**
1.	Feature key information	Not Available	Available
2.	Add-On Module key information **(Note 1)**	Not Available	Available
3.	Flexible line/feature key information	Not Available	Available
4.	Speed Calling - One Touch data **(Note 2)**	Not Available	Available
5.	Intercom information (Automatic, Manual, Dial)	Not Available	Available
6.	Telephone Number	Available	Available
7.	Route Restriction Class	Available	Available
8.	Service Class	Available	Available
9.	Speed Calling - Group/Station data	Available	Available
10.	Phantom Number	Available	Available
11.	Name Display information	Available	Available

Note 1: *The Add-On Module key information of D^{term} does not swap.*

Note 2: *There are some hardware/firmware limitations in order to swap all the Speed Calling key information. The Speed Calling key assigned in the feature keys does not swap.*

Service Conditions (cont'd)

12. When this service is activated, the key information of D^{term}, which has the target station as a multi-line will be changed automatically. For example:

Station A	Station B	Station C
-My Line 200	-My Line 202 -My Line 203	-My Line 203 -My Line 202

Station A	Station B	Station C
-My Line 202 -My Line 203	-My Line 200	-My Line 203 -My Line 200
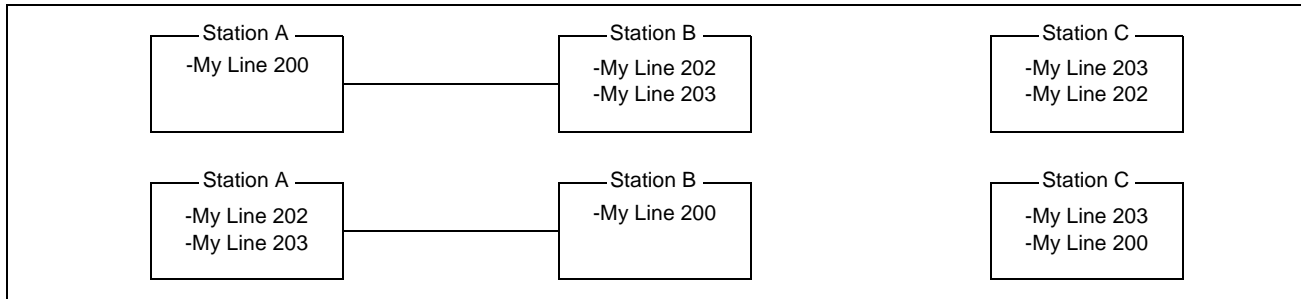
13. If the multi-line LED of D^{term} is lit (busy) when the station swaps, the line LED key may not light immediately after the service is activated. The LED light normally after the user goes on-hook.

14. For the stations that belong to the following service groups, this service is available only for those stations belonging to the same group.

    CALL PICKUP   [C-7, 30]
    CALL PARK   [C-29]
    STATION HUNTING - CIRCULAR   [S-7]
    STATION HUNTING - TERMINAL   [S-9]
    UCD   [U-1]

Note: *In case of STATION HUNTING - SECRETARIAL [S-8], the function as the secretarial station does not swap even when the station swaps. (The secretary station is not considered as a member of the hunt group.)*

15. When following station activates this service, its destination station is not swapped.

    a.) Station where following services are set:
    - CALL FORWARDING - BUSY LINE set by the system
    - CALL FORWARDING - DON'T ANSWER set by the system
    - CALL FORWARDING - INTERCEPT/ANNOUNCEMENT [C-25]

    b.) Predetermined station for HOTLINE [H-1]
    c.) Predetermined station for OFF-HOOK ALARM [O-6]
    d.) DIRECT-IN TERMINATION (DIT) [D-7] station

16. If D^{term} has individual terminal data assigned, this service is available for D^{term}s with identical terminal data.

17. This service is not available for:

    a.) D^{term} with OAI service key.
    b.) ACD agent console and supervisory console.
    c.) D^{term} with CALL WAITING LAMP - UCD [C-76].

18. This feature cannot be activated between D^{term}s of different types. When different D^{term}s are used, there may be cases where the incoming call cannot be answered or some services cannot be activated, due to lack of line/feature keys. In this case, the data can be restored by activating the service again or by exchanging the terminal sets.

19. When activating this service, the terminals cannot be exchanged. (There may be some inconvenience if number of Speed Calling keys, etc. differ between the terminals.)

20. When activating this service, swap of the Speed Calling - One Touch key data start upon replacement of the handset. It takes approximately 42 seconds for the Speed Calling key data to swap, and during this time, Follow Phone Service and Speed Calling - One Touch operations are restricted.

Service Conditions (cont'd)

21. After this service is activated, and if DM load reset is activated before the data is backed up to the hard disk, the stations return to the previous status. However, this is not the case with the Speed Calling - One Touch keys.

22. The DSS Console data does not swap. The My Line of the connected D^{term} may swap, but in this case, reassignment of DSS data and cabling will be necessary. The above is the same when using DSS as an Add-On Module.

23. This feature is only available for stations in the same node within the FCCS network.

Interactions

This service is restricted for a D^{term} using Expanded Multiple Line Operation - D^{term} [E-26].

Programming

STEP 1: **ANPD** - Assign the minimum necessary number of digits for the first number of the SWAP access code.

STEP 2: **ASPA** - Assign the access code for SWAP. CI = N (Normal), SRV = SSCA (Service Code Appendix), SIDA = 96, SWAP.

F-35 Flexible Routing - FCCS

General Description

With this feature, an FCCS trunk call can automatically be routed via a non-FCCS trunk (C.O. or Tie Line), if all the FCCS trunks are busy or a Data Link Failure occurs at the FCH card.

Operating Procedure

No manual operation is required.

Service Conditions

1. This feature is activated when all FCCS trunks are busy, a transmission failure occurs, or FCCS Link Failure (Layer 2 down) occurs at the FCH card.
2. Call origination through a trunk assigned as an alternative route should be established normally. Numbering plan data for the external alternative route should be programmed prior to this feature.
3. This feature is available only when the called party is an analog station, a D^{term} or an ISDN terminal. This feature is not available for a wireless terminal, or a DAT/Paging trunk.
4. When an incoming call from C.O./Tie Line encounters all FCCS trunk busy and it is routed to a Tie Line trunk by this feature, the normal Tie Line service is applied.
5. Only the LCR or LCRS is applied for alternate routing to a Tie Line/C.O. line for Tie Line. (The signaling system is limited to ISDN or CCIS.)
6. The access code for the alternative route is a maximum of 24 digits, assigned by the AFRFL command.
7. When the selected non-FCCS trunks (LCR/LCRS) are also busy, route selection is performed according to the LCR/LCRS table. The same is performed when the section encounters an FCCS trunk busy again.

Interactions

1. The following services can be provided with this feature:

CALL FORWARDING - BUSY LINE	[C-2]
CALL FORWARDING - DON'T ANSWER	[C-3]
CALL FORWARDING - ALL CALLS	[C-5]
CALL TRANSFER - ALL CALLS	[C-11]
CALL FORWARDING - ALL CALLS - ANNOUNCEMENT	[C-69] **(Note 1)**
DIRECT INWARD DIALING (DID)	[D-8]
DISTINCTIVE RINGING	[D-10] **(Note 2)**
INTERMEDIATE STATION NUMBER DISPLAY - D^{term}	[I-10D] **(Note 3)**
PRIORITY CALL	[P-9]
REMOTE ACCESS TO SYSTEM	[R-2]
STATION HUNTING	[S-7,8,9] **(Note 4)**
STATION-TO-STATION CALLING	[S-11]
STEP CALL	[S-13] **(Note 5)**
SPEED CALLING - GROUP	[S-23]
SERVICE DISPLAY - D^{term}	[S-25D] **(Note 3)**
SPLIT CALL FORWARDING	[S-99] **(Note 6)**
UNIFORM CALL DISTRIBUTION	[U-1] **(Note 4)**

Note 1: *Available when CCIS is activated in the network.*

Note 2: *When a call terminates from the alternative route, the ringing for the trunk call is provided.*

Interactions (cont'd)

Note 3: *The display is changed depending on the specification of ACIS.*

Note 4: *Has priority over the FLEXIBLE ROUTING - FCCS service. FLEXIBLE ROUTING - FCCS is activated only when the FCCS trunk for the destination station is busy.*

Note 5: *A trunk is used after the call encounters station busy between the stations in the FCCS network.*

Note 6: *Available only at the time of the data assignment for alternative route.*

2. The following services are available when the alternative route is CCIS and the service is provided in the CCIS network:

CALL FORWARDING - ALL CALLS - CCIS	[C-45]
CALL FORWARDING - BUSY LINE - CCIS	[C-46]
CALL FORWARDING - DON'T ANSWER - CCIS	[C-47]
CALLING NUMBER DISPLAY - CCIS	[C-52]
DATA PRIVACY ON DEMAND - CCIS	[D-68]
DIGITAL DISPLAY - CCIS	[D-72]
DISTINCTIVE RINGING - CCIS	[D-75]
MESSAGE REMINDER - CCIS	[M-34]
NAME DISPLAY - SYSTEM - CCIS	[N-37]
STEP CALL - CCIS	[S-59]
VOICE CALL - CCIS	[V-7]

Programming / FCCS Programming

Before this procedure, data setting for station-to-station connection within the FCCS network and the Flexible Route Numbering Plan (LCR/LCRS data) should be programmed.

STEP 1: **ANPD** - Reserve the number level for the trunk access.

STEP 2: **ASPA** - Assign SRV=LCR, LCRS and the access code to seize the flexible trunk.

STEP 3: **AMND** - Assign the maximum necessary digits data.

STEP 4: **ARNP** - Assign the access code for each route.

STEP 5: **AOPR** - Assign the outgoing Route selection pattern.

STEP 6: **AFRS** - Assign the flexible route selection data.

STEP 7: **ARTD** - Assign the route data. For CCIS data, assign line signals for each Bch and Dch route.

STEP 8: **ATRK** - Assign the trunk data.

STEP 9: When the CCIS line is used for flexible routing, CCIS data is programmed via ADPC, ACIC and ACSC.

STEP 10: **AFRFL** - Assign the Flexible Route data.

TN: Tenant Number of the calling party

FPC: Fusion Point Code of the destination node

ACC: Access code for the Flexible Routing (to C.O. or Tie Line), the same number assigned via ASPA for LCR/LCRS/

F-36   FCCS Networking via IP
(Series 7400 software feature)

General Description

This feature allows the system to exchange both speech and FCCS signals over Internet/Intranet. To establish/ release a call, the following two connection patterns can be selected:

- IPTRK Point-to-Point Connection: For both speech and FCCS signal channels, an IPTRK circuit card is used. At this time, the IPTRK cards in the self-node and each of its connected node(s) must be in 1-to-1 ratio.
- IPTRK Point-to-Multipoint Connection: For both speech and FCCS signal channels, an IPTRK circuit card is used. At this time, the IPTRK card, accommodated in the self-node, can be connected to multiple destinations (i.e. IPTRK cards of multiple nodes).

Point-to-Point Connection is functionally a kind of form within Point-to-Multipoint Connection.
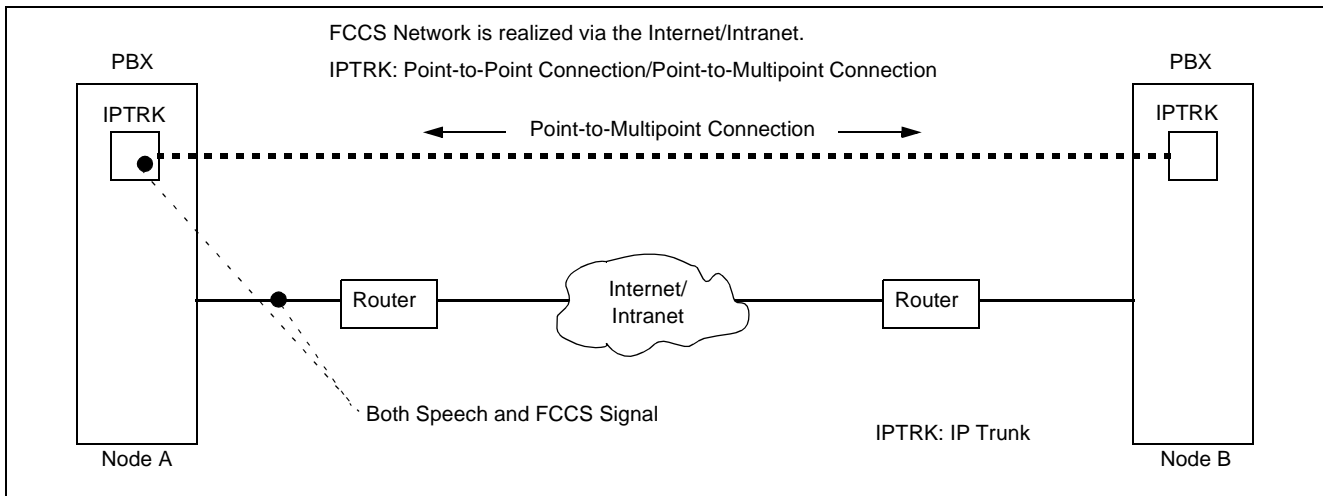
- Connection via Cisco router: To establish an FCCS link, Q-SIG is used between the system and the router.
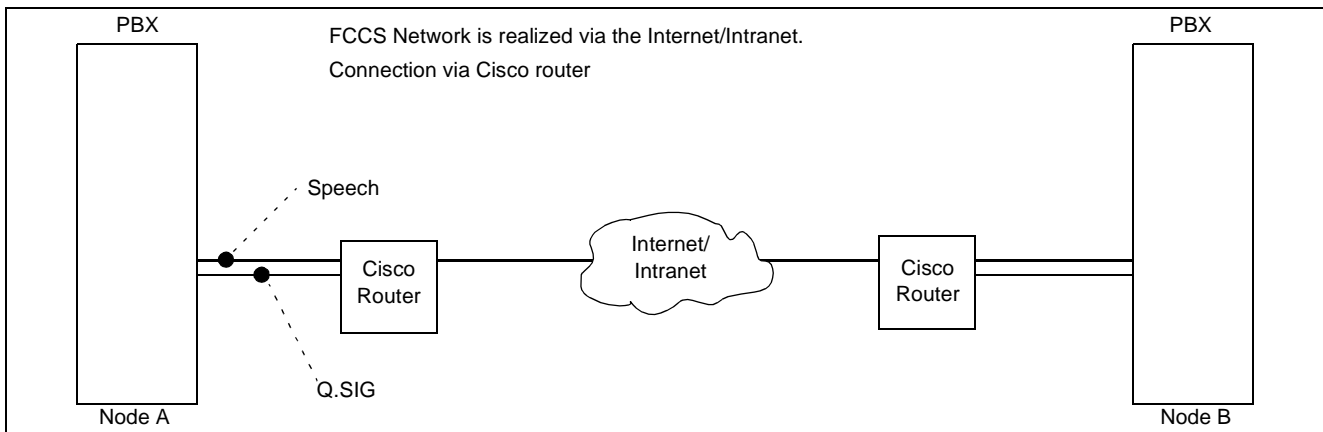
Operating Procedure

No manual operation is required.

Service Conditions

Service Conditions for FCCS over IPTRK:

1. To send/receive voice information, each node shall use IPTRK circuit card(s). At this time, the IPTRK cards in the self-node and its connected node(s) can be either in 1-to-1 ratio, respectively (called point-to-point connection), or in 1-to-n [n=2 or more] relations (called point-to-multipoint connection). For point-to-point connection, FCH-FGH card is used for FCCS signaling.

2. Be sure to place a router for connections between IP network and IPTRK/FGH card.

3. A maximum of 2 IPTRK cards per unit can be installed. Accordingly, a total of 16 IPTRK cards can be accommodated per IMG.

4. Only voice and FAX (G3) information can be sent/received via IPTRK card.

5. Only a single FCH-FGH card can be connected to a router (i.e. an FCH-FGH, connected to a router, cannot control the IPTRK card(s) connected to the other router). Accordingly, redundant configuration of FCH-FGH is not available.

6. A call cannot be established/routed across multiple IP networks. See the figure below:
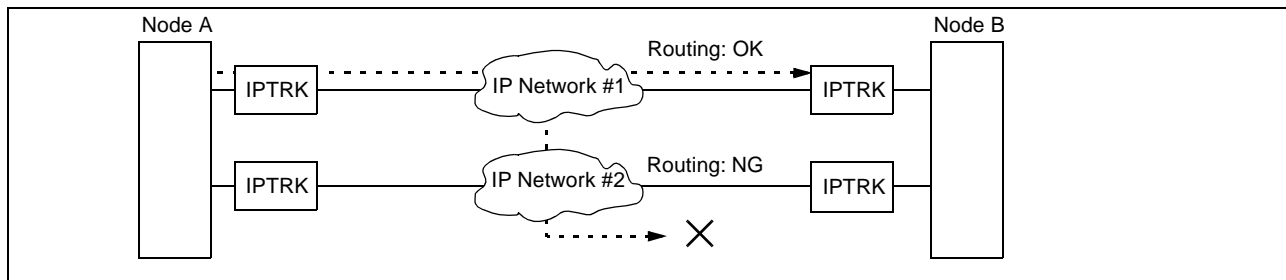
7. When multiple IPTRK cards are used for node-to-node connection and all the lines on an IPTRK are busy, alternate routing is available (see the following figure). However, if a router or FCH-FGH card cannot be used, all the related IPTRK routes are also made unavailable.
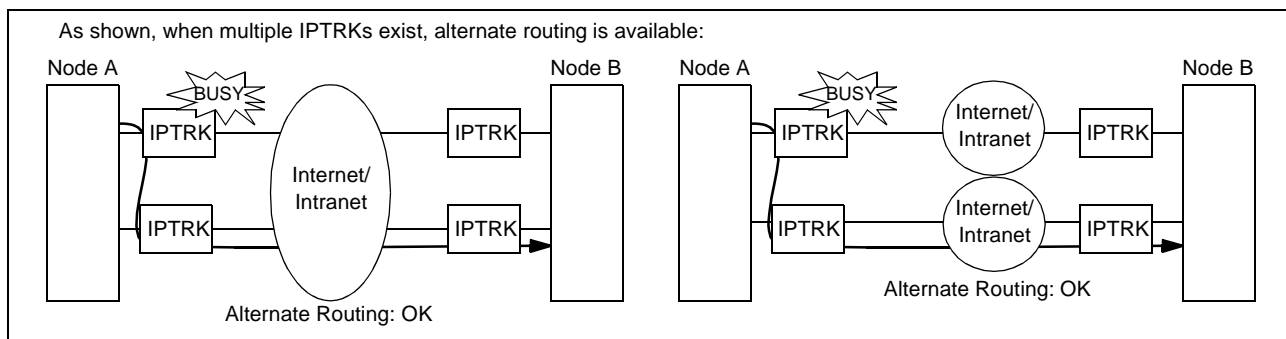
8. When using IPTRK card for point-to-multipoint connection, the port, assignable for FCCS signaling, is the 1st LEN of each HW block. Other ports are to be used for speech channels.

9. For point-to-multipoint connection, a D-channel, assigned on an IPTRK card, can control the B-channels of the same card, and also of a maximum of 7 other IPTRK cards.

10. IPTRK-related tandem connection is not available.

Service Conditions (cont'd)

11. Any service not available on the FCCS network, is not available with this feature.

12. Tandem Path through function is not provided.

13. This feature supports QoS (Quality of Service) function.

14. When a system message indicates TCP link failure due to data congestion on the router or IP network, a call cannot be made via an IPTRK circuit card. When a call is attempted despite this, the caller hears busy tone.

15. When a system message, related to TCP link failure, is created during a call origination or speech, that calls speech channel is automatically restored via patrol function.

16. When all lines of an IPTRK card are busy, alternate routing to C.O. line or tie line is available. Details on alternate routing patterns are shown in the following table:

	From FCCS over IPTRK (Point-to-Point/Point-to-Multipoint)	**To FCCS over IPTRK (Point-to-Point)**
Analog C.O. Line	Not Available	Not Available
Analog Tie Line	Available	Not Available
CCIS	Available	Not Available
ISDN	Available (via Sub Address-Addressing only)	Not Available
FCCS over DTI	Available	Available
FCCS over ISW (IMX-U System)	Available	Available
FCCS over IP (using Cisco router)	Available	Available
FCCS over IPTRK (Point-to-Point / Point-to-Multipoint)	Available	Available
CCIS over IP	Available	Available

17. PAD can be provided for Receive control only.

18. This feature does not support Broad Band Services H0, H1 of ISDN/CCIS line. This feature supports 1B only.

19. When FCH-FGH card is used for FCCS signaling, a maximum of 16 nodes can be connected via this feature.

20. When FCH-FGH card is used for FCCS signaling, the NDM data broadcasting may not work normally via the FCCS link.

21. This feature does not support any OAI/ACD service.

Service Conditions (cont'd)

Service Conditions for FCCS over IP using Cisco router:
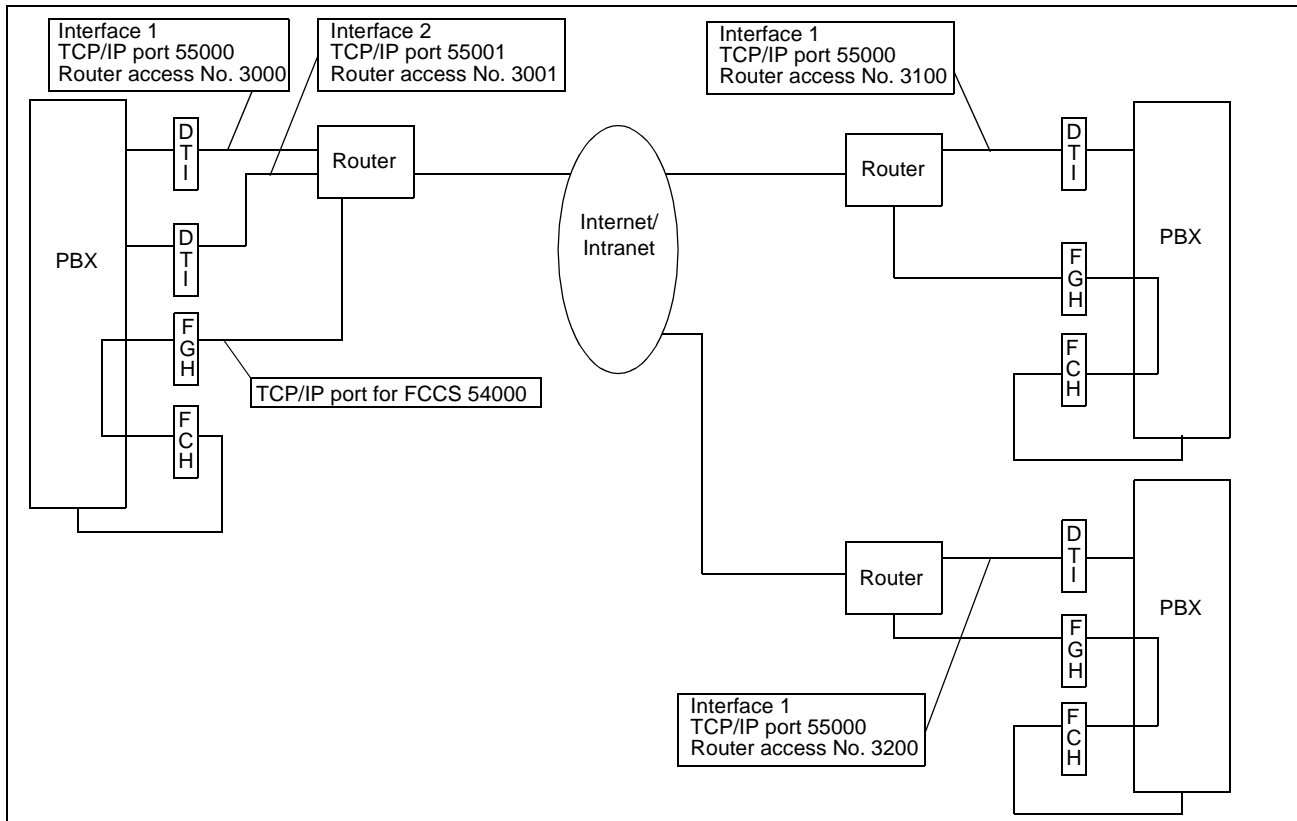
1. DTI (1.5M and 2.0M) interface is used as speech channel.
2. The FCH-FGH card is used as a signal channel. Only a single FCH-FGH card can be connected to a router. Accordingly, redundant configuration of FCH-FGH is not available.
3. An interface number is assigned to each speech channel and is changed into the TCP/IP port number between PBX and router for speech channel control.
4. The TCP/IP port number for the TCP/IP (FCCS) packet, which is not controlled at speech channel, should be different from that for the interface number. The TCP/IP packet is transmitted between PBXs such as upon remote log-in to another node with Windows MAT. At this time, only the routing for the TCP/IP packet is performed by the router.
5. The channel number and the connected-to router (router access number as termination number information) can be recognized by adding Q.SIG message to TCP/IP packet, which makes speech channel control between PBX and router available.
6. The router applying to FCCS Networking via IP service must be used.
7. The maximum number of digits for the router access code is 16.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

FCCS Programming (cont'd)

The data programming for Point-to-Point connection and Point-to-Multipoint connection is identical.

STEP 1:   **ASYDL** - Provided that the IPTRK circuit card is equipped in the node within the FCCS network, NDM data broadcasting is not to be executed. Therefore, when the IPTRK card is used in the FCCS network, perform the following data assignment at the NCN. SYS 1, Index 534, b7-1 (NDM data individual broadcasting from NCN to each LN).

STEP 2:   **ACRD** - Assign Route Class Data of Speech routes. It is not required to assign the signal route data. The IPTRK card assigned by the AFCH command is used as the FCCS signal channel controlling card.

STEP 3:   **ACTK** - Assign the connection trunk data of the IPTRK circuit card. It is not required to assign the trunk data for D-channel.

STEP 4:   **MBCT** - Un-busy the connection trunk data assigned in the previous step using the MBCT command.

STEP 5:   **AFCH** - Assign FCH number (FCHN) to each IPTRK card which is used as the FCCS signal controlling card.

STEP 6:   **AETH** - Assign the FCCS route data.

FPC: Assign FPC number (1-253) of the destination node

FCHN: Assign the FCH number specified in STEP 5

C_RT: Connection Route Number of Speech Channel (1-1023)

DST_IP: Assign IPTRK IP address of the destination node

NEXT_IP: Assign IPTRK IP address of the next node (node to be passed to)

For further information, see the IPTRK Circuit Card System Manual.

STEP 7:   **ACAN** - Assign the Fusion Connection Index Code (FCIC) to the self-node FPC.

FPC: Assign FPC number (1-253) of the self-node

FCIC: Assign unique fusion CICs in the self-node

C_LENS: Assign IPTRK LENS data (B-ch data) specified in STEP 3

STEP 8:   **AFRT** - Set Connection Route Numbers of the Speech Channels for the FCHN which was assigned in STEP 5.

FCHN: Assign FCHN, specified in STEP 5

C_RT: Assign Connection Route of Speech Channels, specified in STEP 2

STEP 9:   AGIP - Assign IP addresses of the IPTRK card and its connected router.

Kind: Select IPTRK (FCCS)

IPTEN: Assign the 1st LEN of IPTRK accommodated HW block

IPTK_IP: Assign IP address of the IPTRK card

DG_IP: Assign IP address of the router

ARP: Select DIX

CLINK_NUM: Default value

SLINK_NUM: DEfault number

NETMSK: Assign IP address of the Net MAsk

MULT: Select Point-to-Point

QoS1:   0-7

QoS2:   0-7

NETID: 0-15

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

G-2 Group Calling

General Description

This feature allows a user to dial certain frequently called stations within an NEAX2400 IMX group using an easily remembered number. The same number can be assigned to different user groups. The group call can initiate CALL WAITING - ORIGINATING [C-31] to a busy station.

Operating Procedure

To initiate a group call:
1. Lift the handset; receive dial tone.
2. Dial the GROUP CALLING access code (maximum 3 digits) plus the GROUP CALLING Station Code (1 or 2 digits).
3. The call is completed.

To initiate a group call from a D^{term}:
1. Redial key, plus GROUP CALLING station code (1 or 2 digits).
2. Call is completed.

Service Conditions

1. Each primary station equipped in a calling group will program the GROUP CALLING numbers through their telephone.
2. GROUP CALLING data is retained in memory, even in the event of power failure, by means of Hard Drive Backup via BKUPI command.
3. The memory for GROUP CALLING is shared with SPEED CALLING - STATION [S-21] or GROUP [S-23].
4. A group for GROUP CALLING is identical to that of a SPEED CALLING - GROUP [S-23].
5. The number of groups per Module Group for GROUP CALLING and SPEED CALLING STATION/ GROUP [S-21, 23] is limited to the following:
   GROUP CALLING Station Code: 1 digit (X)   Maximum 100 Groups
                                                2 digits (XX)   Maximum 10 Groups
6. The number of stations that can be called per group can be set within the following limit:
   a.) Number of Groups x Number of Station Codes = Less than 1,000
   b.) The number of stations per group is assigned in multiples of 10
7. For more information, refer to SPEED-CALLING GROUP [S-23].
8. A station using GROUP CALLING must be allowed individual SPEED CALLING STATION [S-21] and CALL WAITING - ORIGINATING [C-31] service.
9. CALL WAITING - ORIGINATING [C-31] service can be set when the called station is busy. CALL WAITING - ORIGINATING [C-31] will not be activated under the following conditions:
   a.) DO NOT DISTURB (DND) [D-11D] is set to the called station.
   b.) DATA LINE PRIVACY is set to the called station.
   c.) The called station is connected to the ATTENDANT CONSOLE [A-3].
   d.) The called station is in a THREE-WAY CALLING [T-2] condition.
   e.) CALL BACK [C-1], CAMP-ON [A-1] or CALL WAITING - ORIGINATING [C-31] service is set to the called station.
10. To initiate CALL WAITING - ORIGINATING [C-31] with GROUP CALLING, a D^{term} must:
    a.) Dial the CALL WAITING - ORIGINATING [C-31] access code.

Service Conditions (cont'd)

b.) Dial the GROUP CALLING access code (maximum 3 digits).

c.) Dial the GROUP CALLING station code (1 or 2 digits).

d.) CALL WAITING-ORIGINATING access code is not needed if automatic is set.

Interactions

1. As an example of a GROUP CALLING application, the following conditions exist:

    System Station Numbering: 5XXXX and 6XXX

    Speed Calling Access: 3 (Assigned in ASPA)

    100 Groups of ten stations

    GROUP CALLING Station Numbering consists of the following: 30-39

2. Station in GROUP CALLING dial only two digits to reach other members of the group.

3. All normal STATION-TO-STATION CALLING [S-11] capabilities and restrictions apply, such as VOICE CALL-D^{term} [V-2D], MESSAGE REMINDER-D^{term} [M-19D], CALL BACK [C-1], etc.

4. GROUP CALLING applies to the MY-Line of the D^{term}.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Two access codes must be assigned for this feature.

Assign a Tenant and an Access Code (ACC) for assigning individual speed calling. For INDIVIDUAL SPEED CALLING-ENTRY, assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 14. For INDIVIDUAL SPEED CALLING-ACCESS, assign a tenant and an access code (ACC). Assign Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 21.

STEP 3: **ASFC** - Assign a Service Feature Class that allows SFI 19 to the stations allowed SPEED CALLING-STATION [S-21].

STEP 4: **AISA** - Program the tenant, station, type of station, and the number of SPEED CALLING blocks to be assigned to the Source station. One station of each GROUP CALLING group is assigned as the Source. The Source then assigns all the stations and virtual numbers as abbreviated codes.

TN: Tenant Number

STN: Station Number

MST/SLV: Source/Secondary

            M: Primary Station

            S: Secondary Station

BLOCK: Number of Blocks

STN: When assigning the Secondary station, assign the Primary station number.

STEP 5: **AKYD** - Assign the virtual circuit to a D^{term} key. Assign KYI = 2, multi-line key, and assign the station number of the virtual circuit. This key will be the GROUP CALLING key.

STEP 6: **AISD -** can also be used to assign INDIVIDUAL SPEED CALLING data.

FCCS Programming

No unique programming is required for the FCCS network.

H-1 Hotline

General Description

This feature permits a pair of station sets to be associated with one another on an automatic ringdown basis.

Operating Procedure

To place a HOTLINE call:
1. Station A lifts the handset.
2. Station B is rung.
3. Station B lifts the handset; the conversation proceeds.

Service Conditions

1. If both phones in a hotline pair are equipped with dials, either one may transfer a hotline call to another station.
2. There is no limit to the number of hotline stations.
3. Hotline assignments are programmed into System Data via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
4. The hotline station will hear reorder tone when the called station is in busy, lockout or make busy condition.
5. When the station called from the hotline has activated CALL FORWARDING - BUSY LINE [C-2], the call will be forwarded when the called station is busy.
6. When the station called from the hotline has activated CALL FORWARDING - ALL CALLS [C-5], the call will be forwarded.
7. When the station called from the hotline has activated CALL FORWARDING - DON'T ANSWER [C-3], the call will be forwarded when the called station doesn't answer after a predetermined time interval.
8. STATION HUNTING [S -7, 8, 9] and UCD [U-1] will be activated for a call from the hotline, but the incoming hotline call cannot be placed in the UCD [U-1] queue.
9. The hotline station will hear reorder tone (ROT) if the called station has set CALL FORWARDING - ALL CALLS/BUSY LINE - OUTSIDE [C-28, 60].
10. ASAT numbers cannot be a connecting station (destination).
11. This feature can be activated via FCCS.
12. Only the station assigned telephone number is available for the station assignment when activating this feature via FCCS.
13. The station, the Attendant Console/Desk Console (operator call), and the trunk can be a destination for Hotline.
14. When Call Forwarding - All Calls/Busy Line/Don't Answer service has been set to the called station, these features are available for the call to the station.
15. When a calling party encounters a busy station, the call may bridge into the connection depending on the data assigned by the ASYD command.

Interactions

1. The connecting station does not have to be a HOTLINE station. If the connecting station is busy, the HOTLINE station will hear reorder tone.

Interactions (cont'd)

2. CONSULTATION HOLD [C-17]: The HOTLINE station may put the destination station on CONSULTATION HOLD [C-17]. In this state, the HOTLINE station may make an outgoing call, and is therefore affected by CLASS OF SERVICE-INDIVIDUAL [C-15].

3. CALL WAITING-ORIGINATING [C-31]: A HOTLINE will not be allowed to camp-on to a busy destination station.

4. If the connecting station is also a HOTLINE station, then the reverse connection must also be programmed.

Programming

STEP 1: **ASDT** - Assign the station as a TEC = 14 for HOTLINE.

STEP 2: **AHLS** - Assign the station number programmed above for the following parameters:

HOT TN: HOTLINE Tenant
STN: HOTLINE Station
CON TN: Connecting Station's Tenant
CON STN: Connecting Station Number

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

AHLSN - This data must be assigned to the NCN.

UGN: User Group Number
TELN: Telephone Number of the calling party
TYPE: 1 (The called party is a station)
CON UGN: User Group Number of the called party
CON TELN: Telephone Number of the called party

Note: *The current data should also be set in addition the above-mentioned command. The ASDT command must be set to the node accommodating the calling party.*

H-2 House Phone

General Description

This feature allows selected stations to reach the ATTENDANT CONSOLE [A-1] by going off-hook.

Operating Procedure

To reach the ATTENDANT CONSOLE [A-1]:
1. The HOUSE PHONE user lifts the handset. The Attendant is called automatically.
2. The Attendant answers.
3. The Attendant connects the user to the desired station or trunk.

Service Conditions

1. Attendant Console indications will appear as follows:

    a.) ATND lamps flash

    b.) Console buzzer sounds.
2. HOUSE PHONES may be equipped with or without dials.
3. HOUSE PHONE assignments are programmed into system data via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
4. There is no limit to the number of HOUSE PHONES permitted in the system.

Interactions

1. The AHLS command is not needed. When a station is programmed as TEC: 14, HOTLINE, it will automatically be connected to the Attendant Console.
2. If the House Phone is to be used for outgoing calls via the Attendant Console (ARSC command RRI 2), assign a Route Restriction Class that will allow these connections. The same consideration should be made for Incoming calls via the Attendant Console (RRI 0).

Programming

ASDT - Assign the station as a TEC = 14 for HOTLINE.

FCCS Programming

No unique programming is required for the FCCS network.

H-4D   Hands-free Answer Back - D^{term}

General Description

This feature allows the user to respond to a VOICE CALL - D^{term} [V-2D] without lifting the handset.

Operating Procedure

To answer an incoming call:
1. Lift the handset and press the line key to answer the call.
2. Press the feature key and "1"; the MIC LED lights.
3. Press the feature key and "5" to select HANDS-FREE operation.
4. Press the SPEAKER key and replace the handset; respond to the call HANDS-FREE.

To answer a VOICE CALL [V-2D]:
1. Press the feature key and "1"; the MIC LED lights.
2. Press the feature key and "5" to select HANDS-FREE operation.
3. Respond to the call HANDS-FREE.

Service Conditions

1. The MIC may be left ON at all times.
2. HANDS-FREE operation may be selected at all times.
3. HANDS-FREE ANSWER BACK may be used when responding to a VOICE CALL [V-2D] on My Line.

Programming

No programming is required. See VOICE CALL-D^{term} [V-2D].

H-5D   Hands-free Dialing/Monitoring - D^{term}

General Description

This feature allows the D^{term} user to dial or monitor and call without lifting the handset.

Operating Procedure

To dial a call HANDS-FREE:
1.   Press the SPEAKER key; receive dial tone.
   - a.)   Dial the desired number.
   - b.)   When the called party answers, lift the handset.

To monitor a call HANDS-FREE:
1.   When placed on hold, press the SPEAKER key.
2.   Replace the handset; when the call resumes, pick up the handset.

Service Conditions

None.

Programming

        No programming is required.

H-9   Hotline - Outside

General Description

This feature allows a user to access an outside destination by going off-hook or selecting the HOTLINE-OUTSIDE [H-1] line/feature key and automatically dialing a SPEED CALLING-SYSTEM [S-3] number.

Operating Procedure

To place a HOTLINE - OUTSIDE call using a single-line telephone:
1. User lifts handset.
2. PBX automatically selects a trunk and dials the outside number.
3. Called number is answered and conversation proceeds.

To place a HOTLINE - OUTSIDE call from a D^{term}:
1. The D^{term} user presses the HOTLINE-OUTSIDE line/feature key and lifts handset or presses the SPEAKER key.
2. The PBX automatically selects a trunk and dials the outside number.
3. The called number is answered and the conversation proceeds.

Service Conditions

1. There is no limit to the number of HOTLINE stations.
2. The destination parties for this service use abbreviated call codes prepared in SPEED CALLING - SYSTEM [S-3]. Therefore, the number of destination stations is limited by the capacity of SPEED CALLING - SYSTEM [S-3].
3. When a user is confronted with a situation whereby all trunks are busy, or all senders are busy at the same time calling in this service, reorder tone is heard at the HOTLINE stations.
4. Outside connection in BROKERAGE HOTLINE - OUTSIDE [B-12] service can be realized when the LCD indicates:
    a.) trunk classification such as DDD, TIE, and CCSA and trunk number for an outgoing call.
    b.) time duration, trunk classification, and trunk number for an incoming call.
5. When a user of BROKERAGE HOTLINE - OUTSIDE [B-12] is confronted with a situation in which all trunks are busy or all senders are busy, the user hears reorder tone. No indication is shown on the LCD of the user's D^{term}.
6. Station Message Detail Recording (SMDR) [S-10] is available for outgoing calls with the HOTLINE - OUTSIDE service.
7. OUTGOING TRUNK QUEUING [O-2] is not provided for a HOTLINE-OUTSIDE call.
8. The prime line of a D^{term} cannot be assigned as a HOTLINE-OUTSIDE.
9. When a D^{term} activates HOTLINE-OUTSIDE, the display will be for an outgoing trunk connection.
10. This feature can be activated via FCCS.
11. Only the station assigned telephone number is available for the station assignment when activating this feature via FCCS.
12. The station, the Attendant Console/Desk Console (operator call), and the trunk can be a destination for Hotline.

Interactions

SPEED CALLING-SYSTEM [S-3] must first be provided.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, Bit 7. Does TOLL RESTRICTION apply to SPEED CALLING-SYSTEM [S-3]? 0/1: Yes/No. If TOLL RESTRICTION applies, construct an RSC that will allow the station access to the outgoing number.

STEP 2: **ASFC** - Construct a Service Feature Class that allows Service Feature Index (SFI) 12; SPEED CALLING-SYSTEM [S-3]. Assign this SFC to the Hotline station.

If using a Virtual Circuit (TEC = 18) for the hotline, SFI: 36 (Special Common Battery/Hotline) must be set to "1" for the Virtual Circuit's SFC.

STEP 3: **ASDT** - Assign the HOTLINE-OUTSIDE station as a TEC = 18, Virtual Circuit or TEC = 14, Hotline.

 TN: Tenant Number
 STN: Station Number
 LENS: Line Equipment Number (6 digits)
 TEC: Telephone Class (1-31)

   1: DP (10pps)
   2: PB
   3: DP/PB
   12: D^{term}
   13: Data terminal Via D^{term}
→ 14: HOTLINE
   15: CAS Line
   18: Virtual Circuit
   23: ISDN Terminal
   27: Eight Conference Equipment

 RSC: Route Restriction Class (0-15)

 For assignment of RSC, ARSC command.

 SFC: Service Feature Class (0-15)

 For assignment of SFC, ASFC command.

STEP 4: **ASPD** - Assign the Tenant Number, the Abbreviated Digit Code-ADC, and the CD-Telephone Number to be sent. Include in the CD the access code of the route.

STEP 5: **AHLS** - Assign the HOTLINE-OUTSIDE station with the following parameters:

 HOT TN: HOTLINE-OUTSIDE Tenant
 STN: HOTLINE-OUTSIDE Station
 TYPE: 2 (ADC)
 CON TN: Connecting Stations Tenant. Assign same TN # as in HOT TN:
 ADC: Abbreviated Digit Code of Corresponding Outside Number.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

AHLSN - This data must be assigned to the NCN:

UGN: User Group Number of the calling party
TELN: Telephone Number of the calling party

FCCS Programming (cont'd)

TYPE: 2 (The called party is an outside party)

     3 (The called party is a trunk)

CON UGN: User Group Number of the called party (for TYPE=2)

CON ADC: The dialed number for the called party (for TYPE=2)

CON LRN: Logical Route Number of the called party (for TYPE=3)

CON TK: Trunk Number of the called party (for TYPE=3)

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command. The command to be set to the node accommodating the calling party: ASYD/ASFC/ASDT/ASPD*

I-1 Immediate Ringing

General Description

This feature causes called stations to ring immediately upon establishment of connections.

Operating Procedure

No manual operation is required.

Service Conditions

1. Ringing is applied to a called station as soon as the switch has determined that the station is idle. There is no delay caused by waiting for a ring cycle.
2. This feature applies to STATION-TO-STATION [S-11], Attendant (originated or completed), Direct Inward Dialing (DID), and tie line calls.
3. An idle station rings immediately after the last digit of the called station is dialed.

Programming

ASYD - System Data 1, Index 27, Bit 7. Assign data "1".

I-2   Incoming Call Identification

General Description

This feature allows an ATTENDANT CONSOLE [A-3] to visually identify the type of service and/or trunk group that is arriving or waiting to be answered.

Operating Procedure

No manual operation is required.

Service Conditions

1. A flashing lamp indicates a call waiting to be answered.
2. A steady lamp indicates an answered call.
3. A limit of 12 lamp and key groups can be associated with INCOMING CALL IDENTIFICATION.
4. Lamps and keys may be assigned as follows:

LDN:	Listed Directory Number (Central Office)
WATS:	Wide Area Telephone Service
FX:	Foreign Exchange
ATND:	Attendant Call
RECALL:	Attendant Recall Calls
ICPT:	Call Forwarding - Intercept
NANS:	Call Forwarding - Don't Answer
BUSY:	Call Forwarding - Busy Line
TIE:	Tie Line
TF:	Inter-Position Transfer
CAS:	Centralized Attendant Access
PR1:	Priority Call 1
PR2:	Priority Call 2
PR3:	Priority Call 3
SC/RC:	Serial Call Recall Key
EMG:	Off-Hook Alarm

5. More than one INCOMING CALL IDENTIFICATION lamp can be duplicated at the ATTENDANT CONSOLE [A-3]. The Attendant can select any incoming call by pressing the associated key.
6. Calls can be answered via the ANSWER key for first-in, first-out priority. (CALL QUEUING [C-9]).
7. ATTENDANT CONSOLEs [A-3] are limited to 12 unique INCOMING CALL IDENTIFICATION indications. However, more than one incoming trunk group can be programmed for the same INCOMING CALL IDENTIFICATION.

Interactions

1. Step 1 is not required to fulfill the requirements of the feature description. However, the CALL WAITING LAMP [C-13] should be programmed in relationship to the INCOMING CALL IDENTIFICATION.
2. System Data 2, Index 8, Bits 6 and 7, and Index 9, Bits 0-3 can be flagged to represent an incoming call, but the meaning of the incoming call can be re-assigned via the AAKP command.
3. The first six keys (LDN to CCSA) are fixed and cannot be changed. The AAKP command is used to program the remaining six optional keys.

Programming

STEP 1: **ASYD** - System Data 2, Indexes 8 & 9, flag the type of incoming calls the Attendant Console should expect.*

Index 8

Bit 0: Listed Directory Number

Bit 1: Incoming Station Call

Bit 2: Attendant Recall

Bit 3: FX

Bit 4: WATS

Bit 5: CCSA (DID)

Bit 6: TIE Line

Bit 7: Call Forwarding Busy Line

Index 9

Bit 0: Call Forwarding Don't Answer

Bit 1: Call Forwarding Intercept

Bit 2: Special Common Battery Station

Bit 3: Interposition Transfer

*System Data 2, Index 8, Bits 6 & 7, and System Data 2, Index 9, Bits 0-3 can be assigned different meanings via the AAKP command.

STEP 2: **ARTD** - Flag the type of route in CDN 6:TCL, Trunk Class.

0: Not used

1: DDD Line (LDN)

2: FX Line (FX)

3: WATS Line (WATS)

4: TIE Line (TIE)

5: CCSA Line (CCSA)

6: Toll Line

7: CAS Line

8: Paging

9: Not used

10: Not used

11: General page

12: Radio page

STEP 3: **AAKP** - This command may be used to change the meaning of the top six keys of the Call Identification keys of the Attendant Console. (See System Data 2, Indexes 8 & 9.)

The Following functions may be assigned to Key Numbers (KYN) 1-6.

Function:

a: CAS

b: Off-Hook Alarm

c: Priority Call 1

d: Priority Call 2

e: Priority Call 3

I-3   Incoming Central Office Call to Tie-Line Connection

General Description

This feature permits an Attendant to connect an incoming public network exchange call, via a TIE Line, to a station at a distant PBX.

Operating Procedure

To connect an incoming call:
1.   The Attendant presses the LDN key and answers the incoming trunk call.
2.   Dial the TIE Line access code; receive dial tone from distant PBX.
3.   Dial the distant PBX extension number.
4.   Press the RELEASE key.
5.   The TIE Line and Central Office call are connected.

Service Conditions

1.   The Attendant can connect a trunk and TIE Line call either before or after the distant station answers.
2.   There is no limitation on the number of incoming trunks that may be connected to TIE Lines using this feature.
3.   TRUNK-TO-TRUNK CONNECTION [T-10] may significantly degrade transmission quality.
4.   TRUNK-TO-TRUNK CONNECTION [T-10] can be restricted through Alternative Route restriction assignments.
5.   AUTOMATIC RECALL [A-8] is denied on Incoming Central Office Call To Tie-line Connection.
6.   Since AUTOMATIC RECALL [A-8] cannot be initiated by a trunk, the ATTENDANT LOCKOUT [A-5] feature is automatically disabled in order to allow the Attendant to reenter TRUNK-TO-TRUNK CONNECTION [T-10] calls held on the ATTENDANT CONSOLE [A-3].
7.   This feature is applicable to the following types of incoming CO calls:
      • FX
      • WATS
      • CCSA
      • DID (Direct Inward Dialing)
      • COT (Ring Down/Loop Start)
8.   Loop-start CO trunks can be connected to tie trunks since release supervision is provided by the tie trunks.
9.   When release signal is not provided by TIE Line trunk, the Attendant must monitor the connection and manually disconnect after use.

Interactions

1.   The Attendant Console must first be programmed.
2.   For TIE Line route to Central Office route connection, the reverse must be programmed. However, program for ARI-D-RES:, Direct connection. This connection may also be Toll Restricted by using the ATDP command.
3.   A station can transfer a call to a station or to the Attendant Console at a distant PBX via a TIE Line connection. This station must be assigned a proper class of service.

Interactions (cont'd)

4. Stations must be allowed access to the routes they will need via the appropriate connection status, either via the Attendant Console (RRI 2) or Direct connection (RRI 3).

5. Various combinations of TRUNK-TO-TRUNK [T-10] connections can be restricted by Alternate Route Restriction (ARRC command).

Programming

STEP 1: **ARTD** - Assign the Central Office route as shown below:

GROUND START:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 3-ISGS | :1 | 4-INSG | :3 | 5-TF | :3 |
| 6-TCL | :1 | 7-L/T | :1 | 8-RLP | :2 | 15-LSG | :1 | | |

LOOP START:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 3-ISGS | :1 | 4-INSG | :3 | 5-TF | :3 |
| 6-TCL | :1 | 7-L/T | :1 | 8-RLP | :2 | | | | |

Assign the TIE Line route as shown below:

2 OR 4 WIRE E + M:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 3-ISGS | :2 | 4-INSG | :3 | 5-TF | :3 |
| 6-TCL | :4 | 7-L/T | :1 | 8-RLP | :2 | 15-LSG | :5 | | |

STEP 2: **ATRK** - Assign the LENs, Central Office Route Number, Trunk Number, and Tenant Number.

Assign the LENs, TIE Line Route Number, Trunk Number, and Tenant Number.

STEP 3: **MBTK** - Assign the Make Idle status to the trunks.

For Tie Line:

STEP 4: **ANPD** - Reserve a number level for trunk access. Assign Connection Indexes (CI) for Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated.

STEP 5: **ASPA** - Assign the access code as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the route number associated with this access code.

STEP 6: **ARSC** - For the incoming Central Office route, allow for RRI: 0, Incoming Call via the Attendant Console (with Call Transfer). This Route Restriction Class (RSC) is to be assigned for the Attendant Console in ATRK. (RSC 0).

For outgoing TIE Line route and for RSC 0, allow for RRI: 2 Outgoing Call via the ATTCON (with Call Transfer). RSC 0 is to be assigned to theATTCON inATRK.

STEP 7: **ARRC** - Assign 1 to the parameter ARI-D-RES for allowing tandem connection with an operator assistance. Allow the Incoming Route Number (ICRT) of the incoming Central Office route to be connected to the Outgoing Route Number (OGRT) of the Outgoing TIE Line route.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ARTDN** - Assign the Central Office route as shown below:

GROUND START:

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:3
6-TCL	:1	7-L/T	:1	8-RLP	:2	15-LSG	:1		

LOOP START:

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:3
6-TCL	:1	7-L/T	:1	8-RLP	:2				

Assign the TIE Line route as shown below:

2 OR 4 WIRE E + M:

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:2	4-INSG	:3	5-TF	:3
6-TCL	:4	7-L/T	:1	8-RLP	:2	15-LSG	:5		

STEP 2: **ANPDL** - Reserve a number level for trunk access. Assign Connection Indexes (CI) for Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated.

STEP 3: **ASPAL** - Assign the access code as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the logical route number associated with this access code.

STEP 4: **ARSCN** - For the incoming Central Office route, allow for RRI: 0, Incoming Call via the Attendant Console (with Call Transfer). This Route Restriction Class (RSC) is to be assigned for the Attendant Console in ATRK. (RSC 0).

For outgoing TIE Line route and for RSC 0, allow for RRI: 2 Outgoing Call via the ATTCON (with Call Transfer). RSC 0 is to be assigned to theATTCON inATRK.

STEP 5: **ARRCN** - Assign 1 to the parameter ARI-D-RES for allowing tandem connection with an operator assistance. Allow the Incoming Route Number (ICRT) of the incoming Central Office route to be connected to the Outgoing Route Number (OGRT) of the Outgoing TIE Line route.

I-4   Individual Trunk Access

General Description

This feature permits an Attendant to access an individual trunk within a trunk group via dial access at the ATTENDANT CONSOLE [A-3].

Operating Procedure

1. Press the TKSL key.
2. Dial the trunk route number (2 digits or 3 digits).
3. Dial the trunk identification number (3 digits).
4. If the trunk is idle, dial tone will be received.

OR

1. Press an idle TKSL key.
2. Dial the Central Office code number (4 digits).
3. If the trunk is idle, dial tone will be received.

Note: *On a system basis, either the Central Office code number or trunk route number and the trunk identification number dialing can be assigned.*

Service Conditions

1. A digital display will appear on the ATTENDANT CONSOLE [A-3], which will consist of either:
    a.) TENANT [T-12] number, route number, and trunk number, or
    b.) Central Office code number. This data is programmed on a per-route basis.
2. If the trunk is busy, the Attendant will receive a busy tone.
3. The Attendant can use ATTENDANT OVERRIDE [A-7], if it is included in system programming, to gain entry into a particular trunk when it is in use.
4. If the trunk is made busy, either by hardware or software control, the Attendant can still access that trunk using the above mentioned operating procedure.
5. The Desk Console is not available for this feature.
6. Central Office Code (COC) is not available to access an individual trunk through FCCS link.

Interactions

1. If the trunk is busy, ATTENDANT OVERRIDE [A-7] may be used. THREE-WAY CALLING [T-2] is established following a Warning Tone. If the station should disconnect, the Attendant Console can either disconnect or extend the trunk to another station via the keypad by pressing the START key and entering the desired telephone number.
2. A station may access a specific trunk if it is allowed a Service Feature Class that allows SFI 39, Individual Trunk Access. The station then goes off-hook and dials the INDIVIDUAL TRUNK ACCESS feature access code. This requires assignments in ANPD and ASPA. In ASPA SRV = SSC (Service Code); SID=17. Assign for a Connection Index of Normal (N). Individual Trunk Access also allows the station to conduct Interoffice trunk tests. Refer to the NEAX2400 IMX System Operations and Maintenance Manual, system message [6-I].

Programming

STEP 1: **ASYD** - System Data 1, Index 68, Bit 1. Designates the method the Attendant Console must use to operate INDIVIDUAL TRUNK ACCESS. 0/1: Route & Trunk Number/Listed Directory Number (Central Office Code, ACOC).

System Data 1, Index 68, Bit 4. Is Trunk Select Key in service? 0/1: No/Yes. Assign data 1.

Optional

STEP 2: **ARTD** - If the Central Office Code option is exercised, assign data "1" in CDN 25.

STEP 3: **ACOC** - If the Central Office Code option is exercised, trunks in the system must be programmed to have an associated Central Office Code. This code is dialed after pressing the Attendant Console's Trunk Select key.

Note: *Central Office codes do not apply to stations. Stations permitted this feature must dial an Access Code, the Trunk Route Number and the Trunk Number.*

FCCS Programming

No unique programming is required for the FCCS network.

I-5   Inter-position Transfer

General Description

This feature allows Attendants to transfer calls at their ATTENDANT CONSOLE [A-3] to another Attendant's Console in systems where MULTIPLE CONSOLE OPERATION [M-4] has been provided.

Operating Procedure

To transfer a call from Attendant Console A to Attendant Console B:
1. Press the START key.
2. Attendant A dials Attendant Console B identification number, or "0" for all Attendants.
3. The call is indicated at Attendant Console B or all Attendant Consoles.
4. Attendant B presses the ANSWER key or TF ICI key.
5. Attendant A presses the RELEASE key to transfer, or may consult first, then release.

Service Conditions

1. A designated identification number is assigned to each ATTENDANT CONSOLE [A-3] for the purpose of INDIVIDUAL ATTENDANT ACCESS [I-6].
2. This feature can be provided on a TENANT SERVICE [T-12] basis.
3. An Attendant can receive one INTER-POSITION TRANSFER call at a time. An INCOMING CALL IDENTIFICATION (TF ICI) [I-2] key can be designated for receipt of these calls.
4. An Attendant cannot transfer a conference connection to another Attendant.
5. An Attendant can extend an inter-position transferred call to any other destination.
6. NIGHT CONNECTION - FIXED/FLEXIBLE [N-1, 2]: When Night Service is active, an Attendant position call to another Attendant cannot be answered by the night service arrangements. The calling Attendant hears reorder tone.
7. When the operator call code is dialed, the call is routed to the predetermined Attendant Console designated in System Data for the FCCS network.

Interactions

The ASAT number may not be programmed in place of a telephone number in the ASID and ASGD commands. See OFF-HOOK ALARM [O-6], ATTENDANT NIGHT TRANSFER [A-19], and PRIORITY CALL [P-9].

Programming

STEP 1:   **ASYD** - System Data 2, Index 6, Bit 5. Enable INTER-POSITION TRANSFER? 0/1: No/Yes. Assign data 1. Assigned on a per-tenant basis.

         System Data 2, Index 9, Bit 3. Is INTERPOSITION TRANSFER considered an incoming call to the Attendant Console and to be counted as a Call Waiting? 0/1: No/Yes. See CALL WAITING LAMP [C-13]. Assigned on a per-tenant basis.

STEP 2:   **ASAT** - Assign a specific Attendant number to each Attendant Console.

STEP 3:   **ATNR** - Allow station-to-station connection on an Intra and Inter-tenant basis.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASPAL** - This data must be set to the node calling attendant, Assign SRV = SSC, SID = 2 (Operator Call), and FPC of the node that operator calls are to be terminated to.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

I-6 Individual Attendant Access

General Description

This feature permits a user to call a particular ATTENDANT CONSOLE [A-3] via an individual Attendant identification number.

Operating Procedure

1. The user dials the individual Attendant identification number.
2. The directed Attendant gets INCOMING CALL IDENTIFICATION (ICI) [I-2] indication ("ATND") and can answer using the normal operating procedure.

Service Conditions

1. Attendant identification numbers (maximum 5 digits) must be programmed and published for each Attendant Console.
2. The ASAT number should be the same number of digits as any other station number. ASAT assigns a station number to each Attendant Console.
3. ATTENDANT NIGHT TRANSFER [A-19] feature cannot be activated for calls in this feature.
4. The individual attendant identification number cannot be used to assign the destination of Call Forwarding service.
5. Only a Telephone Number can be assigned as the individual attendant identification number when this feature is activated via FCCS.

Programming

STEP 1: **ASAT** - Assign a station number to each Attendant Console. The Attendant Console number is the trunk number assigned in the ATRK command, Route 901.

STEP 2: **ATNR** - Allow tenant stations either access or denial to the tenant in which the Attendant Console is located.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ALGNN** - This command must be assigned to the NCN. Assign the User Group Number and Telephone Number for the individual attendant identification number.

STEP 2: **ASATN** - This command must be assigned to the NCN. Assign User Group Number (UGN), Telephone Number assigned by the ALGNN command for specifying the attendant console (ACC), Fusion Point Code accommodating the designated attendant console (FPC), tenant number to which the attendant console belongs (TN), and the trunk number assigned by the ATRK command for the attendant console (ATN).

Note: *Assign the ATNR command data to both the nodes accommodating the station and the attendant console.*

I-7D   I-Hold Indication - D^{term}

General Description

This feature provides the D^{term} with a distinctive flash to differentiate between a call the user placed on hold from other calls.

Operating Procedure

No manual operation is required.

Service Conditions

Condition of the LED is as follows:
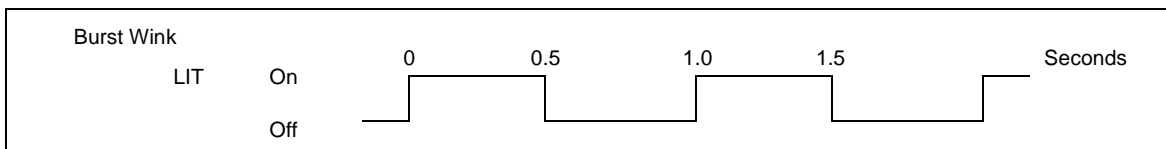
Programming

This is a D^{term} feature. No programming is required.

I-8D   I-Use Indication - D^{term}

General Description

This feature provides the D^{term} with a unique LED indication to display the particular line the user is on.

Operating Procedure

Manual operation is not required.

Service Conditions

Condition of LED is as follows:
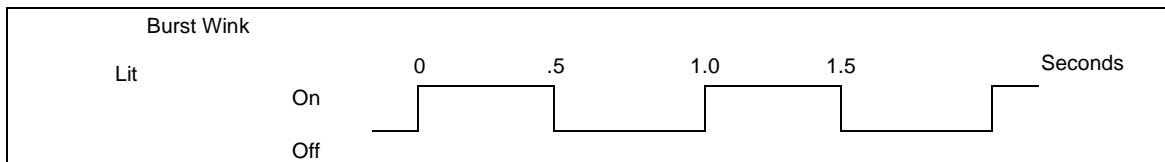
Programming

This is a D^{term} feature. No programming is required.

I-9   Intercom Calling

General Description

This feature allows a sub-line appearance, assigned to a D^{term}, to be used for INTERCOM CALLING.

Operating Procedure

To originate an intercom call:
1.   Press the Intercom sub-line appearance.
2.   Lift the handset or press the SPEAKER key; dial tone is heard.
3.   Dial an Intercom station, receive ringback tone. The display will show:

ICM	XXXX
(Time Display)	

4.   The called party answers and the conversation begins.

To answer an Intercom call:
1.   Ringing is heard from the Intercom sub-line.
2.   Press the Intercom sub-line appearance. The display will show:

ICM	XXXX
(Time Display)	

3.   Lift the handset or press the SPEAKER key.
4.   The conversation can then begin.

Service Conditions

1.   An Intercom sub-line appearance cannot be the Prime Line of a D^{term}.
2.   An Intercom sub-line appearance cannot call any station or trunk in a system other than another Intercom sub-line appearance.
3.   An Intercom sub-line appearance cannot activate any features.
4.   An Intercom sub-line appearance must be assigned as a Software Line Appearance.
5.   This feature is only available for D^{term}s.
6.   Intercom sub-lines must be allowed the service feature restriction of SFI=70.
7.   FCCS link is not available for this feature.

Interactions

1.   As an example for Group Calling application, the following conditions exist: System Station Numbering
        5XXXX and 6XXX
        Speed Calling Access:
        3 (Assigned in ASPA)
        100 Groups of Ten Stations
        Group Calling Station
        Numbering Consists of the following:
        30-39
2.   Stations in Group Calling would dial only two digits to reach other members of the group.

Interactions (cont'd)

3. All My-line STATION-TO-STATION CALLING [S-11] capabilities such as VOICE CALL-D^{term} [V-2D], MESSAGE REMINDER-D^{term} [M-19D], CALL BACK [C-1], etc. are denied because INTERCOM CALLING uses a virtual circuit sub-line appearance.

4. An incoming Intercom Call will be provided with distinctive three-burst ringing.

5. An intercom station is only allowed to call other intercom stations. If a non-intercom station attempts a call, reorder tone is heard, and the LCD displays:

> **REST**
> **(Time Display)**

6. An intercom station cannot call the Attendant Console.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any service feature assigned to this level).

Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Two access codes must be assigned for this feature.

Assign the Tenant and the Access Code (ACC). For Individual Speed Calling-Assign, assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 14 (Speed Calling - Station;Entry).

For Individual Speed Calling-Access, assign the Tenant and Access Code (ACC). Assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 21.

STEP 3: **ASFC** - Construct a Service Feature Class that allows SFI 19 and 70. Assign this SFC to the stations that act as INTERCOM CALLING extension numbers. SFI 70 is only used on virtual lines in their own SFC.

STEP 4: **ASDT** - Program the stations within a group as a virtual line (TEC = 18). Determine LENs from available time slots in the system.

TN: Tenant Number

STN: Station Number

LENS: Line Equipment Number (6 digits)

TEC: Telephone Class (1-31)

    1: DP (10pps)

    2: PB

    3: DP/PB

    12: D^{term}

    13: Data terminal Via D^{term}

    14: Hotline

    15: CAS Line

    16: Data Terminal Via Data Module

→   18: Virtual Circuit

    23: ISDN Terminal

    27: Eight Conference Equipment

RSC: Route Restriction Class (0-15)

For assignment of RSC, ARSC command.

Programming (cont'd)

SFC: Service Feature Class (0-15)

For assignment of SFC, ASFC command.

STEP 5:   **AISA** - Program the tenant, station, type of station, and the number of SPEED CALLING blocks to be assigned to the Primary station. One MY Line station of each GROUP CALLING group is assigned as the Primary. The Primary then assigns all the stations MY Line numbers, which will have abbreviated codes.

TN: Tenant Number

STN: Station Number

MST/SLV: Primary/Secondary

     M: Primary Station

     S: Secondary Station

BLOCK: Number of Blocks

STN: When assigning Secondary Station, assign the Primary Station number.

STEP 6:   **AKYD** - Assign the virtual circuit to D$^{\text{term}}$ key. Assign FYI = 2, Multi-line key, and assign the station number of the virtual circuit. This key will be the GROUP CALLING key.

STEP 7:   **AISD** - This command can also be used to assign Individual Speed Calling Data.

I-10D   Intermediate Station Number Display - D^{term}

General Description

This feature provides an LCD display to the called and calling D^{term} station when an intermediate station has been involved in call processing.

Operating Procedure

No manual operation is required.

Service Conditions

1. For a transferred call, the LCD displays:

    | | Calling/Called |
    | Intermediate Station | Station |

    ```
    ┌─────────────────────────────────────────┐
    │  TRANSFER    XXXX           XXXX         │
    │            (Time Display)                │
    │                                          │
    └─────────────────────────────────────────┘
    ```

Note: *When the telephone number of the intermediate or calling/called station exceeds 8 digits, last 8 digits are displayed. However, a maximum of 16-digit calling/called telephone number can be displayed on the middle line of the LCD depending on the System Data.*

2. The LCD will display one of the features being used.
TRANSFER - Call Transfer	[C-11]
PICKUP - Call Pickup	[C-7]
CF ALL - Call Forwarding - All Calls	[C-5]
CF BUSY - Call Forwarding - Busy Line	[C-2]
CF NANS - Call Forwarding - Don't Answer	[C-3]
HUNTING - Station Hunting	[S-7, 8, 9]

3. The INTERMEDIATE STATION NUMBER DISPLAY will not be displayed if a call is announced in CALL TRANSFER - ALL CALLS [C-11].

4. For the FCCS network, when a telephone number has been assigned for a station, it is displayed on the D^{term} LCD. However, if a telephone number is 7 digits or more, the Physical Station Number is displayed.

Interactions

ASYD - System Data 1, Index 78, Bit 0 & 1 - These two Bits will enable all displays on the 16-button D^{term} instrument.

Programming

   ASYD - System Data 1, Index 78, Bits 0 & 1. Assign both as data "1".

FCCS Programming

   No unique programming is required for the FCCS network.

I-11   Inter-Office Off-Hook Queuing

General Description

This feature can be employed in a Main-Satellite configuration to allow a Satellite user to queue for LEAST COST ROUTING - 3/6-DIGIT [L-5] at the Main location. This feature can also be used when all outgoing facilities are concentrated at the Main location.

Operating Procedure

Operation at the Main location:
1.   The Main location receives dialed digits from the Satellite location via a TANDEM TIE TRUNK [T-1].
2.   The Main location determines that no trunks are available and places the call in an available hold on queue slot.
3.   The Main location returns service set tone to the Satellite caller.
4.   The Satellite caller remains off-hook, and waits for the call to be completed.
5.   If there are no hold on queue slots available, the Main location will return reorder tone to the Satellite caller.
6.   If the Satellite caller goes on-hook (TANDEM TIE TRUNK [T-1] releases) while in queue, the assigned hold on queue slot is cleared.

Service Conditions

1.   This feature is usually used in conjunction with LEAST COST ROUTING - 3/6-DIGIT [L-5].
2.   The maximum queuing slots per system are: 64 calls for 1 IMG system
                                             256 for 4 IMG/IMX-U system
     The queue slots are commonly used by OFF-HOOK QUEUING [O-7], INTER-OFFICE OFF-HOOK QUEUING [I-11], and OUTGOING TRUNK QUEUING [O-2, 2D, 16].
3.   If the incoming tie trunk is a second dial tone signal trunk, the caller will hear service set tone while waiting in queue for a maximum of 3 minutes. After this period, the trunk will automatically be released.
4.   When a trunk becomes available, the dialed number is automatically sent to the connecting Central Office.
5.   If all OFF-HOOK QUEUING [O-7] slots are in use, reorder tone (fast busy tone) will be sent to the Satellite office.
6.   This feature can also be activated when using a trunk in the remote node via FCCS link.

Example: Node A and Node B are in a FCCS network.
   •   Although a station belonging to Node A tried to call outside using a trunk belonging to Node B, all the trunks are busy. The call can be in the queue using this feature.
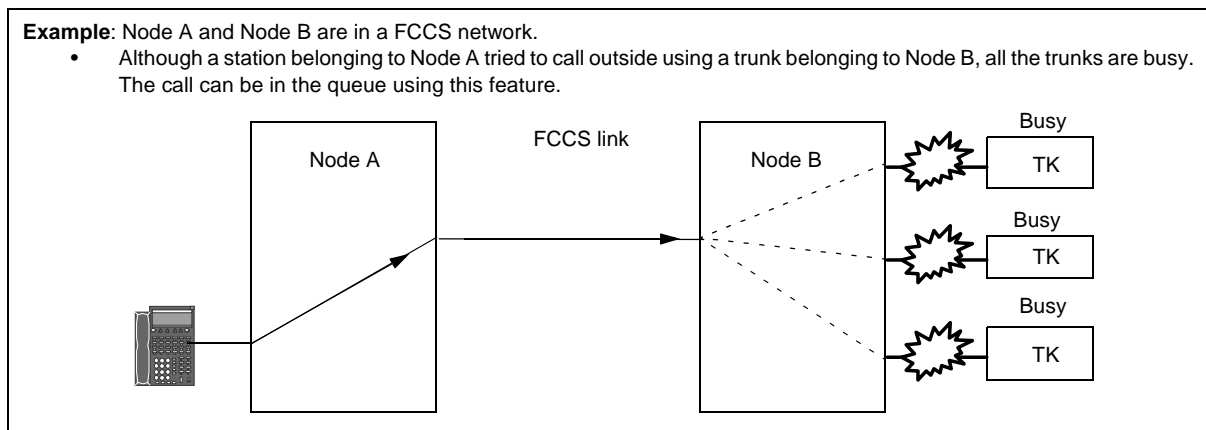
Service Conditions (cont'd)

7. OGQ data is transmitted to and stored in the Network Control Node (NCN). Therefore, all the OGQ data will be cleared by the system initialization of the NCN.

8. When the access to the NCN is impossible (system down or the cable disconnection or trouble has occurred), the user cannot set or cancel OGQ data. After dialing the access code or pressing the feature keys for set/cancel OGQ, the user hears the reorder tone.

9. When the trunk becomes idle status after the NCN is recovered, and the call in the queue will be called back, if data has not been cleared. If data has been cleared, the call is cancelled automatically.

10. A maximum of 1024 stations/system may utilize OFF-HOOK QUEUING [O-7] and OUTGOING TRUNK QUEUING [O-2] simultaneously in an FCCS network.

Interactions

1. This feature is a combination of other features. See TRUNK-TO-TRUNK CONNECTION [T-10], TANDEM SWITCHING OF TIE TRUNKS-2/4 WIRE [T-1], OFF-HOOK QUEUING [O-7], OUTGOING TRUNK QUEUING [O-2] and LEAST-COST ROUTING 3/6 DIGIT [L-5].

2. Calls in queue are served on a first in/first out basis. All routes share a common queue.

3. This feature is used with LEAST-COST ROUTING-3/6 DIGIT [L-5]. It is not used with ALTERNATE ROUTING [A-16], or MISCELLANEOUS TRUNK ACCESS [M-2].

Programming

STEP 1: **ASYD** - System Data 1, Index 42, bit 7. This bit must be assigned as data "0", continuous service set tone.

STEP 2: **ARTD** - Assign the incoming TIE Line route as follows:

2 & 4 WIRE E + M:

RT: 2

1-OSGS	:2	2-ONSG	:3	3-ISGS	:2	4-INSG	:3	5-TF	:3
6-TCL	:4	7-L/T	:1	8-RLP	:2	15-LSG	:5	41-TDMQ	:1

LCR(S) FLAG ROUTE:

RT: 31

6-TCL	:1	7-L/T	:1	8-RLP	:2	9-TQ	:1	10-SMDR	:1
13-AC	:1	41-TDMQ	:1						

STEP 3: **ARRC** - Allow trunk-to-trunk connection between the incoming TIE route and the outgoing route in which INTER-OFFICE OFF-HOOK QUEUING will apply. Also allow trunk-to-trunk connection between the incoming TIE route and the LCR (S) flag route. Assign both of these for ARI-D-RES. The outgoing route and the LCR(S) flag route must be programmed to allow OUTGOING TRUNK QUEUING [O-2]. Ensure that CDN 9:TQ, Trunk Queuing = 1 is set by ARTD for that outgoing route.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ASYDN** - This data must be assigned to the NCN.

System Data 1, Index 41: Designate the Trunk Queuing Override Timer

Index 68, b3: Enables automatic cancel timer

0/1 = -/Automatic cancel timer is Available

Index 159: Designate Automatic Cancel Timer

STEP 2:   **ASPAN** - These data must be assigned to the NCN.

TN: Tenant Number

ACC: Access number

CI: B = Busy (for Entry), N = Normal (for Cancel)

SRV: SSC

SID: 19 = OG Queuing-Entry

CI: N = Normal

SID: 20 = OG Queuing-Cancel

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command:*
The command to be set to the node that accommodates the trunk: ARTD
The command to be set to all the nodes: ASFC, AKYD

I-20   Immediate Ringback Tone

General Description

IMMEDIATE RINGBACK TONE will be heard by the caller immediately upon determination by the system that the called station is idle. IMMEDIATE RINGBACK TONE is connected, even if the call occurs during the OFF portion of the ringing cycle.

Operating Procedure

When a station calls another station or Attendant:
1. The station goes off hook, hears dial tone, and dials the desired station or Attendant.
2. IMMEDIATE RINGBACK TONE is returned.

When an Attendant calls another station or Attendant:
1. The Attendant presses an idle loop key and dials the desired station or Attendant.
2. IMMEDIATE RINGBACK TONE is returned.

When a trunk is connected to a station or Attendant:
1. The calling party will hear IMMEDIATE RINGBACK TONE when the source of the ringback tone is the NEAX2400 IMX, as is the case on DID and TIE Line calls.

Service Conditions

The initial ringback tone is a brief burst, after which the system resynchronizes the ringback tone with the ringing cycle.

Programming

> **ASYD** - System Data 1, Index 27, Bit 7. Assign data "1".

I-21   Internal Zone Paging

General Description

This feature allows an individual to make a voice call through the D$^{\text{term}}$ speakers of the designated group by dialing the INTERNAL ZONE PAGING access code or pressing the INTERNAL ZONE PAGING key on the D$^{\text{term}}$.

Operating Procedure

Voice Call by Internal Zone Paging (Single)
To originate:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Dial the access code or press the feature key for INTERNAL ZONE PAGING [I-21]; receive special dial tone.
3. Dial the desired group number (01-99) of INTERNAL ZONE PAGING [I-21].
4. Announce the call over the built-in speakers on the D$^{\text{term}}$s in the INTERNAL ZONE PAGING [I-21] group.

To answer:
- When using the Prime Line: **(Note)**
1. **(Series 7400 software enhancement)** Press the Prime Line key or lift the handset on the called party D$^{\text{term}}$.
2. The call is connected to your station.

- **(Series 7400 software enhancement)** When using the Off-Hook key: **(Note)**
1. Lift the handset.
2. The call is connected to your station.

Note: *Using Prime Line or off-hook to answer is selected by system data; press Prime Line key after off-hook/press off-hook.*

- When using CALL PICKUP-DIRECT [C-30]:
1. Lift the handset; receive dial tone.
2. Dial the access code for CALL PICKUP-DIRECT [C-30]; receive second dial tone.
3. Dial the desired telephone number in the INTERNAL ZONE PAGING [I-21] group.
4. The call is connected to your station.

- When using CALL PICKUP-GROUP [C-7]:
1. Lift the handset; receive dial tone.
2. Dial the access code or press the feature key for CALL PICKUP-GROUP [C-7].
3. The call is connected to your station.

Voice Call by Internal Zone Paging (Station Hold)
To originate:
1. Receive a call.
2. Perform a switch hook flash; receive special dial tone.
3. Dial the access code or press the feature key for INTERNAL ZONE PAGING; receive second dial tone.
4. Dial the desired group number (01-99) of INTERNAL ZONE PAGING.
5. Announce the call over the built-in speakers on the D$^{\text{term}}$s in the INTERNAL ZONE PAGING group.

To answer:
- When using the Prime Line: **(Note)**
1. **(Series 7400 software enhancement)** Press the Prime Line key for the INTERNAL ZONE PAGING call before or after lifting the handset, or press the SPEAKER key.

Operating Procedure (cont'd)

2. The call is connected to your station.
3. The calling station goes On-Hook.
4. The connection is established between your station and the forwarded party.
- **(Series 7400 software enhancement)** When using the Off-Hook key: **(Note)**
1. Lift the handset.
2. The call is connected to your station.
3. The calling station goes On-Hook.
4. The connection is established between your station and the forwarded party.

Note: *Using Prime Line or off-hook to answer is selected by system data; Press Prime Line key after off-hook/press off-hook.*

Voice Call by Internal Zone Paging (Trunk-Hold)

To originate:
1. Receive a call.
2. Perform the switch hook flash; receive special dial tone.
3. Dial the access code or press the feature key for INTERNAL ZONE PAGING; receive second dial tone.
4. Dial the desired group number (01-99) of INTERNAL ZONE PAGING.
5. Announce the call over the built-in speakers on the D^{term}s in the INTERNAL ZONE PAGING group.

To answer:
- When using the Prime Line: **(Note)**
1. **(Series 7400 software enhancement)** Press the Prime Line key for the INTERNAL ZONE PAGING call before or after lifting the handset.
2. The call is connected to your station.
3. The calling station goes On-Hook.
4. The connection is established between your station and the forwarded party.
- **(Series 7400 software enhancement)** When using the Off-Hook key: **(Note)**
1. Lift the handset.
2. The call is connected to your station.
3. The calling station goes On-Hook.
4. The connection is established between your station and the forwarded party.

Note: *Using Prime Line or off-hook to answer is selected by system data; press Prime Line key after off-hook/press off-hook.*

- When using CALL PICKUP-DIRECT [C-30]:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Dial the access code for CALL PICKUP-DIRECT [C-30]; receive second dial tone.
3. Dial the desired telephone number in the INTERNAL ZONE PAGING [I-21] group.
4. The call is connected to your station.
5. The calling station goes on-Hook.
6. The connection is established between your station and the forwarded party.
- When using CALL PICKUP-GROUP [C-7]:
1. Lift the handset; receive dial tone.
2. Dial the access code or press the feature key for CALL PICKUP-GROUP [C-7].
3. The call is connected to your station.
4. The calling station goes On-Hook.
5. The connection is established between called station and forwarded party.

Service Conditions

1. The number of Internal Zone Paging groups is a maximum of 99 groups for each tenant.
2. Each D^{term} can be a member of multiple Internal Zone Paging groups.
3. A maximum of 255 groups per system can be simultaneously paged using this feature.
4. This feature is activated to idle stations in an Internal Zone Paging group.
5. When all INTERNAL ZONE PAGING groups are busy, busy tone is sent.
6. This feature is not available from the Attendant Console, Central Office or Tie Line.
7. If all D^{term}s in the designated group are unavailable, a busy tone will be sent.
8. When originating a call (or answering an incoming call) from a multi (sub) line on the D^{term} called by INTERNAL ZONE PAGING, the voice call to the prime line stops and becomes idle, and the path on the multi line is established. Even if the call is completed, the voice call is not established again.
9. When a user cancels this feature with a held call, the user is recalled.
10. **(Series 7400 software enhancement)** A maximum number of 24 D^{term}s can be set this feature in a group.
11. **(Series 7400 software enhancement)** A maximum of four stations is allowed INTERNAL ZONE PAGING in a Group of LEN(Level0-Level7).
12. **(Series 7400 software enhancement)** If a station in the paged group is busy when the INTERNAL ZONE PAGING call is originated, the station is not called/recalled even if the station becomes idle later.
13. **(Series 7400 software enhancement)** After a station in the paged group answers the INTERNAL ZONE PAGING call, ringing at the other member stations stop and two-way conversation starts.
14. **(Series 7400 software enhancement)** While member stations are paged by INTERNAL ZONE PAGING call, the prime lines of stations in the group are busy status. Thus, the stations can not take another call from station, tie line, C.O. line or Attendant Console during paging.
15. **(Series 7400 software enhancement)** When a prime line of a station in the paged group is a sub line of another D^{term}, the sub line assigned to another D^{term} cannot be affected by the INTERNAL ZONE PAGING call (the sub line key does not flash or light for INTERNAL ZONE PAGING call).

Interactions

When a station answers a voice call using this feature, the call becomes station-to-station connection status. Accordingly, various hooking services (such as CALL HOLD - CONFERENCE [C-146]) are available.

Programming

Refer to CALL PICKUP - DIRECT [C-30] AND CALL PICKUP - GROUP [C-7] when using those features with INTERNAL ZONE PAGING.

STEP 1: **ASYD** - System Data 1, Index 31 (Mounting capacity of Common Memory) must be assigned as data "04" for the 4 IMG/IMX-U system.

(Series 7400 software enhancement) System Data 1, Index 380, b4:0/1=Answer the INTERNAL ZONE PAGING call by Prime Line Key after off-hook/by going off-hook.

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N) and Hooking (H) services. Assign NND according to the predetermined numbering plan.

STEP 3: **ASPA** - Assign the access code for INTERNAL ZONE PAGING, SRV = SSCA (Service Code Appendix), SIDA = 98. Connection Status Indexes for Normal (N) and Hooking (H) services.

STEP 4: **AIZP** - Assign INTERNAL ZONE PAGING group data.

TN: Tenant number of calling party
IZPG: INTERNAL ZONE PAGING group number
IZPTN: Tenant number of IZPSTN

Programming (cont'd)

IZPSTN: Station number assigned to the INTERNAL ZONE PAGING group

STEP 5: **AKYD** - For D^{term} sets, INTERNAL ZONE PAGING can be activated using a programmable line/ feature key. Assign Type:Function:INTERNAL ZONE PAGING [85].

Assign Type:Function:ANSWER [28] for answering INTERNAL ZONE PAGING.

STEP 6: **ASFC** - Assign a Service Feature Class that allows SFI = 134 to the stations that originate INTERNAL ZONE PAGING.

Assign a Service Feature Class that allows SFI = 145 to the stations that answer to INTERNAL ZONE PAGING.

L-1 Lamp Check

General Description

This feature allows the Attendant, by pressing the LCHK key, to light all lamps and sound the ATTENDANT CONSOLE [A-3] buzzer.

Operating Procedure

1. Attendant presses the Position Busy key; the LED lights.
2. Attendant simultaneously presses the HOLD, SRC and L3 keys.
3. All lamps will light.

Service Conditions

1. Every lamp field, including the BUSY LAMP FIELD - FLEXIBLE [B-2], will be lit upon pressing of the three keys located on the ATTENDANT CONSOLE [A-3].
2. The console lamp test displays the digit 8 in each field of the digital display.
3. When the keys are released, all lamps and digit display fields are immediately restored to normal.

Programming

No programming is required.

L-3   Line Lockout

General Description

This feature provides for the automatic release of a station from the common equipment when it has remained off-hook for longer than the usual interval before dialing. The NEAX2400 IMX may be programmed to return a Howler Tone to the station in the LINE lock-out mode.

Operating Procedure

For LINE lock-out:
1. User goes off-hook and receives dial tone.
2. After approximately 12 seconds, if the user has not initiated dialing, he receives reorder tone.
3. After 30 seconds of reorder tone, the station is automatically placed into the LINE lock-out state.
4. Upon replacing the handset, the station is released from the LINE lock-out state and operation returns to normal.

For LINE lock-out with Howler Tone:
1. User goes off-hook and receives dial tone.
2. After approximately 12 seconds, if the user has not initiated dialing, he receives reorder tone.
3. After 30 seconds of reorder tone, a Howler Tone is sent to the station.
4. Upon replacing the handset, the station is released from the Howler Tone state and operation returns to normal.

Service Conditions

1. A station in the LINE lock-out state can neither receive nor originate calls.
2. This feature is provided on a system-wide basis.
3. The Attendant cannot activate any feature to a station in the LINE lock-out state.
4. After 30 seconds of reorder tone, the station is automatically placed into LINE lock-out, if the system is not provided with Howler Tone service.
5. Howler Tone should not be used with OPX lines.
6. Howler Tone can be provided or denied on a system-wide basis.
7. Howler Tone is only sent to analog stations.

Interactions

1. When the BUSY LAMP FIELD - FLEXIBLE (BLF) [B-2] feature is provided, the associated station status lamp on the ATTENDANT CONSOLE [A-3] will flash, indicating the telephone number is in LINE lock-out.
2. CALL FORWARDING - DON'T ANSWER [C-2, 3]: A call cannot extend a lock-out station via CALL FORWARDING - DON'T ANSWER [C-3].
3. BUSY VERIFICATION [B-3]: Busy verification of a locked-out station results in reorder tone being heard by the Attendant.
4. NIGHT CONNECTION - FLEXIBLE/FIXED [N-1, 2] with TAS [T-8] feature not active: When the Night Station is in a lock-out state, calls directed to the Night Station will receive ringback tone. If the TAS [T-8] feature is active, calls are directed to the Night Bell.
5. CALL WAITING [C-12, 31]: Call Waiting cannot be activated on a station in lock-out. The calling party will receive reorder tone.

Interactions (cont'd)

6. CALL HOLD [C-6]: From a special dial tone state, LINE lock-out will occur if a user attempting to place a station on hold dials the CALL HOLD [C-6] access code and partially dials any number. The sequence prior to lock-out is: interdigit time-out for 6 seconds, reorder tone for 30 seconds, optional Howler Tone for 30 seconds. When the station in lock-out goes on-hook, it will be rung by the station on hold. The Busy Lamp Field will not flash

7. EXECUTIVE RIGHT-OF-WAY [E-1]: Reorder tone will be returned to a calling party that is attempting Executive Override toward a station in lock-out.

8. THREE-WAY CALLING [T-2]: An attempt to establish a Three-Way Conference with a station in lock-out will result in the reorder tone being returned to the user making the attempt. The user can return to the station on hold by switch hook flashing.

9. With the following calls, when a user fails to hang up after the other party has disconnected, the station will be placed in a lock-out condition after a 30-second reorder tone (time-out), optional 30-second Howler Tone warning (time-out):

    DIRECT INWARD DIALING (DID) call   [D-8]
    STATION-TO-STATION call   [S-11]
    Trunk-to-Station call
    Attendant-to-Station call

10. CALL BACK [C-1]: To activate Call Back, the user dials the appropriate access code after reaching a busy station. If the user fails to go on-hook within 30 seconds after receiving service set tone, LINE lock-out will occur. The sequence prior to lock-out is: Service set tone for 30 seconds, reorder tone for 30 seconds, optional Howler Tone warning for 30 seconds. Call Back cannot be activated toward a station in lock-out.

11. CALL WAITING - ORIGINATING [C-31]: If a user fails to complete dialing of the access code while attempting to activate CALL WAITING - ORIGINATING [C-31], LINE lock-out will occur.

12. A station in LINE lock-out will be restored to service when the user goes on-hook for 280 milliseconds or more.

13. MESSAGE REMINDER [M-19D]: A Message Reminder cannot be sent to a station in LINE lock-out.

14. ATTENDANT NIGHT TRANSFER [A-19] is not available if the Night Transfer Station is in LINE lockout. The caller will hear ringback tone then reorder tone.

Programming

ASYD - System Data 1, Index 64, Bits 3 & 4. When is Howler Tone sent? 00: Not sent. 01: Only once. 10: Every thirty seconds.

System Data 1, Index 70, Bit 1. Does station in LINE lock-out flash at BLF? 0/1: Yes/No.

System Data 1, Index 128. This timer determines how long a register will be held up before the first digit is dialed. Assign 00H for default value of 12 seconds (RAM data is 06H).

System Data 1, Index 146. First Howler Tone is sent. Assign 00H for standard default setting of 30 seconds (RAM data is 3FH), on analog ports.

L-5   Least Cost Routing - 3/6-Digit

General Description

This feature allows the NEAX2400 IMX to be programmed to route outgoing calls over the most economical facility (WATS, FX, DDD). Based on the area code and office code dialed (6-digit analyzing), the system examines the programming tables and chooses the facilities in the order specified. Least-Cost Routing (LCR) may also be performed on a sender basis (LCR(S)).

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the trunk access code (usually "9"); receive second dial tone.
3. Dial the area code, office code and number.
4. The system automatically completes the call via the most economical route.

Service Conditions

The following is a step-by-step explanation, which when reviewed in conjunction with the figure on the following page, will provide better insight as to how the NEAX2400 IMX switch accomplishes LCR:

1. If dialing a toll or local call (NPA-NXX-XXXX or NXX-XXXX), routing begins with translation of 3-digit (NPA or NXX) area or office code. For specific numbers, this translation may result in the immediate selection of the 3-digit routing patterns. If the number dialed is an NPA and 6-digit translation is required, the NXX code is verified in the SCC (XX) or the FX (XX) Table **(Note)**. If the NXX is not located in either table, refer to Service Condition (3). There is a maximum of 4000 Outgoing Pattern Routing (OPR) Tables with a maximum of 8 routes for selection.

Note: *a. SCC (XX) is the Special Common Carrier NXX Translation Table.*
         b. FX (XX) is the FX NXX Translation Table.

2. First-choice route option in an NPA pattern will usually be a Specialized Common Carrier. If a trunk is available in this group, further digit translation will be required in order to determine whether the called number is served by the carrier. NXX digit translation will also be required in instances where a call is routed over a TIE or FX trunk. For these purposes, 4000 NXX patterns are available.

3. In the case of Specialized Common Carriers, associated NXX patterns will return either a YES or a NO answer to the switch, indicating whether or not the dialed number is within the designated service area of the selected SCC. If service is available, the switch will seize the trunk and complete the connection. If the NO answer is returned, the switch searches for the next available trunk group.

4. Calls routed over FX trunk groups may require out-pulsing of prefix digit "1", depending on the NXX number dialed. For this purpose, another group of associated NXX patterns may be used, operating on the same YES/NO principle. A YES answer returned to the switch in this instance will result in prefix "1" being added automatically before sending digits to the called Central Office.

5. Where the selected route is an FX trunk group, NXX translation may be used to either allow or disallow the connection. This is accomplished via YES/NO answers from a designated group of NXX patterns, and enables calls to selected Central Office areas to be effectively restricted to only the most economical routes.

   The routing method described provides some of the most flexible options available for call routing, and functions as a highly effective method of cost control. For details, see the following figure.

Service Conditions (cont'd)
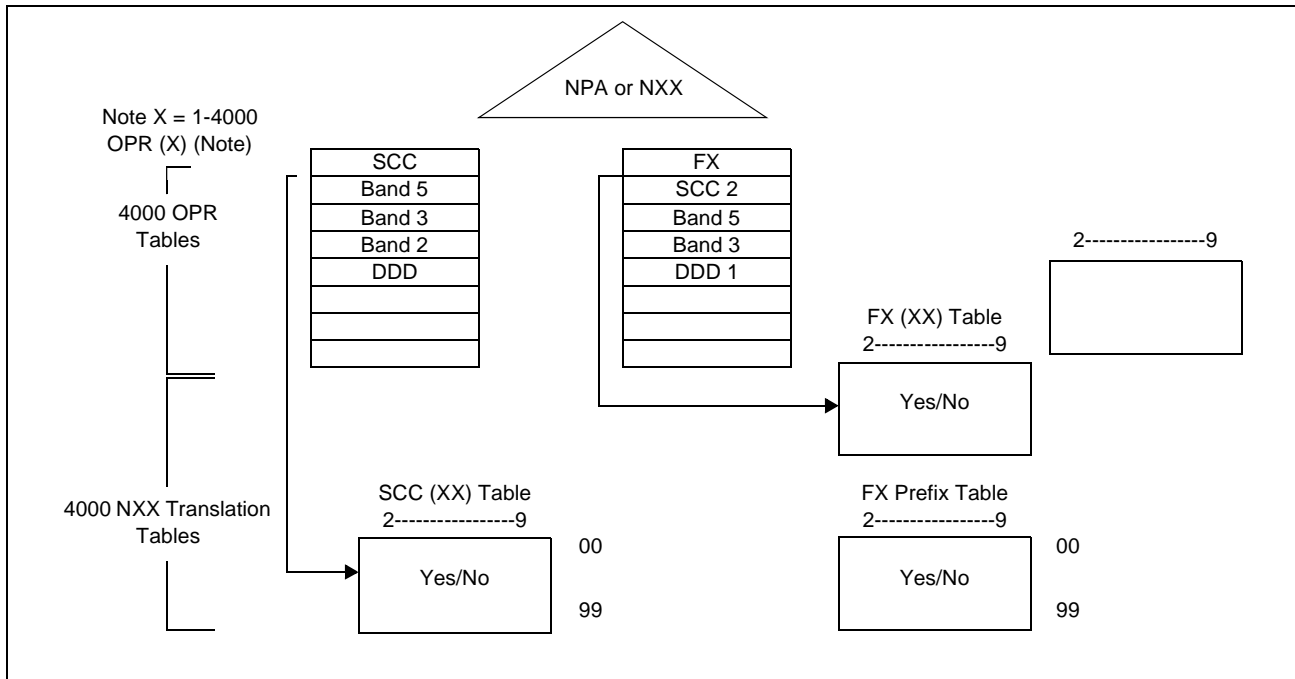
3/6-digit Least Cost Routing Translation Table, Dialed Number 9-NPA-NXX-XXXX

6.   In certain cases, 3 and 6-digit translation will provide sufficient information for identification of the service area. 4000 separate Outgoing Routing Patterns are available for this circumstance.

7.   Up to 8 trunk routes can be in each Outgoing Routing Pattern.

8.   STATION MESSAGE DETAIL RECORDING SYSTEM [S-10] may be used in conjunction with LCR - 3/6-DIGIT. The route selected by the switch will be recorded by the SMDR unit.

9.   TIE Lines can be included in route patterns.

10.   Application of NXX patterns provides for inclusion of multiple common carriers serving different areas.

11.   When a TIE Trunk requiring an off-net connection to the local Central Office is included as a route option, the NEAX2400 IMX can provide a 2.8-second prepause before sending out the selecting signal.

12.   Senders (DP or DTMF) are provided with this feature for outpulsing.

13.   Pre-translation function minimizes waiting time after dialing. After enough digits are collected to determine a route, the system starts outpulsing before the station completes dialing the entire number (LCR - SENDER).

14.   If OUTGOING TRUNK QUEUING [O-2] is activated during LCR, all routes listed in the Outgoing Routing Pattern will be available to the queue, if one of these trunks becomes idle.

15.   When LCR - 3/6-DIGIT is provided, the Attendant cannot pass dial tone to a station. The desired number must be dialed by the Attendant.

16.   Stations having different Route Restriction Classes, but using the same LCR - 3/6-DIGIT pattern, can be denied access to the last choice trunk route(s) in that pattern. Route Restriction Classes may be set up so that a station dialing an area code can use WATS, FX, and DDD; or only the WATS line, if such an arrangement is desired. This is a form of forced LCR.

17.   NXX patterns may be programmed to restrict all stations in the system from completing calls to specific NXX numbers over FX trunks.

Service Conditions (cont'd)

18. The system will include the ability to detect a dialed DDD number and compare it with a DDD list table to determine if the call is directed to a facility served by the trunk network. If the dialed number is found in the DDD list table, a translation is provided to the 7-digit on-net number (ABC-XXXX) served by the TIE Trunk. This allows an expensive public network dialed number to be trapped and automatically diverted to an available leased facility. If a TIE Line is not available, the call will be routed as dialed.

19. The NEAX2400 IMX is capable of converting a maximum of 24 receiving digits into a required 24-digit number entirely. Interdigit pauses can be inserted whenever necessary. This provides for an extremely flexible numbering plan for a complex network.

20. When deleting the AOPR command, this also deletes the ASDC table using the OPR pattern.

21. Advancing to C.O. line is not available in the FCCS network.

22. The outgoing call using a trunk in the remote node via FCCS link is available. Therefore, Route Restriction class data must be identical in the FCCS network. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

23. The ASDC command is not applicable in the FCCS network.

24. When using this feature within an FCCS network, deleting the AOPRL/N command also deletes the ASDCL/N table using the OPR pattern.

25. **(Series 7400 software enhancement)** In case of LCRS feature, the system starts connecting and communication between the calling party and the called party without completing the maximum digits (MND) of destination number which is set in the AMND command from the calling party.

26. **(Series 7400 software enhancement)** LCRS call without completing the MND of AMND command:
    a.) ARTI - Assign the parameter DCANS (CDN:54) as "1" to the objected route.
    b.) ARTD - Assign the parameter OSGS (CDN:1) as "2" (second dial tone) and LSG (CDN:15) as other than "12" (CCIS/ISDN) to the objected route class of outgoing trunk.

27. **(Series 7400 software enhancement)** This feature is available:
    a.) When a call is directly originated from a station via LCRS
    b.) When a station/trunk call, once placed on hold, is originated via LCRS
    c.) When a trunk call is originated via LCRS (Tandem Connection)

Note: *This feature is not available when the LCRS call from a Attendant Console or LCR call by the individual Trunk Access.*

Interactions

1. AFRS and AMND tables must correlate to each other. If dialing patterns listed in AFRS are not programmed in AMND, the calls will not go through. Also, if dialing patterns are not set in AFRS, including simple local calls, the calls will not go through.

2. LCR(S) provides only route selection based on digits dialed and route availability. Once a route has been determined to be available because of dialed digits, Route Restriction Class will determine if this route will be made available to the station. If denied and other routes are available, the same process will occur. If no other route is available, the user will hear a reorder tone.

3. In ARTD, CDN 9:TQ must be assigned for the LCR(S) Flag Route 31 if Trunk Queuing is to operate in conjunction with LCR(S).

Programming

STEP 1: **ASYD** - System Data 1, Index 6, Bit 0. Should special Sender Tone be sent to station when connected to a sender? 0/1: No/Yes. (Optional)

System Data 1, Index 6, Bit 2. Should special Sender Tone be sent to the Attendant Console when connected to a sender? 0/1: No/Yes. (Optional)

Programming (cont'd)

System Data 1, Index 65. Assign the number of routes in the system.

System Data 2, Index 2, Bit 0. What is the sender type for an OG trunk connection to a station? 0/1: Dial Pulse/Push Button. This data is valid only when CDN 2:ONSG of Route data is assigned as data "3", PB/DP. 0

System Data 2, Index 2, Bit 1. What is the sender type for an OG trunk to the Attendant Console? 0/1: Dial Pulse/ Push-button. This data is valid only when CDN 2:ONSG of Route data is assigned as data "3", PB/DP.

STEP 2:   **ARTD** - Assign the LCR(S) route as shown below. For uniformity, always use Route 31 as the LCR(S) Flag route. In CDN 13:AC, include the LCR(S) access code in LCR(S) development.

Assign the LCR(S) Flag route as shown below:

RT: 31

| 6-TCL | :1 | 7-L/T | :1 | 8-RLP | :2 | 9-TQ | :1 | 13-AC | :1 |

STEP 3:   **ATRK** - Assign Originating Register Trunks (ORT) to the system in a quantity calculated from expected traffic. Registers are located on levels 0-3 of any 8RST circuit card.

Senders must be assigned to the system in a quantity calculated from expected traffic. Senders are located on levels 4-7 of any 8RST circuit card.

RT: Route Number

Trunk Route Number

Intra-office Route Number (901-931)

901-ATT	913-TCFT for ATT
902-ORT	915-Night ATT
903-IRT	916-MFCR
905-Sender	917-MFCS
909-DCFT	919 to 926-Modem

TK: Trunk Number

TN: Tenant Number

RSC: Route Restriction Class

SFC: Service Feature Class

For the outgoing trunks used in LCR(S), refer to those specific route access features.

STEP 4:   **MBTK** - Assign the Make Idle status to all register sender trunks.

STEP 5:   **ANPD** - Reserve a level, usually "9", for LCR or LCR (S) access. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Number of Necessary Digits is 1. Busy Lamp Field is not activated.

STEP 6:   **ASPA** - Assign the LCR (S) access code, Type of Service, SRV = LCR (Least Cost Route Selection) or SRV = LCR (S) (Register Sender LCR). Assign route number 31 associated with this access code.

Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Assign data "1" for second dial tone, parameter (2nd dial tone). Assign data "1" to AH parameter if Procedure II is used for AUTHORIZATION CODE [A-20].

STEP 7:   **ARNP** - Assign the physical route numbers as assigned in ARTD and relate these routes to the LCR (S) access code as assigned in ASPA for SRV = LCR (Least Cost Route Selection) / LCR (S) (Register Sender LCR). The LCR (S) access code is usually "9". The routes to be assigned will be those routes listed in the various OPRs of the AOPR command.

Note: *These same routes may also be listed in ASPA for SRV = OGC (Outgoing Call). In that case, these routes may also be available via direct dial access codes. In ARNP, these access codes are not assigned to implement the LCRS service in this command. This digit code is the first digit used when assigning the ATDP table.*

Programming (cont'd)

STEP 8: **ARSC** - LCR(S) uses only Bothway or Outgoing Only routes. For these routes, construct allow, deny, or Toll Restriction applicable tables (Route Restriction Index RRI 2 & 3). Toll Restriction will be applied to the available route chosen by the LCR (S) selection. Therefore, if a user dials a long distance number and is restricted in Toll Restriction for a DDD and the only available route is a DDD, the call will be denied. Toll Restriction acts upon the LCR (S) selection. Also, remember to allow route 31, the LCR(S) Flag Route to all RSCs. Do not toll restrict the Flag route.

STEP 9: **AMND** - Assign the Maximum Necessary Digit (MND) the system must translate for a proper route selection. List the following type of dialing sequences.

N + Dialing (N = 2-9 P = 0 or 1, X = 0-9)				
Call Type	**Digits Dialed (Note)**	**Digits Needed**	**MND**	**Toll**
Local Calls	9-<u>NN</u>X-XXXX	9-N	8	0
Near Distant Calls (1+)	9-<u>1</u>-<u>NN</u>X-XXXX	9-1-NN	9	1
Long Distant Calls	9-<u>1</u>-<u>NP</u>A-NXX-XXXX	9-1-NP	12	1

Note: *The digits underlined are to be listed in the DC parameter. Overseas or Operator-assisted calls should be listed with an MND that equals the calculated number of necessary digits. Special dialing sequences such as 411 with an MND = 4 should also be listed.*

Without N + Dialing (N = 2-9 P = 0 or 1, X = 0-9)				
Call Type	**Digits Dialed (Note)**	**Digits Needed**	**MND**	**Toll**
Local Calls	9-<u>NN</u>X-XXXX	9-NN	8	0
Long Distant Calls	9-<u>NP</u>A-NXX-XXXX	9-1-NP	11	1

Note: *The digits underlined are to be listed in the DC parameter. Overseas or Operator-assisted calls should be listed with an MND that equals the calculated number of necessary digits. Special dialing sequences such as 411 with an MND = 4 should also be listed.*

STEP 10: **AFRS** - List the dialing patterns in groups that will be served by a specific sequence of routes. For example, consider the following dialing patterns:

9-1-617, 9-1-413, 9-1-207, 9-1-203, 9-1-603.

Each of these area codes exist in the Northeastern United States. From New York City, it may be determined that the least expensive way to place any of these calls is by a Band 1WATS, then BAND 5 WATS, then DDD. This determination of routes is labeled as an Outgoing Pattern Route or OPR. In AFRS, program the Tenant, Route Number (Flag Route 31), The Number Code or dialing patterns, and the OPR to be chosen when these digits are dialed. (For other OPRs, use the DELETE key.)

STEP 11: **AOPR** - The AFRS command designates the dialing sequence and the OPR to be selected. The AOPR defines the routes and in what order these routes will be selected. Assign the following:

TDPTN No. (TDPTN) - Time of Day Pattern Change. If an AFRS assignment, different OPRs will be required as a function of time. Designate 1-7 for the Time-of-Day Pattern Change Number (TDC NO.) to which this OPR is assigned.

OPR No. (OPR) - Outgoing Pattern Route. The number referenced in AFRS, consisting of a series of routes to be chosen based on number dialed.

Route Advance Number (RA) - The order in which a route will be selected (0-7). For the above example; RA0 = Band 1, RA1 = Band 5, RA2 = DDD.

Route Advance End Display (E) - The last route in the route advance group is indicated with data "0". All others are indicated with data "1".

Route Number (RT) - The physical Route Number to be selected as programmed in ARTD.

Programming (cont'd)

Skip Digits (SKIP) - The digits to be skipped when translating the dialed digits in AFRS. (If ARTD is assigned as shown [see CDN 13:AC], always assign "1", at a minimum, to skip the LCR (S) access code.)

Pattern Number Location (PNL) - If digits are to be added after translating the dialed digits in AFRS, assign a PNL (1-15). The digits to be added are programmed to the respective PNLs in the AADC command. If no digits are to be added, PNL = 0 should be assigned.

Overflow Tone (OVFT) - Assign if a tone is wanted for the Last Choice Route. If so, assign data "1" for DDD.

Priority Restriction Class (PRSC) - Refer to PRIORITY RESTRICTION CLASS in the EPN Feature and Specification. If this is required, assign PRSC here, using classes 1-15. For all other systems, always assign PRSC as data "0".

STEP 12: **AADC** - If additional digits are required, assign the digits of a Pattern Number Location (PNL) here. For additional digits totaling 24, use PNL 1-255. For EPN programs, PNL has been expanded to 1-999.

STEP 13: **ASDC** - If 6-digit translation is required, whereby both Area and Office codes must be examined, this command must be used. If no assignment is made in this command, all NXXs are allowed. After an NXX is assigned (either as allowed or denied), all other NXXs will subsequently be denied. The table becomes an allow table. Program each office code to be allowed with the EFFECT = 1.

The number of NXXs to be either allowed or denied will determine the method of programming used. For example, if it is determined that only 555 is to be restricted from a Special Common Carrier, it is more desirable to allow all NXXs and restrict only this NXX. The method would be as follows:

To create a deny table assign the following:

Step a): OFLG: ALL

EFFECT: 1

Step a, allows all NXXs, thus making a deny table. Program each office code with the EFFECT = 0.

Step b): OFLG: INPUT

OFFICE: 555

EFFECT: 0 (Step b restricts 555 only)

Program the kind of route as PFX (Prefix, Foreign Exchange, FX) or as SCC (Special Common Carrier).

Choose TDPTN, Time of Day Pattern. Go to ATCP.

Choose the OPR number this 6-digit table will serve.

Choose the RA (Route Advance) Number to specify the route in the OPR.

When assigning for PFX, each NXX is assigned as the following:*

EFFECT:0 = Does not require a prefix.

EFFECT:1 = Allow, with 1 + dialing **(Note)**.

EFFECT:2 = Only for display.

When assigning for SCC, each NXX is assigned as the following:

EFFECT:0 = Restricted

EFFECT:1 = Allowed

EFFECT:2 = Not Used

Note: **When PFX, EFFECT = 1 is assigned. Add the required digit in the AADC command. OFFICE is the next 3 digits after those assigned in AFRS.*
Example: AFRS RT31 = 91214 OPR1
ASDC checks next 3 digits: 91214 XXX XXXX

Office

Programming (cont'd)

STEP 14: **ATCP** - A maximum of eight Time-of-Day Pattern changes (0-7) are available, whereby the system will refer to different OPR assignments as a function of time. As a result, different routes will be listed per OPR and therefore different assignments in ASDC. Assign the following:

Times Setting

TO:

FROM: (In Military Time, and only on the half-hour and hour.)

PATTERN NUMBER: (0-7).

Programming for Series 7400 software enhancement

ARTI - (Assignment of Trunk Application Data) - Assign "DCAN (CDN: 54) = 1" for each route, that may require connection establishment when a call is originated via LCRS with incomplete MND for the AMND command.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

STEP 1: **ARTDN** - Assign the route class data for all the logical routes and dummy routes for LCR/LCRS.

6-TCL: 1,7-L/T: 1,8-RLP: 2,9-TQ: 1,13-AC:1

STEP 2: **ANPDL/N** - Assign the number of necessary digits for LCR/LCRS access. Usually assign DC=9, NND=1.

STEP 3: **ASPAL/N** - Assign the LCR/LCRS (Least Cost Routing/Register Sender LCR) access code, Kind of Service, SRV=LCR/LCRS. Assign Logical Route Number for Dummy Route associated with this access code. Assign Connection Indexes, CI=N, H; Normal (N) and Hooking (H). Assign data "1" for second dial tone, parameter (2nd). Assign data "1" to AH parameter if Procedure 2 is used for AUTHORIZATION CODE [A-20].

STEP 4: **ARNPL** - Assign access code for LCR/LCRS as assigned in ASPAL/N associated with the logical routes for each external trunk assigned in ARTD/ARTDN, The LCR/LCRS access code is usually "9". The routes to be assigned will be those routes listed in the various OPRs of the AOPRL/N command.

Note: *These same routes may also be listed in ASPAL/N for SRV=OGC (Outgoing Call). In that case, these routes may also be available via direct dial access code. In ARNPL, these access codes are not assigned to implement the LCRS service in this command.*

STEP 5: **ARSCN** - Assign the Route Restriction Class for all the Logical Route Number.

STEP 6: **AFRSL/N** - Allocate the Dial Number necessary to determine the OPR used to select the routes.

STEP 7: **AOPRL/N** - The AFRSL/N command designates the dialing sequence and the OPR to be selected.

The AOPRL/N defines the routes and in what order these routes will be selected.

Assign the following:

TDPTN No. (TDPTN) - Time of Day Pattern Change. Designate 1-7 if different OPRs will be required according to the time. Enter "0" if the OPR, assigned in AFRSL/N, is to be applied.

OPR No. (OPR) - Outgoing Pattern Route. Enter the OPR number assigned by AFRSL/N in the range from 0-4000.

Route Advance Number (RA) - The order in which a route will be selected (0-7).

FCCS Programming (cont'd)

For example; RA0=Band 1, RA1=Band 5, RA2=DDD.

Route Advance End Display (E) - The last route in the route advance group is indicated with data "0". All others are indicated with data "1".

Logical Route Number (LGRT) - The logical route number to be selected as programmed in ARTDN.

Skip Digits (SKIP) - The number of digits to be skipped from dialed numbers.

Pattern Number Location (PNL) - If digits are to be added after translating the dialed digits in AFRSL/N, assign PNL in the range from 1 to 999. If no digits to be added, "0" should be entered. The additional digit data is to be assigned by AADCL/N command.

Overflow Tone (OVFT) - If tone is wanted for the Last Choice Route, assign data "1" for DDD.

Priority Restriction Class (PRSC) - The restriction class referred by the AEFR command is required, assign PRSC using classes 1-15. If not required, enter data "0".

STEP 8:   **AADCL/N** - If additional digits are required, assign the digits of a Pattern Number Location (PNL). For additional digits totaling 24, use PNL 1-999.

STEP 9:   **ASDCL/N** - If 6-digit translation is required, whereby both Area and office codes must be examined, this command must be used. If no assignment is made in this command, all NXXs are allowed. After an NXX is assigned (either as allowed or denied), all other NXXs will subsequently be denied. The table becomes an allow table. Program each office code to be allowed with the EFFECT=1.

The number of NXXs to be either allowed or denied will determine the method of programming used. For example, if it is determined that only 555 is to be restricted from a Special Common Carrier, it is more desirable to allow all NXXs and restrict only this NXX. The method would be as follows:

To create a deny table assign the following:

Step a): OFLG=ALL

         EFFECT=1

Step a, allows all NXXs, thus making a deny table. Program each office code with the EFFECT=0.

Step b): OFLG=INPUT

         OFFICE=555

         EFFECT=0 (Step b restricts 555 only)

Program the KIND of route as PFX (Prefix, Foreign Exchange, FX) or as Special Common Carrier.

Choose TDPTN, Time of Day Pattern. Go to ATCP.

Choose the OPR number this 6-digit table will serve.

Choose the RA (Route Advancing Order) to specify the route in the OPR.

When assigning for PFX, each NXX is assigned as the following:

EFFECT:0=Not require a prefix

EFFECT:1=Allow, with 1+dialing (system adds the 1) **(Note)**

EFFECT:2=Not allowed.

When assigning for SCC, each NXX is assigned as the following

EFFECT:0=Restricted

EFFECT:1=Allowed

EFFECT:2=Not used

Note: *When PFX, EFFECT = 1 is assigned. Add the required digit in the AADCL/N command. OFFICE is the next 3 digits after those assigned in AFRSL/N.*

Example: *AFRSL/N RT31 = 91214 OPR1*

ASDCL/N checks next 3 digits: 91214 XXX XXXX

                         Office

L-6   Last Number Called - Single-Line Station

General Description

When a user originates a station-to-station call or an outgoing trunk call, but the call is not established, this feature allows the calling station to recall the same destination by dialing only the special code instead of dialing all the digits of the number.

Operating Procedure

1.   Lift the handset; receive dial tone.
2.   Dial the desired party's number.
3.   The call has not been established.
4.   Busy tone or reorder tone is heard.
5.   Hang up.
6.   Lift the handset; receive dial tone.
7.   Dial the LAST NUMBER CALL access code (maximum 3 digits).
8.   The system will automatically redial the last number dialed from that station.

Service Conditions

1.   The number of dial digits to which this service is applicable is 18 maximum.
2.   Dialing any digits after going off-hook causes previously stored digits to be erased from memory and the new digits to be programmed into memory.
3.   In a STEP CALL, the final combination of digits is stored in memory. For example, dial 201, 201 is busy; dial 2, station 202 rings; station 202 is stored in the LAST NUMBER CALLED memory.
4.   In CALL FORWARDING [C-2, 3, 5], CALL PICKUP - GROUP [C-7], and STATION HUNTING [S-7, 8, 9], the number stored is the number dialed, i.e. the number displayed in the INTERMEDIATE STATION NUMBER DISPLAY - D^{term} [I-10D].
5.   This feature can be activated when the station accesses STATION-TO-STATION CALLING [S-11] or station-to-trunk calling.
6.   SPEED CALLING - SYSTEM [S-3, S-21], or GROUP [S-23] numbers (abbreviated digit codes) can be stored in the LAST NUMBER CALLED memory.
7.   An AUTHORIZATION CODE [A-20] will not be stored, and must be entered each time the LAST NUMBER CALLED is accessed.

Interactions

LAST NUMBER CALLED will operate for both internal and outgoing calls.

Programming

STEP 1:   **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPA** - Assign an access code to LAST NUMBER CALLED, SID = 44. Assign Connection Status Index (CI) for Normal (N) service.

Programming (cont'd)

STEP 3: **ASFC** - Assign the stations to receive the feature LAST NUMBER CALLED a Service Feature Class that allows SFI = 44.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ANPDL** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to LAST NUMBER CALLED, SID = 44. Assign Connection Status Index (CI) for Normal (N) service.

L-6D Last Number Called - D^{term}

General Description

This feature allows the user of a D^{term} to store the last five numbers dialed, and to redial the numbers by pressing the REDIAL key. The D^{term} user can choose any destination out of the last 5 calls that have been stored in memory, thus enabling the user to place a call without redialing the full number.

Operating Procedure

How to check the dialed numbers stored in the memory (up to 5 destinations):
1. Press the REDIAL key on a D^{term}.
    a.) The Prime Line lights green.
    b.) The Speaker Lamp lights green.
    c.) Receive dial tone from the speaker with the following display on the D^{term}.

        LNR [*] / SPD [_ _ _] - 1
                              811625643
        MIC   FDB   FDN   >>>

2. Press the REDIAL key on the D^{term} again.
    a.) The Prime Line lights green.
    b.) The Speaker Lamp lights green.
    c.) Receive dial tone from the speaker with the following display on the D^{term}.

        LNR [*] / SPD [_ _ _] - 2
                                  25191
        MIC   FDB   FDN   >>>

Note: *The indication on the display is changed in sequence by pressing the REDIAL key. Once the stored telephone number display reaches LNR[#]/SPEED[]-5, LNR[#]/SPEED[]-1 appears again by pressing the REDIAL key.*

How to originate a call:
3. Press the REDIAL key on a D^{term}.
    a.) The Prime Line lights green.
    b.) The Speaker Lamp lights green.
    c.) Receive dial tone from the speaker with the following display on the D^{term}.

        LNR [*] / SPD [_ _ _] - 1
                              811625643
        MIC   FDB   FDN   >>>

4. Repeat the above procedure until you reach your desired destination.

        LNR [*] / SPD [_ _ _] - 4
                               82625191
        MIC   FDB   FDN   >>>

5. Press "#" to originate your call while the desired destination is being displayed on the D^{term}.
    a.) The Prime Line lights green.
    b.) The Speaker Lamp lights green.
    c.) Receive ringback tone from the speaker with the following display on the D^{term}.

                               82625191
               10:24 AM FRI 15

Operating Procedure (cont'd)

6. The called party answers the call.
   - a.) The Prime Line lights green.
   - b.) The Speaker Lamp is OFF.

```
                                    82625191
              10:24  AM  FRI  15
```
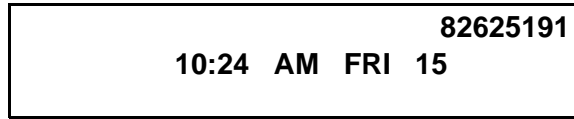
Service Conditions

1. A maximum of 5 destinations can be stored.
2. The maximum digits of the destination is 32 digits.
3. When a feature key has been assigned as Last Number Called, the feature key also works as REDIAL key.
4. This feature is also effective when the calling party presses the REDIAL key while the SPEAKER key is being pressed.
5. When the REDIAL key is pressed, # or the REDIAL key must be pressed within 12 seconds. Otherwise, the calling party hears reorder tone.
6. The calling party can enter abbreviated codes after pressing the REDIAL key.
7. Any number entry (other than #) from a D^{term} after pressing the REDIAL key is recognized as abbreviated code(s) (1 or 2 digits) of SPEED CALLING-STATION.
8. A D^{term} can display the upper 16 digits among the stored 32 digits.
9. When any destination has not been stored in the system, which occurs after initialization of the circuit card, the D^{term} displays no destination as shown below.

```
   LNR [*] / SPD [_ _ _] - 1
                                              ←——————  blank
   MIC         FDB         FDN     >>>
```
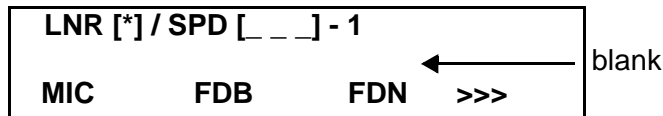
10. When a D^{term} user dials the same destination that has already been stored in the system, the newly dialed destination is stored in the following manner:

Stack #1	No. 82625191		Stack #1	No. 25000
Stack #2	No. 40001		Stack #2	No. 82625191
Stack #3	No. 982111		Stack #3	No. 40001
Stack #4	No. 25000 → Removed		Stack #4	No. 9821111
Stack #5	No. 303		Stack #5	No. 303

Newly Dialed Numbers: No. 25000 → Newly Stored

Stack Memory
Previously Stored Destinations

Stack Memory
Newly Stored Destinations
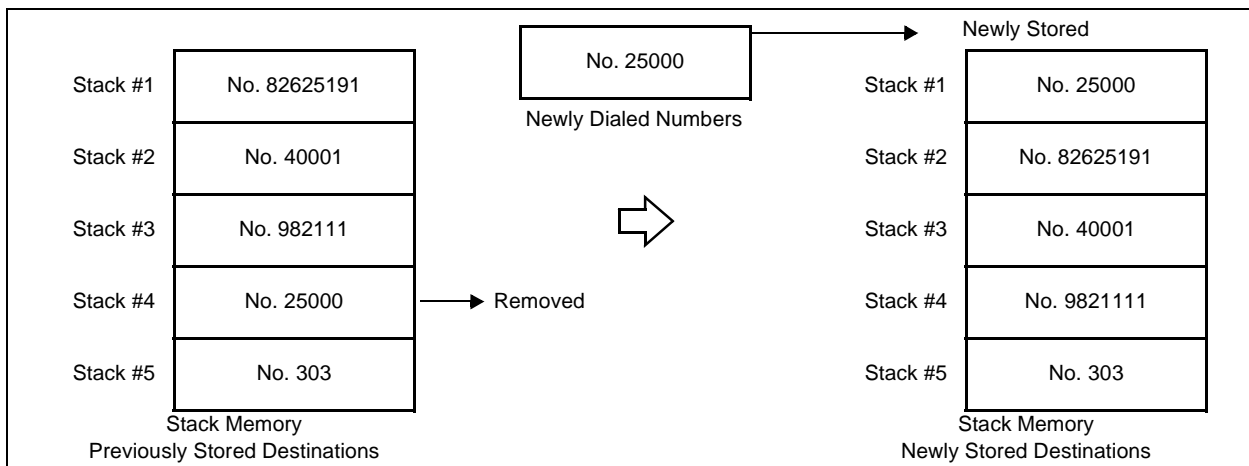
11. The number dialed during the call can be stored as the LAST NUMBER CALL - stock redial with a maximum of 32 digits.

Service Conditions (cont'd)

12. If making an abbreviated call using the REDIAL key, the number dialed is not stored. Therefore, redialing through LAST NUMBER CALL - stock redial is not available. A newly dialed destination is stored in accordance with the following flowchart:

Service Conditions (cont'd)

The dialed destination and the number stored in the Stack Memory 4 are the same?

Yes

No

Dialed No. Stored

Stack #1		Stack #1
Stack #2		Stack #2
Stack #3		Stack #3
Stack #4	**X** Removed	Stack #4
Stack #5		Stack #5

The dialed destination and the number stored in the Stack Memory 5 are the same?

Yes

No

Dialed No. Stored

Stack #1		Stack #1
Stack #2		Stack #2
Stack #3		Stack #3
Stack #4		Stack #4
Stack #5	**X** Removed	Stack #5

The system stores the newly dialed destination, removing the oldest number

Dialed No. Stored

Stack #1		Stack #1
Stack #2		Stack #2
Stack #3		Stack #3
Stack #4		Stack #4
Stack #5	**X** Removed	Stack #5

Programming

STEP 1: **AKYD** - Assign a programmable line/feature key as the LAST NUMBER CALLED key, if necessary.

KYI: Service Index 1 (= Feature Key)

FKY: Feature Key Number 8 (= LAST NUMBER CALLED)

STEP 2: **ASDT** - Assign a D^term with TEC (Telephone Equipment Class) 12.

L-7D   Line Reconnect - Same Line - D^{term}

General Description

This feature allows a user to disconnect a call and receive dial tone by pressing the RECALL key.

Operating Procedure

While a call is in progress:
1. Press the RECALL key; disconnect and receive dial tone on the same line.
2. User is ready to dial again.

Service Conditions

1. Conflicting service features are: CALL TRANSFER - ALL CALLS [C-11], CONSULTATION HOLD - ALL CALLS [C-17] and CALL HOLD [C-6]. Pressing RECALL key will result in reconnection of the held line.
2. System should be programmed to provide for First Party Release.
3. If the system is not programmed for First Party Release and programmed as Calling, Called, or Both Party Release, a release guard is activated. If a party is not allowed to terminate a call and presses RECALL key, that station remains connected to the original call.

Programming

> **ASYD** - System Data 1, Index 4, Bits 2 and 3.
>
> Releasing Method for Station-to-Station Calling Service
>
> <u>b3</u>   <u>b2</u> = Calling Party Release
> 0   0
> <u>b3</u>   <u>b2</u> = Called Party Release
> 0   1
> <u>b3</u>   <u>b2</u> = First Party Release
> 1   0
> <u>b3</u>   <u>b2</u> = Both Party Release
> 1   1

FCCS Programming

> No unique programming is required for the FCCS network.

L-8D   Line Reconnect - Other Line - D$^{\text{term}}$

General Description

This feature allows a user to select another line key without going on-hook.

Operating Procedure

While off-hook on the original line, press a line key that is either idle or ringing; the user is disconnected from the original line and connected to the new line.

Service Conditions

1. LINE RECONNECT - OTHER LINE D$^{\text{term}}$ cannot be used with a line currently in use, unless Privacy Release is in service (LED lit steady). LINE RECONNECT-OTHER LINE-D$^{\text{term}}$ can be used when the other line is on NON-EXCLUSIVE HOLD-D$^{\text{term}}$ [N-7D].

2. System data programming should provide for First Party Release.

Programming

> **ASYD** - System Data 1, Index 4, Bits 2 and 3.
>
> Releasing Method for Station-to-Station Calling Service
>
> <u>b3</u>   <u>b2</u> = Calling Party Release
> 0   0
> <u>b3</u>   <u>b2</u> = Called Party Release
> 0   1
> <u>b3</u>   <u>b2</u> = First Party Release
> 1   0
> <u>b3</u>   <u>b2</u> = Both Party Release
> 1   1

FCCS Programming

> No unique programming is required for the FCCS network.

L-9D   Line Pre-selection - D^{term}

General Description

This feature provides the user with the ability to select an idle or ringing line before going off-hook.

Operating Procedure

To originate:
1. Press the desired line key; receive dial tone.
2. Dial the desired destination.

To answer:
1. Press the line key (ringing and flashing LED alerts incoming call).
2. Lift the handset or press SPEAKER key; answer the incoming call.

Service Conditions

1. A line key whose associate LED is lit steady cannot be interrupted by pressing its key, unless PRIVACY RELEASE is in service.
2. After the desired line key is pressed, LINE PRESELECTION - D^{term} will remain in effect for 10 seconds. After 10 seconds, line selection returns to the primary line.

Programming

No programming is required.

FCCS Programming

No unique programming is required for the FCCS network.

L-10 LCR - Time Of Day Routing

General Description

This feature provides automatic routing of outgoing calls over alternative customer facilities, based on the destination code. The system will select the most economical route available at the time of connection. The pattern of alternate routing can be changed up to 8 times per day, based on a prearranged time schedule.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the trunk access code (usually "9"); receive second dial tone.
3. Dial the area code, office code, and subscriber number.
4. The system automatically completes the call via the most economical route available.

Service Conditions

1. A maximum of 8 patterns can be provided during a 24-hour interval for LCR - TIME OF DAY ROUTING.
2. Each pattern can be programmed at a maximum increment of 30 minutes.

Interactions

1. For each Time-of-Day Change, the entire AOPR and ASDC tables must be created. Caution should be exercised to use data memory economically.
2. LEAST-COST ROUTING-3/6 DIGIT [L-5] must first be provided.

Programming

STEP 1: **AOPR** - The AFRS command designates the dialing sequence and the OPR to be selected. The AOPR defines the routes and in what order these routes will be selected. Assign the following:

TDPTN - Time-of-Day Pattern Change. If for an AFRS assignment, different OPRs will be required as a function of time; designate 1-7 to which Time-of-Day Pattern Change Number (TDC NO) this OPR is assigned.

OPR No. (OPR) - Outgoing Pattern Route. The number referenced in AFRS, consisting of a series of routes to be chosen based on number dialed.

Route Advance Number (RA) - The order in which a route is selected. (0-7).

Route Advance End Display (E) - The last route in the route advance group. Indicate last route with data "0".

Route Number (RT) - The physical Route Number to be selected.

Skip Digits (SKIP) - The digits to be skipped when translating the dialed digits in AFRS. If ARTD is assigned as shown, at a minimum, always assign "1" to skip the LCR (S) access code.

Pattern Number Location (PNL) - If digits are to be added after translating the dialed digits in AFRS, go to the AADC command.

Overflow Tone (OVFT) - Assign if a tone is wanted for the Last Choice Route.

Priority Restriction Class (PRSC) - Refer to PRIORITY RESTRICTION CLASS in the EPN Features and Specifications. If this is required, assign PRSC here; classes 1-15.

Programming (cont'd)

STEP 2: **ASDC** - If 6-digit translation is required where both the Area and Office codes must be examined, this command must be used. The system is automatically set as an Allow table. To create a Deny table, assign the following:

OFFICE: 0

EFFECT: 1

Program the type of route as PFX (Prefix, Foreign Exchange, FX) or as SCC (Special Common Carrier).

Choose TDC PTN, Time-of-Day Pattern. Go to ATCP.

Choose the OPR number this six-digit table will serve.

Choose the RA (Route Advance) Number to specify the route in the OPR.

When assigning for PFX, each NXX is assigned as the following:*

EFFECT: 0 = Allow, No 1 + dialing.

EFFECT: 1 = Allow with 1 + dialing (system adds the 1).

EFFECT: 2 = Not Allowed.

When assigning for SCC, each NXX is assigned as the following:

EFFECT: 0 = Restricted

EFFECT: 1 = Allowed

EFFECT: 2 = Not Used

Note: *PFX, EFFECT: 1 is presently not available. Use the AADC command to add the required digits.*

STEP 3: **ATCP** - A maximum of eight Time-of-Day Pattern changes (0-7) are available, whereby the system will refer to different OPR assignments as a function of time. As a result, different routes will be listed per OPR and will require different assignments in ASDC.

Assign the following:

Time Setting

TO:

FROM: (In military time, and only on the half hour and hour)

PATTERN NUMBER: (0-7).

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **AOPRL** - The AFRS command designates the dialing sequence and the OPR to be selected. The AOPR defines the logical routes and in what order these logical routes will be selected. Assign the following:

TDPTN - Time-of-Day Pattern Change. If for an AFRS assignment, different OPRs will be required as a function of time; designate 1-7 to which Time-of-Day Pattern Change Number (TDC NO) this OPR is assigned.

OPR No. (OPR) - Outgoing Pattern Route. The number referenced in AFRS, consisting of a series of routes to be chosen based on number dialed.

Route Advance Number (RA) - The order in which a route is selected. (0-7).

Route Advance End Display (E) - The last route in the route advance group. Indicate last route with data "0".

FCCS Programming (cont'd)

Route Number (RT) - The physical Route Number to be selected.

Skip Digits (SKIP) - The digits to be skipped when translating the dialed digits in AFRS. If ARTD is assigned as shown, at a minimum, always assign "1" to skip the LCR (S) access code.

Pattern Number Location (PNL) - If digits are to be added after translating the dialed digits in AFRS, go to the AADC command.

Overflow Tone (OVFT) - Assign if a tone is wanted for the Last Choice Route.

Priority Restriction Class (PRSC) - Refer to PRIORITY RESTRICTION CLASS in the EPN Features and Specifications. If this is required, assign PRSC here; classes 1-15.

STEP 2: **ATCPL** - A maximum of eight Time-of-Day Pattern changes (0-7) are available, whereby the system will refer to different OPR assignments as a function of time. As a result, different routes will be listed per OPR and will require different assignments in ASDC.

Assign the following:

Time Setting

TO:

FROM: (In military time, and only on the half hour and hour)

PATTERN NUMBER: (0-7).

L-11 Line Load Control

General Description

This feature allows the Attendant to deny a preselected group of stations the ability to originate calls by activating a key. The sole intention of this feature is to temporarily restrict the least important internal stations from outward calling during an excessive traffic load or emergency conditions.

Operating Procedure

To activate LINE LOAD CONTROL from the ATTENDANT CONSOLE [A-3]:
    a.) Press a loop key.
    b.) Dial the LINE LOAD CONTROL access code; receive service set tone.
    c.) Press the RELEASE key.
To cancel LINE LOAD CONTROL from the ATTENDANT CONSOLE [A-3]:
    a.) Press the loop key.
    b.) Dial the LINE LOAD CONTROL cancel code; receive service set tone.
    c.) Press the RELEASE key.

Service Conditions

1. This feature is controlled entirely from the ATTENDANT CONSOLE [A-3].
2. Individual stations are programmed for this feature via CLASS OF SERVICE - INDIVIDUAL [C-15].
3. The lamp on the ATTENDANT CONSOLE [A-3] will illuminate when LINE LOAD CONTROL is set in the system.
4. Incoming call from a trunk can be restricted in System Data.
5. When LINE LOAD CONTROL is activated or cancelled, a system message will be output via the MAINTENANCE ADMINISTRATION TERMINAL [M-18].
6. While LINE LOAD CONTROL is activated, a single line station will receive busy tone (or the display for the D^{term} is blank) when going off-hook.
7. A station in LINE LOAD CONTROL [L-11, 20, 21] can receive incoming calls.
8. Incoming calls terminated via CCIS/ISDN trunks are not restricted.

Interactions

1. Calls in progress are not affected when this feature is activated.
2. This feature is implemented on a per-system basis.
3. Only the Attendant Console can activate this feature by seizing a loop and dialing the feature access code. A designated key cannot be assigned at the Attendant Console to control this feature.
4. Access to the System Data via the Maintenance Administration Terminal (MAT) is allowed while LINE LOAD CONTROL is active.
5. Station-to-station calling to affected stations is not allowed during LINE LOAD CONTROL.
6. HOTLINE [H-1] and HOUSE PHONE [H-2] connections become inoperative during LINE LOAD CONTROL.

Programming

STEP 1: **ASYD** - System Data 1, Index 59, Bit 0. Should the system restrict incoming calls during LINE LOAD CONTROL? 0/1: No/Yes.

Programming (cont'd)

Note: *Incoming calls terminated to CCIS/ISDN cannot be restricted.*

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to LINE LOAD CONTROL. Assign SRV = SSCA (Service Code Appendix), SIDA = 46 for Line Load Control Start. Assign SRV = SSCA (Service Code Appendix), SIDA = 47 for Line Load Control Cancel. Assign a Connection Index, CI = Normal (N).

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI 16 to the stations that will be unaffected by LINE LOAD CONTROL.

L-20 Line Load Control - Automatic

General Description

This feature allows the system to automatically deny a preselected group of stations the ability to originate calls. The sole intention of this feature is to temporarily restrict the least important internal stations from outward calling during an excessive traffic load or emergency conditions.

Operating Procedure

No manual operation is required.

Service Conditions

1. Individual stations are programmed for this feature via CLASS OF SERVICE - INDIVIDUAL [C-15].
2. The lamp on the ATTENDANT CONSOLE [A-3] illuminates when LINE LOAD CONTROL - AUTOMATIC [L-20] is set in the system.
3. Incoming calls from a trunk can be restricted in System Data.
4. When LINE LOAD CONTROL - AUTOMATIC [L-20] is activated or cancelled, a system message will be output via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
5. While LINE LOAD CONTROL - AUTOMATIC [L-20] is activated, a single line station will receive busy tone (or the display of the D^{term} is blank) when going off-hook.
6. A station in LINE LOAD CONTROL [L-11, 20, 21] can receive incoming calls.
7. Incoming calls terminated via CCIS/ISDN trunks cannot be restricted.

Programming

STEP 1: **ASYD** - System Data 1, Index 56 and 57. Set LINE LOAD CONTROL-AUTOMATIC Execution (Index 56)/Execution cancel (Index 57) CPU Occupancy Rate. If no data is assigned, RAM data 97% (Index 56) and 90% (Index 57) are used.

System Data 1, Index 59, Bit 0. Incoming Trunk Call Restriction during LINE LOAD CONTROL 0/1: Not Required/Required

Note: *Incoming calls terminated to CCIS/ISDN trunks cannot be restricted.*

STEP 2: **ASFC** - Assign SFI = 16 to the Service Feature Class of the stations that are to be able to originate calls during Line Load Control.

L-21 Line Load Control - MAT

General Description

This feature allows the MAT [M-18] to deny a preselected group of stations the ability to originate calls by activating a command key. The sole intention of this feature is to temporarily restrict the least important internal stations from outward calling during an excessive traffic load or emergency conditions.

Operating Procedure

The ALLC command is used to designate start and stop of LINE LOAD CONTROL - MAT.

Service Conditions

1. Individual stations are programmed for this feature via CLASS OF SERVICE - INDIVIDUAL [C-15].
2. The lamp on the ATTENDANT CONSOLE [A-3] will illuminate when LINE LOAD CONTROL - MAT is set in the system.
3. Incoming calls from a trunk can be restricted in System Data.
4. When LINE LOAD CONTROL - MAT is activated, a station will receive busy tone (or the display for the D^{term} is blank) when going off-hook.
5. A station in LINE LOAD CONTROL [L-11, 20, 21] can receive incoming calls.
6. When LINE LOAD CONTROL - MAT is activated or cancelled, a system message will be output on the MAT [M-18].
7. Incoming calls terminated via CCIS/ISDN trunks are not restricted.

Programming

STEP 1: **ASYD** - System Data 1, Index 59, Bit 0. Incoming Trunk Call Restriction during LINE LOAD CONTROL 0/1: Not Required/Required.

STEP 2: **ASFC** - Assign SFI = 16 to the Service Feature Class of the stations that are to be able to originate calls during Line Load Control.

L-24 Listed Directory Number

General Description

This feature allows Listed Directory Number Display on the ATTENDANT CONSOLE [A-3] when the Attendant has answered a Listed Directory Number call.

Operating Procedure

1. The Attendant at an ATTENDANT CONSOLE [A-3] answers an incoming call (DID, TIE).
   a.) The DEST lamp lights up.
   b.) The Listed Directory Number is displayed.
2. The Attendant presses the SRC key.
   a.) The DEST lamp goes out and the SRC lamp lights up.
   b.) The route/trunk number is displayed.

Service Conditions

1. This service is effective when the Attendant at an ATTENDANT CONSOLE [A-3] has answered a Listed Directory Number call.
2. If the Attendant presses the SRC key while the Listed Directory Number is displayed, the display changes to the calling party's route/trunk number. In this case, the Listed Directory Number of the call being handled at present cannot be displayed again.
3. While the Listed Directory Number is displayed, the Attendant can transfer the call to a desired station by entering the destination number on the key pad. In this case, the Listed Directory Number of the call being handled at present cannot be displayed again.
4. While the Listed Directory Number is displayed, the Attendant can place the present call on hold by pressing the HOLD key. In this case, the Listed Directory Number will not be displayed again when the Attendant returns to the call on hold.
5. The LISTED DIRECTORY NUMBER should be assigned in System Data.

Programming

STEP 1: **ASYD** - System Data 1, Index 70, Bit 0. Called Number Display when Call Forwarding to ATTCON 0/1: Out/In Service.
STEP 2: **ALDN** - Assign the LISTED DIRECTORY NUMBER.

L-28   LDN Night Connection

General Description

This service feature routes LISTED DIRECTORY NUMBER (LDN) calls to a preselected station when the system is in night mode.

Operating Procedure

To answer LDN NIGHT CONNECTION calls (DID, TIE):
1. An incoming LDN call in night mode is automatically routed to a preselected LDN NIGHT CONNECTION station within the system.
2. The calling party receives ringback tone.
3. The ringing signal is sent to the LDN NIGHT CONNECTION station.
4. The LDN NIGHT CONNECTION station goes off-hook to answer the incoming call. If necessary, this station can transfer the incoming call to another station within the system using the CALL TRANSFER - ALL CALLS [C-11] service feature.

Service Conditions

1. NIGHT CONNECTION - FIXED [N-1] and NIGHT CONNECTION - FLEXIBLE [N-2] take priority over this feature.
2. The destination station can be assigned on a per-LDN basis.
3. This feature is available for a maximum of 16 LDNs per tenant.
4. A data terminal cannot be used as a destination station for this feature.
5. The following service features are not available for the destination station:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
CALL FORWARDING - DON'T ANSWER	[C-3]
CALL FORWARDING - ALL CALLS - OUTSIDE	[C-28]
CALL FORWARDING - BUSY LINE - OUTSIDE	[C-60]
CALL FORWARDING - DON'T ANSWER - OUTSIDE	[C-74]

6. A UCD station can be assigned as the destination of LDN Night Connection, but queuing functions of UCD (such as DELAY ANNOUNCEMENT - UCD [D-31] and CALL WAITING LAMP - UCD [D-76] are not available when all the stations within the UCD group are busy.
7. When the destination station is busy, an incoming call is handled as follows: The call waits in queue. The status of the destination station is periodically checked. NIGHT CONNECTION OUTSIDE - SYSTEM [N-18] or TRUNK ANSWER FROM ANY STATION [T-8] is available when CALL FORWARDING - BUSY LINE [C-2] to the Attendant or CALL FORWARDING - BUSY LINE - OUTSIDE [C-60] has been assigned.
8. MISCELLANEOUS TRUNK RESTRICTION [M-3] is not available for this service.
9. NIGHT CONNECTION OUTSIDE - SYSTEM [N-18] or TRUNK ANSWER FROM ANY STATION [T-8] is available while the destination station is in the following states:
    a.) LOCK OUT [L-3] make busy.
    b.) CALL FORWARDING - ALL CALLS [C-5] set to the Attendant.
    c.) CALL FORWARDING - ALL CALLS - OUTSIDE [C-28] set.
10. The LDN NIGHT CONNECTION station and the attendant console must be accommodated in the same node for the FCCS network.

Interactions

1. A maximum of 16 LDNs can be assigned per tenant, each with its own separate destination station. The same destination may also be used for all LDNs.

2. STATION HUNTING-CIRCULAR [S-7] and STATION HUNTING-TERMINAL [S-9] are valid from the night transfer destination station.

3. MULTIPLE CALL FORWARDING-ALL, BUSY, DON'T ANSWER [M-44, M-24, M-25] and MULTIPLE CALL FORWARDING-ALL, BUSY, DON'T ANSWER-CCIS [M-40, M-41, M-42] are valid from Night transfer destination station.

4. An incoming DID call will get busy tone if the Night transfer destination station is CALL FORWARDING-ALL [C-5] or CALL FORWARDING-BUSY LINE [C-2] to the Attendant, and TRUNK ANSWER FROM ANY STATION [T-8] is not service.

5. An incoming DID call will ring at the Night transfer destination station if CALL FORWARDING-DON'T ANSWER [C-3] is set to the Attendant.

6. There is no restriction check for LDN NIGHT CONNECTION destination stations. The station can be totally restricted from receiving incoming calls and still receive LDN NIGHT CONNECTION calls.

7. If the Night transfer destination station is busy, LDN calls will go into queue.

8. If the system is switched to Day mode while LDN calls are in queue, only those calls that are in queue will be redirected to the Attendant. LDN calls that are ringing the Night transfer destination station will continue to ring that station and will not be redirected to the Attendant.

9. If the Night transfer destination station is in the Make Busy state (MBST Command = 1 for that station) or is in LINE LOCKOUT [L-3], the LDN call will go to TRUNK ANSWER FROM ANY STATION [T-8].

10. If the Night transfer destination station (station A) is in CALL FORWARDING-BUSY LINE [C-2] to station B and both stations (station A and station B) are busy, the incoming LDN call will queue to both station A and station B, and will ring the first idle station.

11. If the Night transfer destination (station A) is in CALL FORWARDING-BUSY LINE [C-2] over CCIS to station C in the remote office, and both station A and station C are busy, busy tone is returned to the incoming LDN calling party.

12. Incoming LDN calls to a Night transfer destination station that has set CALL FORWARDING-ALL CALLS, BUSY LINE, DON'T ANSWER-CCIS [C-45, C-46, C-47] over CCIS to a busy UCD group in the remote office will queue to that group, and will activate the CALL WAITING LAMP-UCD [C-76], if programmed.

Programming

STEP 1: **ALDN** - Assign LDN number and its transfer destination.

      TN: Tenant Number

      LDN: Listed Directory Number (must match station numbering plan)

      Night Transfer:Y/N

              If no, then LDN will only go to Attendant.

              If yes, then the following parameters will be enabled:

      TYPE: Night Transfer Type

           1:   Station number

           2:   Outside (up to 8 digits)

           3:   ADC (when more than 8 digits are required)

      STN: For Types 1 & 2.

Programming (cont'd)

For Type 1, assign station number here.

For Type 2, assign access code and outside number here.

(A CCIS remote office station number can be input here also).

ADC: For Type 3.

Input ADC number desired as assigned in the ASPD command.

STEP 2: **ACFR** - Assign TSFI: 2 (Night Connection-Fixed) to be allowed CCI: 1 (LDN). This allows LDN to go to night transfer destination. Assign TSFI: 5 (TAS) to be allowed CCI: 1 (LDN). This allows LDN to go to TRUNK ANSWER FROM ANY STATION[T-8]. Restrict if not using TAS.

L-30   LDN Night Connection - Outside

General Description

This feature routes LOCAL DIRECTORY NUMBER (LDN) calls to a preselected station outside the system when the system is in Night mode.

Operating Procedure

To answer LDN NIGHT CONNECTION calls (DID, TIE):
1. An incoming LDN call in Night mode is automatically routed to a preselected LDN NIGHT CONNECTION station outside the system.
2. The calling party receives ringback tone.
3. The ringing signal is sent out to the LDN NIGHT CONNECTION-OUTSIDE station.
4. The LDN NIGHT CONNECTION station answers the incoming call. If necessary, this station can transfer the incoming call to another station outside the system using the CALL TRANSFER - ALL CALLS [C-11] feature.

Service Conditions

1. NIGHT CONNECTION - FLEXIBLE [N-2] and NIGHT CONNECTION - FIXED [N-1] take priority over this feature.
2. The maximum number of digits in the destination number is 8. SPEED CALLING - SYSTEM [S-3] can be used when more than 8 digits are needed.
3. The destination station outside the system can be assigned on a per-LDN basis.
4. This feature is available for a maximum of 16 LDNs per tenant.
5. LDN NIGHT CONNECTION - OUTSIDE [L-30] will not route an incoming call on an MFC signaling trunk through another MFC signaling trunk.
6. NIGHT CONNECTION OUTSIDE - SYSTEM [N-17] or TRUNK ANSWER FROM ANY STATION [T-8] is available while the destination station is in the following states:

MISCELLANEOUS TRUNK RESTRICTION	[M-3]
TOLL RESTRICTION - 3/6-DIGIT	[T-7]
Outgoing Trunk Busy	

Interactions

1. A maximum of 16 LDNs can be assigned per tenant; each with its own separate destination number.
2. If the outgoing route is busy or if the incoming LDN route is restricted from the outgoing destination route, the LDN calling party will receive busy tone or will go to TAS, if programmed.
3. If using TYPE: 3 ADC parameter in the ALDN command, the ADC must first be assigned in the ASPD command. TYPE: 3 must be used for outside numbers greater than eight digits.

Programming

STEP 1:   **ALDN** - Assign LDN number and its transfer destination.
        TN: Tenant Number
        LDN: Listed Directory Number (must match station numbering plan)
              Night Transfer: Y/N

Programming (cont'd)

        If no, then LDN will only go to Attendant.

        If yes, then the following parameters will be enabled:

TYPE: Night Transfer Type

        1:   Station number

        2:   Outside (up to 8 digits)

        3:   ADC (when more than 8 digits are required)

STN: For Types 1 & 2.

For Type 1, assign station number here.

For Type 2, assign access code and outside number here.

(A CCIS remote office station number can be input here also).

ADC: For Type 3.

Input ADC number desired as assigned in ASPD command.

STEP 2:   **ASPD** - Assign an access code and outside number to an ADC (000-999). This step is required only if access code and outside number are greater than eight digits.

STEP 3:   **ACFR** - Assign TSFI: 2 (Night Connection-Fixed) to be allowed CCI: 1 (LDN). This allows LDN to go to Night transfer destination. Assign TSFI: 5 (TAS) to be allowed CCI: 1 (LDN). This allows LDN to go to TRUNK ANSWER ANYSTATION(TAS). Restrict if not using TAS.

STEP 4:   **ARRC** - The incoming route of the LDN must allow trunk-to-trunk connection to the outgoing destination route and to the LCR flag route; ARI-D-RES, Direct Connection.

FCCS Programming

No unique programming is required for the FCCS network.

M-1   Meet-Me Paging

General Description

This feature allows a user dial access to paging equipment, and connects both parties automatically, after the called party has answered the page.

Operating Procedure

To page:
1.   Calling station dials the Paging access code; receives continuous ringback tone for 1 second.
2.   Calling station pages the desired party.
3.   Calling station remains off-hook or hangs up.

To answer:
1.   Called party dials the Page answer code.
2.   NON-DELAY OPERATION

   a.) The party paged is immediately connected to the calling party.
3.   DELAY OPERATION

   a.) The party paged receives ringback tone.
   b.) The calling station rings.
   c.) The calling station goes off-hook and is immediately connected to the paged station.

Service Conditions

1.   A maximum of six routes can be provided with paging trunks.
2.   Paging equipment is customer provided.
3.   One paging trunk will be assigned to each route.
4.   Paging access and answer codes are assigned in System Data programming to correspond with each route.
5.   The maximum number of digits that can be used as a paging access and/or answer code is 3.
6.   The type of paging service provided on a system basis is programmed via the MAINTENANCE ADMINISTRATION TERMINAL [M-18] into the system database.
7.   A page waiting to be answered is automatically cancelled after a predetermined program duration. See VARIABLE TIMING PARAMETER [V-1] for other selectable timing choices.
8.   Central Office Trunks (COTs) are used as interface circuits to the paging equipment.
9.   Loop signaling is the recommended signaling type. Refer to PAGING TRANSFER [P-10].

Interactions

1.   MEET-ME PAGING and PAGING ACCESS [P-1] can be provided simultaneously in the same system. In ARTD, CDN 6:TCL must be assigned as data "8" for MEET-ME PAGE, while PAGING ACCESS [P-1] routes may be assigned as data "11", General Page, or as data "1", DDD. Separate access codes for each feature are required. A MEET-ME PAGING answer and cancel code is required for each MEET-ME PAGING zone.
2.   MEET-ME PAGING is limited to stations and Attendant Consoles. CO trunks, TIE LINE ACCESS [T-3], or REMOTE ACCESS TO PBX SYSTEM [R-2] calls must have the Attendant Console or user perform the paging operation.
3.   The Attendant Console cannot dial the MEET-ME PAGING answer codes.

Interactions (cont'd)

4. BUSY VERIFICATION [B-3] and EXECUTIVE OVERRIDE [E-1]: These features will be denied for a connection that includes the Paging route.

5. DELAY OPERATION: Station A is connected to party B. Station A momentarily presses the switch hook and dials the MEET-ME PAGE route access code. When connected to the page, Station A requests Station C to dial the MEET-ME PAGE answer code. Station A hangs up. When Station C dials the answer code, Station A is rung. Station C and Station A are connected. If Station A hangs up, Party B is connected to Station C. If Station A momentarily presses the switch hook, all three parties are connected together in a THREE-WAY CALLING [T-2] connection. If Station C does not call the MEET-ME PAGE answer code after 30 seconds, Party B rings back to Station A.

6. NON-DELAY OPERATION: Station A is connected to Party B. Station A momentarily presses the switch hook and dials the MEET-ME PAGE route access code. When connected to the page, Station A requests Station C to dial the MEET-ME PAGE answer code. Station A stays on the trunk and is still voice-connected to the paging equipment. Station C dials the MEET-ME PAGE answer code. The paging trunk becomes idle. Station A is connected to Station C. If Station A hangs up, Party B is connected to Station C. If Station A momentarily presses the switch hook, all three parties are connected together in a THREE-WAY CALLING [T-2] connection. There is no time-out period if Station C does not dial the MEET-ME PAGE answer code. Station A may press the switch hook to disconnect the page trunk and reconnect to Party B. If desired, Station A may hang up and Station A will be recalled by Party B.

7. Stations allowed Priority Page, SFI = 57, will come into the paging route, except when the Attendant Console is paging.

8. To answer MEET-ME PAGE, while connected to another party, CALL HOLD [C-6] must be used. THREE-WAY CALLING [T-2] is not allowed.

Programming

STEP 1: **ASYD** - System Data 1, Index 73, Bits 0 and 1.

For MEET-ME PAGE, non-Delay service, Bit 0 = 1, Bit 1 = 0.

For MEET-ME PAGE, Delay service, Bit 0 = 0, Bit 1 = 1.

For MEET-ME PAGE, Delay service with call transfer, Bit 0 = 1, Bit 1 = 1.

See PAGING TRANSFER [P-10].

System Data 1, Index 73, Bit 3. Are PAGE cancel codes provided for each route? 0/1: Per route/Common to all routes.

System Data 1, Index 74, Bit 0-3. Assign the cancel timer for unanswered page.

Assign data 00H for 30 seconds.

(0-F + 1) x 30 = Cancel Timer.

System Data 2, Index 1, Bits 0 & 1. Consultation Hold allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed; Tandem Call Denied; 11: All calls allowed.

STEP 2: **ARTD** - Assign the Paging route as shown below:

RT:1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :8 | 7-L/T | :1 |
| 8-RLP | :2 | 15-LSG | :0/1 | | | | | | |

STEP 3: **ATRK** - Assign the LENs, Paging Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the Paging Trunks.

Programming (cont'd)

STEP 5:   **ANPD** - Reserve levels for trunk access and for MEET-ME PAGE answer and cancel codes. Assign the trunk access level for a Connection Index (CI) of Normal (N) and Hooking (H) service. Number of necessary digits is usually one or two. Busy Lamp Field is not activated. If the MEET-ME PAGE answer and cancel codes reside in a level reserved for features, then assign according to a predetermined numbering plan. If the MEET-ME PAGE answer and cancel codes reside in a separate level, then assign a CI of Normal (N) only. The number of necessary digits is usually two, and the Busy Lamp Field is off.

STEP 6:   **ASPA** - For the MEET-ME PAGE route access code, assign the access code in the level assigned in ANPD. Type of Service, SRV = OGC (Outgoing Call) for Outgoing trunks. Assign CIs of Normal (N) and Hooking (H). For the MEET-ME PAGE route answer and cancel codes, assign the access code in the level assigned in ANPD. Type of Service, SRV = PAGA (Paging Answer) and SRV = PAGC (Multiple Announcement Service). Assign the proper route number associated with this code. Assign for a CI of Normal (N).

STEP 7:   **ARSC** - For stations allowed access to the paging routes, allow Route Restriction Index (RRI) 3 for the Route Restriction Classes (RSC) assigned to these stations.

STEP 8:   **ASFC** - Assign a Service Feature Class that allows SFI 38 to the stations that will have MEET-ME PAGE. If Priority Page is used, allow SFI 57.

STEP 9:   **ARRC** - Allow trunk-to-trunk connection between the paging route and the incoming/outgoing route. Assign ARI-A-RES, via the Attendant Console. The incoming/outgoing route would be the party being held at a station, or Attendant Console wishing to speak to the party for whom the page is intended.

M-2   Miscellaneous Trunk Access

General Description

This feature provides access to all types of external and customer provided equipment/facilities, such as FX [F-2], WATS [W-1], CCSA [C-14], TIE LINE [T-3], and Exchange Network, along with DICTATION [D-3], PAGING [P-1], and CODE CALLING [C-21].

Operating Procedure

MISCELLANEOUS TRUNK ACCESS is accomplished via System Data programming at the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

Service Conditions

1. Access to these trunk groups is allowed or denied via CLASS OF SERVICE - INDIVIDUAL [C-15].
2. An interface circuit must be provided per trunk required.

Interactions

If other features are being used (such as SMDR, toll restriction, and/or LCR (S)), refer to those feature descriptions, as other commands may be required that are not listed below.

Programming

STEP 1:   **ARTD** - Refer to the Feature listing for the type of trunk route to be accessed.

STEP 2:   **ATRK** - Assign the LENs, Route Number, Trunk Number, and Tenant Number.

STEP 3:   **MBTK** - Assign the Make Idle status to the trunks.

STEP 4:   **ANPD** - Assign a level for trunk access. Assign Connection Indexes (CI) for Normal (N) and Hooking (H) service. Number of Necessary Digits is assigned according to a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 5:   **ASPA** - Assign the access code, as indicated, by the level assigned in ANPD. Type of Service, SRV = OGC (Outgoing Call) for Outgoing trunks.

STEP 6:   **ARSC** - Assign a Route Restriction Class (RSC) that is allowed in Route Restriction Indexes (RRI) 0, 1, 2 and 3 to the station that is allowed access to these trunks.

STEP 7:   **ASDT** - Assign an RSC to the stations that allow access to these trunks.

M-3   Miscellaneous Trunk Restriction

General Description

This feature provides for certain stations and certain dial-repeating TIE trunks to be denied access to particular trunk groups, such as FX [F-2], WATS [W-1], CCSA [C-14], TIE LINE [T-3], Exchange Network, DICTATION [D-3] or PAGING [P-1].

Operating Procedure

MISCELLANEOUS TRUNK RESTRICTION is accomplished via system data programming at the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

Service Conditions

1. Restricted call attempts can be either:
   - a.) intercepted by the Attendant,
   - b.) reorder tone can be initiated back to the originating user,
   - c.) user can be connected to an announcement informing the user of the restricted call attempt, or
   - d.) prompted for Authorization Code.
2. Station line access to a given miscellaneous trunk group is controlled by assigning a Route Restriction Class (RSC) to each line. There can be a maximum of 15 different RSCs (RSC1-15) per TENANT [T-12], each of which can be programmed to restrict an assigned station from none, one, or more than one miscellaneous trunk group.
3. If the user's class of service allows outgoing route completion via the ATTENDANT CONSOLE [A-3], the user can dial "0" to reach the Attendant for completion of miscellaneous trunk calls.
4. The CALL TRANSFER - ALL CALLS [C-11] feature will operate as follows:
   - a.) if the restricted station is the controller, this station cannot add a trunk from which this station is restricted.
   - b.) if the restricted station line is not the controller, the controller cannot connect the restricted station line to a trunk from which the station is normally restricted.
5. Two outgoing trunk group restriction tables are provided per system. The Direct Dial Access table is indexed when a user dials the trunk group access code and the ATTENDANT CONSOLE [A-3] table is indexed on Attendant completed calls. The restriction options per RSC can differ per table, thus allowing Attendant completion of outgoing calls for restricted stations.
6. NIGHT SERVICE [N-1, 2]: Restrictions can be changed for a given station when the system is switched to the Night mode of operation.
7. CALL TRANSFER - ALL CALLS [C-11]: If a restricted user calls another station, the called station cannot use the CALL TRANSFER feature to connect the calling station to a trunk group to which the restricted station is denied dial access. If transfer is attempted, the controlling station is rung back.
8. TIE LINE ACCESS [T-3]: If the user accesses a TIE trunk at a distant PBX, access to outside exchanges can only be controlled by the distant PBX.

Interactions

If other services are being used [such as SMDR, toll restriction, and/or LCR (S)], refer to those feature descriptions, as other commands may be required that are not listed.

Programming

STEP 1:   **ASYD** - System Data 2, Index 1, Bits 4 & 5. Should a restricted station be routed to the Attendant Console or receive reorder tone?

Reorder Tone: Bit 4 = 0, Bit 5 = 0.

Attendant Console: Bit 4 = 1, Bit 5 = 0.

STEP 2:   **ARSC** - Follow the procedure for [M-2] MISCELLANEOUS TRUNK ACCESS [M-2]. By assigning the ARSC command, restrict RSCs from receiving certain routes. RRI 3: RES must be "2" if call restriction to go to ATTCON. Then assign the restricted RSCs to stations via the ASDT or ASCL command. When assigning the ARRC command, restrict incoming TIE lines from accessing certain routes.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ARSCN** - Follow the procedure for [M-2] MISCELLANEOUS TRUNK ACCESS [M-2]. By assigning the ARSC command, restrict RSCs from receiving certain routes. RRI 3: RES must be "2" if call restriction to go to ATTCON. Then assign the restricted RSCs to stations via the ASDT or ASCL command. When assigning the ARRC command, restrict incoming TIE lines from accessing certain routes.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-4 Multiple Console Operation

General Description

This feature allows one or more ATTENDANT CONSOLEs [A-3] to operate within the same system.

Operating Procedure

No manual operation is required.

Service Conditions

1. The maximum number of consoles per PIM is 4.
2. The maximum number of consoles allowable per system is:

1 IMG:	16
4 IMG/IMX-U:	60

3. Each incoming call is displayed on an ATTENDANT CONSOLE [A-3], whether idle or busy. If all Attendants are involved in processing calls when another Central Office call arrives, the CALL WAITING LAMP [C-13] will light on all ATTENDANT CONSOLE [A-3]. This is a switched loop Attendant operation.
4. If one of the ATTENDANT CONSOLE [A-3] enters the night mode, all calls addressed to the Attendant will be directed to the other ATTENDANT CONSOLE [A-3]. However, the ATTENDANT CONSOLE [A-3] that has entered the night mode must complete processing of all calls already connected to it's loops.
5. A station can be connected to only one Attendant loop at a time. Any attempt at establishing multiple connections will result in reorder tone being sent to the Attendant.
6. INTER-POSITION TRANSFER [I-5] is used to transfer calls between ATTENDANT CONSOLE [A-3].
7. Two methods of operation are available for placing the system (or tenant group) into the night mode:
   a.) All ATTCON Change System Day to Night: When all ATTENDANT CONSOLE [A-3] press the NITE key, the system (or associated TENANT [T-12]) enters the night mode. Night to Day: When one ATTENDANT CONSOLE [A-3] releases the NITE key, the system (or associated TENANT [T-12]) enters the day mode.
   b.) Primary ATTCON Change System Day to Night: When the designated primary ATTENDANT CONSOLE [A-3] presses the NITE key, the system (or associated TENANT [T-12]) enters the night mode. If an ATTENDANT CONSOLE [A-3] other than the primary console presses the NITE key, only that console enters the night mode. Night to Day: When the primary ATTENDANT CONSOLE [A-3] releases the NITE key, the system (or associated TENANT [T-12]) enters the day mode.
8. The automatic distribution of Attendant seeking calls is not provided (see Call Queuing). Any ATTENDANT CONSOLE [A-3] assigned to the same tenant can answer a particular call; an exception is an INTER - POSITION TRANSFER [I-5] directed call.

Interactions

1. See ATTENDANT CONSOLE [A-3] for information regarding a single Attendant Console and system features provided to the Attendant Consoles. The Attendant Console must first be provided.
2. For each tenant, only one type of Attendant Console system can be assigned, either normal or Primary Attendant Console system.
3. ASAT must be programmed for INTER-POSITION TRANSFER [I-5].

Interactions (cont'd)

4. When more than one Attendant Console is installed, a Primary Attendant Console may be assigned (AMAT command). This Attendant Console will control the implementation of DAY/NIGHT CLASS OF SERVICE [D-15].

5. If the Primary Attendant places the system into Night mode, the Night LED on the other consoles do not light.

Programming

STEP 1: **ASYD** - System Data 1, Index 9. Assign the number of Attendant Consoles in the system. This provides information to the ASAT command.

System Data 2, Index 2, Bit 2. Is this a Primary ATTCON system? 0/1: No/Yes. (When Primary goes into Night, tenant goes into Night.)

System Data 2, Index 2, Bit 3. Is this a normal ATTCON system? 0/1: No/Yes. (When all Attendant Consoles go into Night, tenant goes into Night.)

STEP 2: **ATRK** - To assign the Attendant Console: LEN # = MG, and UNIT. The Line Group is always 20 and the Level is either 0 or 1. Assign as Route 901. Also assign a Service Feature Class (SFC 0) and a Route Restriction Class (RSC 0) to the Attendant Console.

STEP 3: **ASAT** - Assign a specific Attendant Number to the Attendant Console. See INDIVIDUAL ATTENDANT ACCESS [I-6].

STEP 4: **AMAT** - Assign one of the Attendant Consoles to serve as the Primary Attendant Console. This service is assigned on a tenant basis. The Attendant Number will correspond to the Trunk number of that specific console.

STEP 5: **MBTK** - Make Idle the Attendant Console trunk.

STEP 6: **ATNR** - Allow tenant-to-tenant connection for Inter- and Intra-tenant basis. Assign Tenant Restriction Index (TRI) 1 for station-to-station calling; TRI 1 for Call Forwarding, TRI 3 for Call Forwarding set by the Attendant Console; TRI 4 for Incoming calls to the Attendant Console.

STEP 7: **ASFC** - Allow SFC 0 to all needed features.

STEP 8: **ARSC** - Allow RSC 0 access to all routes via RRI 0, 1, 2 and 3.

M-7 Music On Hold

General Description

This feature allows a party to hear music while in the CALL HOLD [C-6], CALL TRANSFER [C-10, 11], or ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] conditions.

Operating Procedure

No manual operation is required for this software controlled feature.

Service Conditions

1. The system is capable of supplying two switch-selectable music channels. Music is generated by 3 synthesizers included in the package.
2. If another music source (tuner, tape-deck, etc.) is desired, it must be customer provided.
3. Only one music source can be provided per system.
4. The held call condition can be the result of:

    ATTENDANT CAMP-ON WITH TONE INDICATION   [A-1]
    CALL HOLD   [C-10]
    CONSULTATION HOLD - ALL CALLS   [C-17]
    SPLITTING   [S-4]
    Attendant Hold
5. Only one music source, either customer-provided or internal, can be provided per system (system option).
6. ATTENDANT CONSOLE [A-3]: Attendant operations resulting in music to be provided to the calling party include the following:
    a.) The calling party or the remaining party (not talking with the Attendant) hears music, if the Attendant splits a call prior to completion or after answering an Attendant recall.
    b.) When incoming calls to the Attendant are answered and the Attendant presses the HOLD key, the held party hears music.
    c.) When the Attendant camps on a call to a busy station, the calling party is connected to music until the called party answers or the Attendant reenters the switched loop.
7. When a user in a two-party talking connection switch hook flashes, the second party is placed on hold and is connected to music.
8. When activating this feature via the FCCS network, when either the internal or the external source is used, it is recommended to set the source as the same MOH at each node for the node-to-node connection, since the node that controls MOH varies depending on the connection pattern.

Interactions

1. Two types on MUSIC-ON-HOLD (MOH) exist; internal source MOH and external source MOH.
2. The input to the system is an 8-ohm output from the external music source. An 8-ohm music source is a typical input to an 8-ohm speaker.
3. An external MOH source is connected to the EMA circuit card with 16 PH EXALM CA cable.

Programming

ASYD - System Data 1, Index 64, Bit 7. Is MUSIC-ON-HOLD in service? 0/1: No/Yes.

M-11 Meet-Me Paging - Attendant

General Description

This feature allows an Attendant to hold an incoming call, page the called party, and connect the two after the called party has answered the page.

Operating Procedure

Procedure 1:
To page:
1. Place the incoming call on hold by pressing the HOLD key.
2. The Attendant seizes an idle loop.
3. The Attendant dials the paging access code; receives continuous ringback tone for 1 second.
4. The Attendant pages the desired party.
5. The Attendant presses the RELEASE key.

To answer:
1. The paged party dials the PAGE answer code; receives ringback tone.
2. Ringing is heard at console. After the call is answered (on loop), the Attendant and paged party converse.
3. The Attendant presses the loop of the held outside call.
4. The Attendant presses the RELEASE key to connect both parties.

Procedure 2:
To page:
1. The Attendant answers incoming call.
2. The Attendant dials the paging access code; receives 1 second of ringback tone.
3. The Attendant pages the desired party.
4. The Attendant presses the RELEASE key.

To answer:
1. Paged party dials the PAGE answer code and is directly connected to the holding party.
    OR
2. Paged party dials the PAGE answer code and the individual Attendant number and receives ringback tone. The Attendant and the paged party converse. The Attendant presses the loop key of the held outside call. The Attendant presses RELEASE key to connect both parties.

Service Conditions

1. If operating Procedure 2 is used, a maximum of six (6) routes can be provided with paging trunks.
2. If Procedure 1 is used, the limitation of routes is based on the number of COT cards equipped.
3. Paging equipment is customer provided.
4. One paging trunk (COT) will be assigned to each route.
5. If Procedure 2 is used, only one held call waiting for a paged party can be held at a time at the console.
6. Paging access and answer codes are assigned to correspond with each route.
7. The maximum number of digits that can be used as a PAGE access and/or answer code is 3.
8. The type of Paging service provided on a system basis is programmed via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18] into the System Data base.
9. A Page waiting to be answered is automatically cancelled after a predetermined programmed duration. See VARIABLE TIMING PARAMETERS [V-1] for selectable timing choices.

Service Conditions (cont'd)

10. Loop signaling is the recommended signaling type.

     a.) Both MEET-ME PAGING and PAGING ACCESS [P-1] (loudspeaker - basic) can be provided in the same system.

     b.) A separate access code for MEET-ME PAGING and PAGING ACCESS [P-1] is required for the same paging zone.

     c.) A paging answer code is required for each MEET-ME PAGING zone.

     d.) The maximum number of answer back ports is limited to the number of paging zones (20 maximum). These answerback ports are used for RADIO PAGING [R-16] service also.

     e.) ALL ZONE PAGING [A-53] cannot be used with MEET-ME PAGING.

     f.) Paging over the loudspeaker system is limited to paging from a station, an ATTENDANT CONSOLE [A-3] or a TIE trunk. Callers on outside CO trunks must make arrangements with an Attendant or a user to have paging performed.

     g.) Direct access (key) to paging from the ATTENDANT CONSOLE [A-3] is not available.

     h.) The Attendant cannot dial the paging answer codes.

11. CALL TRANSFER - ALL CALLS [C-11]: A user can flash and place a second party on hold, hear special dial tone, and dial the paging access code. The Paging Transfer (and use of loudspeaker paging system with a party on hold) is allowed, unless denied by the Class of Service of the user's line.

12. Central Office trunks are used as interface circuits to the Paging equipment.

13. BUSY VERIFICATION [B-3]: Busy Verification is denied on a station line that is connected to paging equipment. Attempts to busy-verify a station line will result in the Attendant hearing reorder tone.

14. ATTENDANT-CONTROLLED CONFERENCE [A-2]: When a conference call is established, an Attendant cannot connect the conference connection to paging loudspeakers.

15. CALL WAITING [C-12, 31]: A call is not allowed to wait on a line that has accessed loudspeaker paging (making a page). The user hears reorder tone.

16. EXECUTIVE RIGHT-OF-WAY [E-1] is denied to a station line connected to loudspeaker paging. The user receives reorder tone.

17. ATTENDANT CAMP-ON [A-1] is not allowed on a line that has accessed loudspeaker paging. The user receives reorder tone.

18. THREE-WAY CALLING [T-2] is not allowed after the paged party has been connected to the originating station.

19. Delayed or non-Delayed operation are the two methods for answer back, either can be selected.

     a.) Delayed Operation: The paging party goes on-hook to wait for the paged party to answer back.

     b.) Non Delayed Operation: The paging party remains off-hook to wait for the paged party to answer back.

20. The paging trunk remains in a busy state, while the paging party remains unanswered (e.g., the paging answer code has not been dialed). The paging answer back state will be cancelled after a programmable time-out period, if the answer code is not dialed within the prescribed interval, releasing the paging trunk and the paging party as well, if still in the off-hook mode.

Interactions

1. MEET-ME PAGING and PAGING ACCESS [P-1] can be provided simultaneously in the same system. ARTD, CDN 6:TCL must be assigned as data "8" for MEET-ME PAGE, while PAGING ACCESS routes may be assigned as data "11", General Page, or as data "1", DDD. Separate access codes for each feature is required. MEET-ME PAGING answer and cancel codes are required for each MEET-ME PAGING zone.

Interactions (cont'd)

2. MEET-ME PAGING is limited to stations and Attendant Consoles. CO trunks, TIE LINE ACCESS [T-6] or REMOTE ACCESS TO PBX SYSTEM [R-2] calls must have the Attendant or user perform the Paging operation.

3. The Attendant Console cannot dial the MEET-ME PAGING answer codes.

4. BUSY VERIFICATION [B-3] and EXECUTIVE OVERRIDE [E-1]: These features will be denied for a connection, including the Paging route.

5. DELAY OPERATION: The Attendant Console is connected to party B.

    a.) The Attendant dials the MEET-ME PAGE route access code. When connected to the Page trunk, the Attendant requests Station C to dial the MEET-ME PAGE answer code. The Attendant presses RELEASE key. When Station C dials the answer code, Party B is connected to Station C. OR

    b.) The Attendant presses the HOLD key, then seizes an idle loop and dials the MEET-ME PAGE route access code. After the paging, the Attendant presses the RELEASE key. When Station C dials the answer code, Station C terminates to an idle loop key on the Attendant Console. The Attendant answers and places this call on hold, then sequentially presses the two held loop keys. This connects the Attendant to the party connected to the first pressed loop key. The Attendant can either press the TALK key, creating a THREE-WAY CALLING [T-2] connection, or press the RELEASE key, allowing Party B and Station C to be connected. If Station C does not call the MEET-ME PAGE answer code within 30 seconds, Party B rings back to the Attendant Console. Normal operating indications are applied.

6. Stations and Attendant Consoles allowed Priority Page, SFI = 57, will barge into the Paging route, except when the Attendant Console is paging. An access code to Priority Page must be assigned in ASPA, SRV = SSC (Service Code), SID 40, and assigned for a Connection Index of Normal (N).

7. To answer the MEET-ME PAGE while connected to another party, CALL HOLD [C-6] must be used. THREE-WAY CALLING [T-2] is not allowed.

Programming

STEP 1:   **ASYD** - System Data 1, Index 73, Bits 0 & 1.

   For MEET-ME PAGE, assign non-Delay service, Bit 0 = 1, Bit 1 = 0.

   For MEET-ME PAGE, assign Delay service, Bit 0 = 0, Bit 1 = 1.

   For MEET-ME PAGE, assign Delay service with CALL TRANSFER, Bit 0 = 1, Bit 1 = 1. See PAGING TRANSFER [P-10].

   System Data 1, Index 73, Bit 3. Are PAGE cancel codes provided for each route? 0/1: Per route/ Common to all routes.

   System Data 1, Index 73, Bit 7. Attendant Console operation, 0/1: Connect two parties directly when paged party dials PAGE answer code/Paged party terminates on an idle Attendant Console loop key, then the Attendant presses both loop keys to connect the two parties.

   SYS1, Index 74, Bits 0-3. Assign the cancel timer for unanswered page. Assign data 00H for 30 seconds.

   (0-F + 1) x 30 = Cancel Timer.

STEP 2:   **ARTD** - Assign the Paging route as shown below:

   RT: 1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:8	7-L/T	:1
8-RLP	:2	15-LSG	:0/1						

STEP 3:   **ATRK** - Assign the LENs, Paging Trunk Route Number, Trunk Number, and Tenant Number.

Programming (cont'd)

STEP 4:   **MBTK** - Assign the Make Idle status to the Paging trunks.

STEP 5:   **ANPD** - Reserve levels for trunk access and for PAGE answer and cancel codes. Assign the trunk access level Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated. If the PAGE answer and cancel codes reside in a level reserved for features, then assign according to a predetermined numbering plan. If the PAGE answer and cancel codes reside in a separate level, then assign a Connection Index (CI) of Normal (N) only. The Number of Necessary Digits is usually two, and the Busy Lamp Field is off.

STEP 6:   **ASPA** - For the Page trunk access code, assign the access code in the level as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) for Outgoing trunks, Assign for Connection Indexes (CI) of Normal (N) and Hooking (H). For the Page Route answer and cancel codes, assign the access code in the level assigned in ANPD. Type of Service, SRV = PAGA (Paging Answer) and SRV = PAGC (Multiple Announcement Service). Assign the proper route number that is associated with this code. Assign a Connection Index of Normal (N).

STEP 7:   **ARSC** - Allow access to the paging route to the RSC of the Attendant Console in Route Restriction Indexes (RRI) 2 & 3. To the RSC of the responding station, allow access to the incoming trunk in RRI 0 & 1.

STEP 8:   **ASFC** - Assign a Service Feature Class (SFC) that allows SFI 38, MEET-ME PAGE to the stations that will answer a MEET-ME PAGE.

STEP 9:   **ARRC** - Allow trunk-to-trunk connection between the Paging route and the incoming/outgoing route. Assign for ARI-A-RES, via the Attendant Console. The incoming/outgoing route would be the party being held at a station or Attendant Console wishing to speak to the party for whom the MEET-ME PAGE is intended.

M-15   Maintenance Printout

General Description

The NEAX2400 IMX can provide a hard copy of maintenance and system management data via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18] printer.

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

The following hard copy reports can be obtained:

1. History printout for command execution: When the command is executed, the following information will be printed
   - Office Name
   - Command Name
   - Date and time of execution of the specific command.
   - Parameter date and other information typed in by MAT [M-18] operator.
   - Date and time of command completion.

2. System Message printout: The system message will be printed automatically, and/or when the command is executed.

3. Traffic and Peg count printout: The traffic and peg count will be printed automatically by request from the MAT [M-18].

4. Office Data printout: The office data lists can be printed to include telephone number list, trunk data list, and access code data list.

Interactions

1. All other printouts are automatically printed in conjunction with the operation of the MAT or in requesting Traffic Data. See MAINTENANCE ADMINISTRATION TERMINAL [M-18].

2. The MAINTENANCE PRINTOUT as described will be assigned to Port 1.

3. If Port 1 is used for MAINTENANCE PRINTOUT, another port must be used for REMOTE MAINTENANCE [R-7].

4. For Automatic MAINTENANCE PRINTOUT via the MAT, assign the MAT port in System Data 1, Index 116 as data 42H. Assign the destination of System Messages in Index 39 as Port 0. Index 86, Bits 4 & 7 assigned as data "1".

5. Indexes 116 - 123, which were used for IOC port attribute data assignment, are assigned in the AIOC command.

Programming

STEP 1:   **ASYD** - System Data 1, Index 38, Bits 0-7. Each Bit represents a corresponding I/O port. Designate by programming which port will accommodate a printer. Port 0, Bit 0 is always an MAT.

System Data 1, Index 39, Bits 1-7. Each Bit represents a corresponding I/O port. Designate the destination of System Messages by programming which port will receive the Maintenance Printout. Port 0, Bit 0 is always a MAT.

Programming (cont'd)

System Data 1, Index 86, Bit 4. Fault Information automatic printout of System Messages? 0/1: No/ Yes.

System Data 1, Index 86, Bit 7. Are simplified or detailed System Messages required? 0/1: Simplified/ Detailed.

System Data 1, Index 117-123. Each index represents an I/O port. Program the following Bits:

0, 1, & 2.

001: Printer*

010: MAT

Bit 7: Password Function 0/1:-/In Service.

STEP 2: **AIOC** - Assign System Message Output as "IN" for all ports requiring Automatic System Message Printout.

Note: *For a System Message Printer, assign these Bits only.*

M-18   Maintenance Administration Terminal (MAT)

General Description

This feature provides a man-machine interface, using a personal computer, to accomplish such items as on-line system programming of station and trunk data, traffic information, fault condition analysis, and testing of operating programs.

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

1. When used in conjunction with the NEAX2400 IMX Office Data Specification, it enables the user to perform individual maintenance and/or administration functions as required.

2. The following functions may be performed from the MAT:
   - a.) office data assignment and change
   - b.) loading of office data stored on a floppy disk
   - c.) station, trunk, and operations (peg count) data display
   - d.) fault data display
   - e.) REMOTE MAINTENANCE [R-7].

3. The above maintenance functions can be performed on site or at a remote location (see REMOTE MAINTENANCE [R-7]).

4. A maintenance printout of all transactions can be provided, along with fault data and peg count data.

5. The maximum distance between the MAT and the switching equipment is 50 feet (15m) without a modem.

6. The following traffic data can be either printed out on the printer or output to the MAT hard disk. The traffic data field in the hard disk will be copied to the floppy disk.
   - a.) calls per station
   - b.) calls per route
   - c.) station peg count
   - d.) Attendant Console peg count
   - e.) route peg count

7. The history of MAT usage can be output to the printer or MAT printer by entering the USER NAME and ID CODE when using, depending on the System Data. This feature is called Audit Trail to Track the Mat Usage.

8. When Audit Trail to Track the MAT Usage is used:
   - a.) A maximum of 15 USER NAMEs can be assigned.
   - b.) The maximum digits of the USER NAME is 16, and those of the ID CODE is 8.
   - c.) The USER NAME and ID CODE can be assigned using figures (0-9) and letters (A-Z).
   - d.) A maximum of 128 System Messages can be stored. However, if other failure messages are output, the stored number for Audit Trail to Track the Mat Usage service will decrease.
   - e.) If more than 128 System Messages are output, the exceeded messages will not be stored.
   - f.) When a System Message is printed out, that information remains as OLD information.

9. If wrong ID CODEs are entered several times assigned by System Data, the I/O port used for the corresponding MAT will be locked out. This feature is called Lock Out Maintenance Port.

10. When Lock Out Maintenance Port service is used:
    - a.) A maximum of 15 USER NAMEs can be assigned.

Service Conditions (cont'd)

      b.) The maximum digits of the USER NAME is 16, and those of the ID CODE is 8.

      c.) Lock Out information is output with the information of the USER NAME, date, time, and IOC port used as System Message.

      d.) A maximum of 128 System Messages can be stored. However, if other failure messages are output, the stored number for Audit Trail to Track the Mat Usage service will decrease.

      e.) If more than 128 System Messages are output, the exceeded messages will not be stored.

      f.) When a System Message is printed out, that information remains as OLD information.

11. Multiple MAT connection is available via RS-232C or TCP/IP interface. The allowed MAT number is as follows:

      •   RS-232C: Maximum of 2

      •   TCP/IP: Maximum of 4 **(Note)**

Note: *The number of ports provided by TCP/IP is a maximum of 5. For this reason, if the ports (2 or more ports) are occupied by other applications (SMDR, MCI, OAI, MIS, etc.), the allowed MAT number is restricted as shown below:*

Total Applications Used	MATs Allowed per System
0	4
1	4
2	3
3	2
4	1

12. The number of ports for TCP/IP is 21. Therefore, restrictions are lifted to use multiple MATs (regardless of the number of other applications used). A maximum of 4 MATs may be connected per system.

Interactions

1. APSW must be assigned before allowing the password function in the ASYD command. If password is allowed in ASYD, before APSW is assigned, error message 0550, the PASSWORD NOT YET ASSIGNED will be displayed.

2. Deletion of a password must begin with ASYD, System Data 1, Index 116, and then the APSW command.

Programming

STEP 1:   **AIOC** - Assign the attribute data of the IOC port.

STEP 2:   Assign Terminal Configuration data (Serial Settings / TCPIP Settings) in the PBX Administration menu.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   Assign Terminal Configuration data (Serial Settings / TCPIP Settings) in the PBX Administration menu. Assign the Fusion Point Code of the destination switched in.

M-19 Message Reminder

General Description

This feature allows a single-line telephone to leave a MESSAGE REMINDER at the called D^{term} set.

Operating Procedure

To send a message from a single-line telephone:
1.   Dial the desired internal D^{term} station; receive ringback tone or busy tone.
2.   Press switch hook; receive special dial tone.
3.   Dial the MESSAGE REMINDER access code; receive service set tone.
4.   At the called D^{term}, the MSG LED will light to indicate a message has been set.

To review messages:
1.   Press the MSG key; the LCD displays:

	Calling Station	hr.	min.	AM/PM
MESSAGE	**XXXXXXXXXXX**	**XX:**	**XX**	**AM**
	(Time Display)			

Note: *When the station number exceeds 12 digits, MSG is not displayed.*

To return the message:
1.   Lift handset or press SPEAKER key while the message is displayed.
2.   Press the MSG key; calling station is automatically redialed.

Service Conditions

1.   This service feature is available only when the called party is a D^{term} set, which has the MSG key. If a message is directed to a D^{term} that does not have the MSG key or a single-line telephone, the calling station will hear reorder tone.
2.   A message can only be sent if the called station is in the idle or busy condition.
3.   A message cannot be sent to a D^{term} engaged in calling or recalling from CALL TRANSFER - ALL CALLS [C-11], or from CONSULTATION HOLD - ALL CALLS [C-17].
4.   A maximum of four messages may be received at any one D^{term}. If a fifth message is attempted, the reorder tone will be transmitted to the calling party.
5.   A message can be displayed at the called D^{term} only when the station is on-hook.
6.   A message may be cleared by displaying the message and pressing the "*" or "#" key on the called D^{term}'s keypad. This is selected via System Data.
7.   A message is cleared when it is obtained via the MSG key.
8.   A second message sent by the same telephone set is not restricted and is registered as a second unique message. The same applies to the third and fourth messages.
9.   Messages are set to the call forwarded station when the called station sets CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY/DON'T ANSWER [C-2, 3].
10.   In case the called D^{term} station is in a hunting group, the message will be set to the first selected station in the hunting group when all stations are busy. The message will be set to the ringing station in the hunting group when any station is idle.
11.   When the call is in the UCD queue, the MESSAGE REMINDER service is not provided.

Service Conditions (cont'd)

12. A maximum of 32 digits can be saved at the called party.
13. To memorize the telephone number of the calling station, assign SYS1, index 641, b0=1 by the ASYDN command.

Programming

STEP 1: **ASYD** - System Data 1, Index 17, Bit 0.

      Single-line stations able to use VOICE CALL [V-2D] and MESSAGE REMINDER features to a D^{term} while hearing ringback tone? 0/1: Restricted/Allowed.

      System Data 1, Index 80, bit 1. Key for message cancel? 0/1: "#" key / "*" key.

STEP 2: **ASFC** - Assign the single-line stations a feature class that allows SFI: 53, Message Reminder.

STEP 3: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with predetermined Numbering Plan.

STEP 4: **ASPA** - Assign an access code to Message Reminder; assign SRV = SSCA (Service Code Appendix), SIDA = 42; assign Hooking (H), and Busy (B).

FCCS Programming

      This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with predetermined Numbering Plan.

STEP 2: **ASPAL** - Assign an access code to Message Reminder; assign SRV = SSCA (Service Code Appendix), SIDA = 42; assign Hooking (H), and Busy (B).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-19D Message Reminder - D^{term}

General Description

This feature allows a D^{term} to leave a MESSAGE REMINDER at another D^{term}.

Operating Procedure

To send a message from a D^{term}:
1. Dial the desired D^{term} station, receive ringback tone or busy tone.
2. Press the MSG key; the LCD displays:

```
                                        Called Station
┌──────────────────────────────────────────────┐
│  MESSAGE SET                    XXXX           │
│              (Time Display)                    │
│                                                │
│                                                │
└──────────────────────────────────────────────┘
```

   Service set tone is heard.
3. At the called D^{term}, the MSG LED will light to indicate a message has been set.

To review the messages:
1. Press the MSG key; the LCD displays:

```
       Calling Station          hr.    min.  AM/PM
┌──────────────────────────────────────────────┐
│  MSG XXXXXXXXXXXX        XX:  XX      AM        │
│              (Time Display)                    │
│                                                │
└──────────────────────────────────────────────┘
```

Note: *When the station number exceeds 12 digits, MSG is not displayed.*

To return the message:
1. Lift the handset or press the SPEAKER key while message is displayed.
2. Press the MSG key; the calling station is automatically redialed.

Service Conditions

1. This feature is only available between two D^{term} sets, both of which have the MSG key. If a message is directed to a D^{term} that does not have the MESSAGE REMINDER feature, the calling station's LCD displays:

```
┌──────────────────────────────────────────────┐
│  MESSAGE REST                                  │
│              (Time Display)                    │
│                                                │
└──────────────────────────────────────────────┘
```

2. Messages can only be sent if the called station is in the idle or busy condition.
3. Messages cannot be sent while engaged in calling and recalling from CALL TRANSFER - ALL CALLS [C-11] and from CONSULTATION HOLD - ALL CALLS [C-17].
4. A maximum of four messages may be received at any one D^{term}. If a fifth message is attempted, the LCD will display:

```
┌──────────────────────────────────────────────┐
│  MESSAGE BUSY                                  │
│              (Time Display)                    │
│                                                │
└──────────────────────────────────────────────┘
```

Service Conditions (cont'd)

5. Messages can be displayed only when the station is on-hook. A message may be cleared by displaying the message and pressing the "*" or "#" key on the called D^term's key pad.

6. A message is cleared when it is obtained via the MSG key.

7. Messages cannot be cleared by the message sender.

8. A second message sent by the same calling D^term is registered as a second unique message. The same applies to the third and fourth messages.

9. If a message is returned to an unattended station, the telephone number may be stored as a LAST NUMBER DIALED [L-6], SAVE AND REPEAT [S-24], or a new MESSAGE REMINDER may be sent.

10. Messages are sent to the forwarded-to station, which is set by CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY/DON'T ANSWER [C-2, 3].

11. Messages cannot be sent to a UCD [U-1] station when all stations in the UCD group are busy.

12. Messages are sent to a dialed station when all stations in a Station Hunting (Circular) group are busy.

13. If CALL WAITING - ORIGINATING [C-31] automatic operation is in service, it will supersede this service. If a third station calls and receives busy tone, MESSAGE REMINDER - D^term cannot be set.

14. A maximum of 32 digits can be saved at the called party.

15. To utilize the telephone number of the calling station, assign SYS1, Index 641, b0=1 by the ASYDN command.

16. For the FCCS network, when using this feature with a D^term Series E, the following circuit cards are recommended:

Function Name	Circuit Card
16ELC	PA-16ELCJ
DAI	PA-DAIG, PA-DAIH, PA-DAIJ
2DAI	PA-2DAIK
DRU	

Note: *If the D^term Series III is accommodated on one of these circuit cards, a telephone number is indicated by the first eight digits only.*

17. The setting station in the FCCS network must provide telephone numbers for this feature.

18. Message (telephone number) is cleared by the circuit card initialization or the system initialization.

19. Memory clear is necessary before reprogramming of station data and before using Follow Phone service.

Interactions

If CALL WAITING-ORIGINATING [C-31] automatic operation is in service, it will supersede MESSAGE REMINDER-D^term. If a third station calls and receives busy tone, MESSAGE REMINDER-D^term can be set.

Programming

For Single-Line Sets:

STEP 1: **ASYD** - System Data 1, Index 17, Bit 0.

Single-line stations able to use VOICE CALL [V-2D] and MESSAGE REMINDER features to a D^term while hearing ringback tone?

0/1: Restricted/Allowed.

STEP 2: **ASFC** - Assign the single-line stations a feature class that allows SFI: 53, Message Reminder.

Programming (cont'd)

STEP 3:   **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with predetermined Numbering Plan.

STEP 4:   **ASPA** - Assign an access code to Message Reminder; assign SRV = SSCA (Service Code Appendix), SIDA = 42; assign Hooking (H), and Busy (B).

For D^{term}s:

STEP 5:   **ASYD** - System Data 1, Index 80, Bit 1. Message Reminder Cancel Key (for D^{term}) 0/1 = * **(Note)**

STEP 6:   **AKYD** - Assign the station according to the following parameters:

TN:	1
STN:	Station Number
TP:	Type of D^{term} 0/1:
RING:	

       0:   No Ringing

       1:   Ringing All Lines

       2:   Ringing on Prime Line Only

       3:   Flexible Ring Assignment, enables RG parameter.

KYN:	Key Number (1-40)
KYI:	Service Index

       0:   Key Not Used

⟶ 1:   Feature Key

       2:   Multi-line Key

KD:	Not assigned for Feature Key
FKY:	Feature Key Number

⟶ FKY = 6, MESSAGE REMINDER-D^{term}

STEP 7:   **ASYD** - System Data 1, Index 80, Bit 1.

Assign a cancel key for MESSAGE REMINDER. 0/1: #/ **(Note)**

Note: *D^{term}s with a MESSAGE REMINDER key do not require the Service Feature Class assignment. Only single-line sets require the ASFC assignment.*

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ANPDL** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with predetermined Numbering Plan.

STEP 2:   **ASPAL** - Assign an access code to Message Reminder; assign SRV = SSCA (Service Code Appendix), SIDA = 42; assign Hooking (H), and Busy (B).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-20D   Multiple Line Operation - D^{term}

General Description

This feature allows for the appearance of multiple lines on the programmable line/feature keys of the D^{term} set.

Operating Procedure

No manual operation is required.

Service Conditions

1. Three kinds of lines can appear on D^{term}s:

    MY Line (ML):   This line is associated with the extension number assigned to the port on the interface circuit.

    Prime Line (PL):   This line is given priority for outgoing and incoming calls. The prime line is automatically seized when going off-hook.

    Sub Line (SL):   This line designates any other line appearing on a D^{term}. (The MY Line will serve as a prime line, unless differentiated in System Data programming).

2. If a feature is activated that can trigger an AUTOMATIC RECALL [A-8], only the station being recalled will ring, and the associated line lamp will rapid wink. Other D^{term} stations will display that line as busy.

3. All sublines of a D^{term} must be located in the same Module Group as the D^{term} MY Line.

4. A virtual line (Software Line Appearance [S-33]), single line telephone or D^{term} can be assigned to the subline.

Interactions

1. Sublines can belong to another station, or be a virtual/software line appearance. Sublines will operate under the restrictions of the MY Line. Sublines must be located within the same Module Group as the MY Line when assigning ASYD, System Data 1, Index 321, bit 0 as "0."

2. Multi Line service in the Inter-Module Group under the control of one LP is available when assigning ASYD, System DATA 321, bit 0 as "1."

Programming

STEP 1:   **ASDT** - A LEN equipped with a D^{term} Circuit Board must be assigned a station number and a Telephone Equipment Class (TEC) of 12.

STEP 2:   **AKYD** - Assign a MY Line, a Prime Line, and various sublines to the D^{term}s.

      ⟶ TN: 1

      ⟶ STN: Station Number

      TP: Type of D^{term} 0/1:

      ⟶ RING: Assign ringing to the entire phone

              0:   No Ringing

              1:   Ringing All Lines

              2:   Ringing on Prime Line Only

              3:   Flexible Ring Assignment enables RG parameter

      PL TN STN: Prime Line Tenant and Station Number

      KYN: Key Number (1-40)

      KYI: Service Index

Programming (cont'd)

        0:   Key Not Used

        1:   Feature Key

→   2:   Multi-line Key

KD: Not assigned for Feature Key

TN STN: Tenant Number and Station Number of Multi-line

RG: Ringing Assignment per Multi-line Appearance

        0:   No Ringing

        1:   Ringing in Day Mode Only

        2:   Ringing in Night Mode Only

        3:   Ringing in Day and Night Mode

M-23 Message Waiting Lamp Setting - Attendant

General Description

This feature permits an ATTENDANT CONSOLE [A-3] to set or cancel a Message Waiting indication on a station provided with this feature.

Operating Procedure

To set a Message Waiting indication:
1. Press an idle loop key.
2. Dial the Message Waiting set code (up to 3 digits); receive special dial tone.
3. Dial the telephone number; receive service set tone.
4. Message Waiting indication is set.
5. Press the RELEASE key to return to an idle condition.

To cancel a Message Waiting indication:
1. Press an idle loop key.
2. Dial the Message Waiting cancel code (up to 3 digits); receive special dial tone.
3. Dial the telephone number; receive service set tone.
4. Message Waiting indication is cancelled.
5. Press the RELEASE key to return to an idle condition.

Service Conditions

1. The Message Waiting lamp on a single line telephone or a D^{term} will be lit when this feature is activated.
2. When Message Waiting is set to a D^{term} station, the LCD display indicates:

```
┌─────────────────────────────────────┐
│                              MW      │
│        (Time Display)                │
│                                      │
└─────────────────────────────────────┘
```

3. Message Waiting cannot be set when the ATTENDANT CONSOLE [A-3] is in a consultation condition with a station or trunk.
4. An Attendant attempting to set Message Waiting to a station where Message Waiting has previously been set, will receive busy tone.
5. In a MULTIPLE CONSOLE OPERATION [M-4], if Message Waiting is set by one ATTENDANT CONSOLE [A-3], it can be cancelled by another.
6. Message Waiting indications are cleared when the system is initialized.

Service Conditions (cont'd)

7. When Call Indicator Lamp **(Note)** is controlled by MESSAGE WAITING LAMP SETTING - STATION [M-30], the tone and display indication of the Attendant Console and Call Indicator Lamp of the station are as follows, depending on the status of the station.

Status of Preassigned Station		Attendant Console			Call Indicator Lamp Status
		Operation	LCD	Type of Tone	
Unused telephone number Dead Level Restricted station		Cancelling	Telephone number	Reorder Tone	
		Setting			
Call Indicator Lamp OFF	Idle Busy Lock Out Make Busy	Cancelling	Telephone number	Service Set Tone	OFF
		Setting			ON
Call Indicator Lamp OFF set from Attendant	Call Indicator Lamp ON set from station	Cancelling	Telephone number	Service Set Tone	ON
		Setting			
Call Indicator Lamp ON set from Attendant	Call Indicator Lamp OFF set from station	Cancelling	Telephone number	Service Set Tone	OFF
		Setting		Busy Tone	ON
	Call Indicator Lamp ON set from station	Cancelling	Telephone number	Service Set Tone	ON
		Setting		Busy Tone	

Interactions

1. For MESSAGE WAITING LAMP SETTING-ATTENDANT, an 8DLC/16ELC card is required.
2. An external power source is required to light a lamp for a single-line telephone. The D^{term} uses an 80 VDC power source. NEC stocks Lorain Model HSA3H, stock number 241440.
3. Only the Attendant can set and extinguish the Message Waiting Lamp.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code to activate MESSAGE WAITING LAMP SETTING-ATTENDANT SRV = SSCA (Service Code Appendix); SIDA = 54 and to extinguish the MESSAGE WAITING LAMP SETTING-ATTENDANT SRV = SSCA (Service Code Appendix); SIDA = 55. Assign the Connection Status Index (CI) for Normal (N) service.

STEP 3: **ASFC** - Assign a Service Feature Class that allows SFI = 74 to the stations that will receive MESSAGE WAITING LAMP SETTING-ATTENDANT.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ANPDL** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to activate MESSAGE WAITING LAMP SETTING-ATTENDANT SRV = SSCA (Service Code Appendix); SIDA = 54 and to extinguish the MESSAGE WAITING LAMP SETTING-ATTENDANT SRV = SSCA (Service Code Appendix); SIDA = 55. Assign the Connection Status Index (CI) for Normal (N) service.

M-24 Multiple Call Forwarding - Busy Line

General Description

This feature permits a call to a busy station to be forwarded, a maximum of five times, to preprogrammed idle stations.
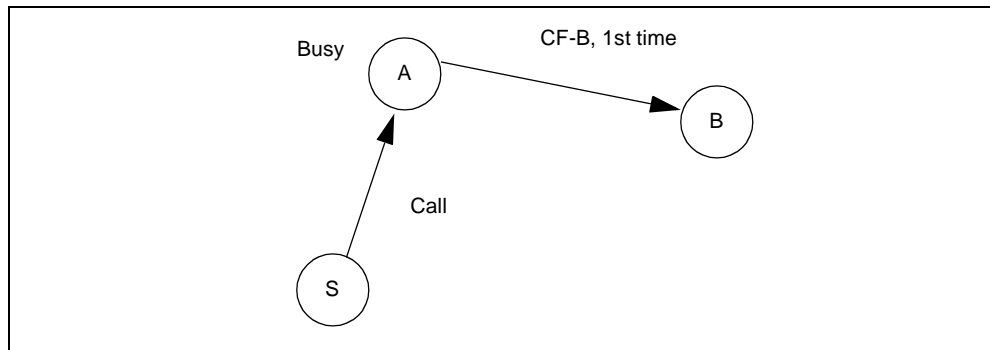
Existing CALL FORWARDING - BUSY LINE [C-2] service

MULTIPLE CALL FORWARDING - BUSY LINE [M-24] service

Operating Procedure

To set CALL FORWARDING - BUSY LINE [C-2] from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the specific CALL FORWARDING - BUSY LINE access code; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - BUSY LINE [C-2] from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the specific CALL FORWARDING - BUSY LINE [C-2] cancel code; receive service set tone.

To set CALL FORWARDING - BUSY LINE [C-2] from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the CALL FORWARDING - BUSY LINE [C-2] access code; receive special dial tone.
3. Dial the TENANT [T-12] number (2 or 3 digits).
4. Dial the originating telephone number.

Operating Procedure (cont'd)

    5.   Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - BUSY LINE [C-2] from the ATTENDANT CONSOLE [A-3]:

    1.   Press an idle loop key.

    2.   Dial the CALL FORWARDING - BUSY LINE [C-2] cancel code; receive special dial tone.

    3.   Dial the TENANT [T-12] number (2 or 3 digits).

    4.   Dial the originating telephone number; receive service set tone.

Service Conditions

    1.   If the called station is busy and MULTIPLE CALL FORWARDING - BUSY LINE [M-24] is set at the called station, the call is forwarded to the designated station.

    2.   A call cannot be forwarded more than five times, even if the fifth station has CALL FORWARDING - BUSY LINE set.

    3.   A call cannot be forwarded to the originating station.

    4.   If the call is forwarded back to the originally called station, or a station that has already been forwarded to, call forwarding will end at that station.

    5.   CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - ALL CALLS [C-5] combined:

        a.) Any combination of CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - ALL CALLS [C-5] may be made, up to a total of five forwards.

        b.) If the fifth forwarding destination is busy, the caller receives busy tone, and the call will not forward again.

        c.) If a forward destination is the calling station, the calling station will receive busy tone.

        d.) If a forwarding destination is the originally called station, and if the originally called station forwarded the call with CALL FORWARDING - ALL CALLS [C-5], the ultimate destination is the originally called station's CALL FORWARDING - ALL CALLS [C-5] destination.
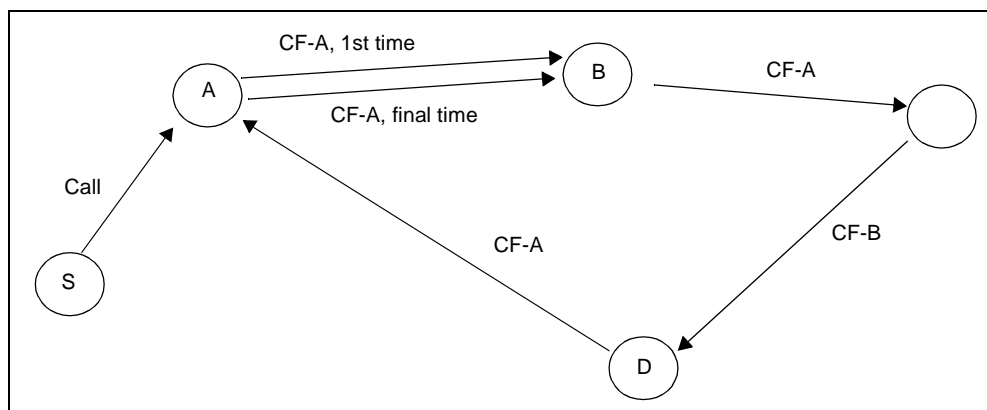
Service Conditions (cont'd)

e.) If a forwarding destination is the originally called station, and if the originally called station forwarded the call with CALL FORWARDING - BUSY LINE, the ultimate destination is the originally called station.
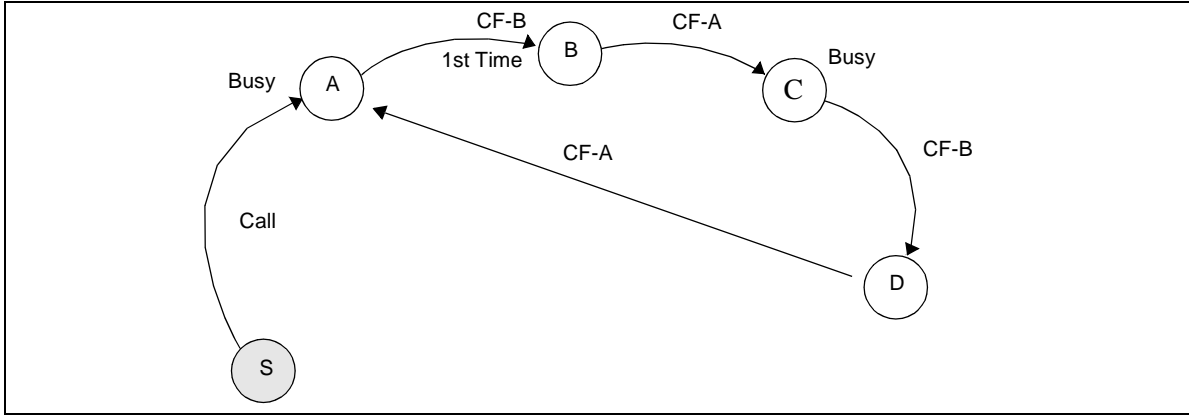
f.) If the call is forwarded to a station where it has previously been forwarded to, the call will end at that station.

6. CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - DON'T ANSWER [C-3] combined:

a.) Although CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2] and combinations of the two are limited to five forwards, when a forwarding sequence is divided by CALL FORWARDING - DON'T ANSWER [C-3], CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2] can begin again (the only limit is five consecutive forwards).
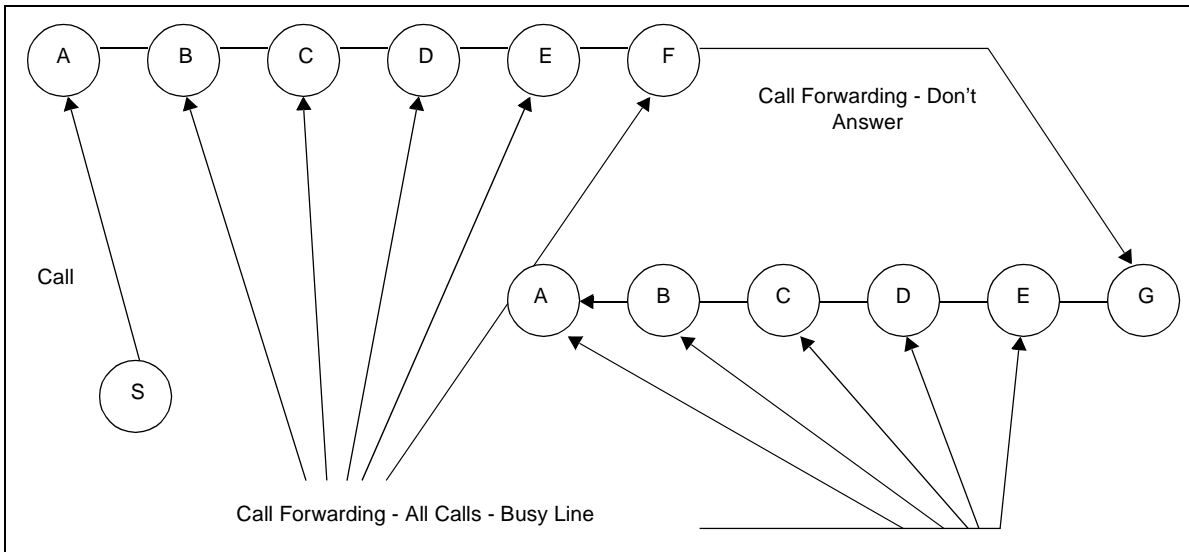
7. Forwarding to an Attendant Console:

a.) If an Attendant Console is designated as the destination of CALL FORWARDING - ALL CALLS [C-5], the call is forwarded to the Attendant Console that handles the tenant to which the calling station belongs.

Service Conditions (cont'd)

b.) The Attendant Console key that lights when a call is forwarded to the console depends on the forwarding status of the originally called station. The following table shows the key that will light (if the forwarding status of the originally called station is CALL FORWARDING - BUSY [C-2], and the call is from a station, then the BUSY key will light).

	Forwarding Status Of Originally Called Station		
	Call Forward -All Calls	**Call Forward -Busy**	**Call Forward -Don't Answer**
Call From Station	ATND	BUSY	NANS
Call From Trunk	Depends on trunk class	BUSY	NANS

c.) If the call is forwarded by CALL FORWARDING - DON'T ANSWER [C-3] at any point in a forward sequence, the NANS key on the Attendant Console will light, even if the call status of the originally called station is CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY LINE [C-2].

d.) Called Number Display is only provided if a call is forwarded to the Attendant Console by CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2], or by CALL FORWARDING - DON'T ANSWER [C-3].

8. Forwarding to a D^{term}:

a.) The calling D^{term}'s display will show the number of the called station on the left, and the number of the station being rung on the right. The display on the ringing D^{term} will show the number of the originally called station on the left, and the number of the calling station on the right.

b.) The forwarding status of the originally called station is shown on the far left of each D^{term}'s display: FDB for CALL FORWARDING - BUSY [C-2] or FDA for CALL FORWARDING - ALL CALLS [C-5].

9. UCD Groups:

a.) If the destination of CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY [C-2], or CALL FORWARDING - DON'T ANSWER [C-3] is a UCD group control station, and CALL FORWARDING - ALL CALLS [C-5] is not set at that station, the call will be forwarded according to UNIFORM CALL DISTRIBUTION [U-1] procedures.

b.) In the UCD procedure, if CALL FORWARDING - ALL CALLS [C-5] is set on a station in the group, that station is skipped.

10. Hunting:

a.) If the ultimate destination station is busy, or if some condition prevents the call from being forwarded, a busy line is selected, and a hunting check is performed.)

b.) If a call is forwarded several times by CALL FORWARDING - BUSY LINE [C-2] to stations that are members of hunting groups, a hunting check is performed on the busy line closest to the called station or on the busy line closest to the ultimate destination. In the diagram below, a hunting check is performed on Hunt Groups 1 or 4. A hunting check is never performed on groups 2 or 3.

Service Conditions (cont'd)
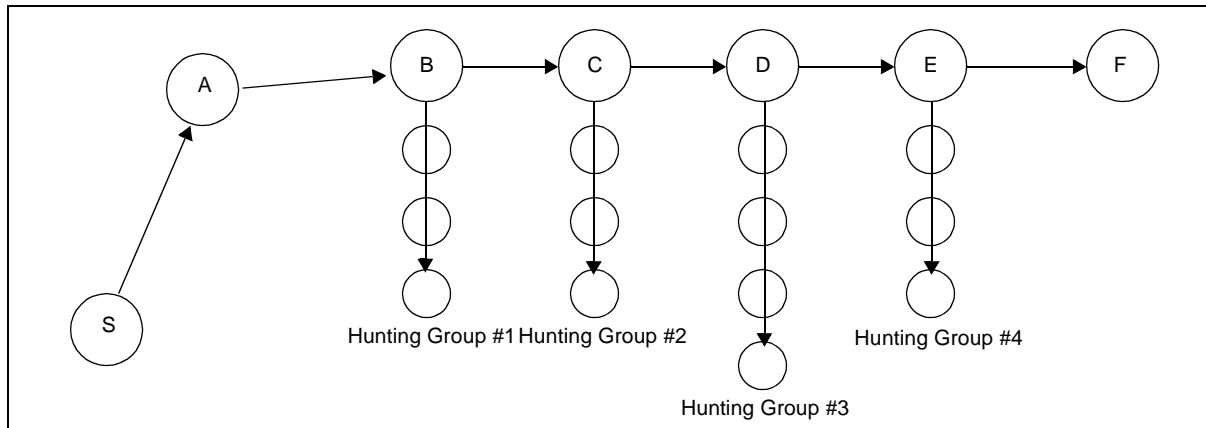
11. Busy Services such as EXECUTIVE OVERRIDE [E-1], CALL BACK [C-1], etc.:
    a.) Busy service is provided to the busy line closest to the originally called station.
12. DIT, NIGHT CONNECTION - FIXED [N-1]:
    a.) For CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2], a forward check is made up to 5 times by System Data.
    b.) In DIRECT-IN TERMINATION [D-7], if a line is busy, CALL FORWARDING - BUSY LINE [C-2] to the Attendant is not activated. Instead, the destination for the call can be specified by System Data:
    System Data 2 INDEX = 11
    Bit 7 = 0 - Call is routed to the Attendant Console.
    Bit 7 = 1 - Call is placed in queue until the called station becomes idle.
13. A telephone number must be set to the call forwarding destination.
14. A call cannot be forwarded more than five times.
15. The number of times is assigned by System Data.
16. The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number.

Interactions

1. If access codes for CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING-DON'T ANSWER [C-3] are the same, only one key needs to be assigned in AKYD or ADSL, and only one access code needs to be assigned in ASPA.
2. When CALL WAITING [C-12], ATTENDANT CAMP-ON WITH TONE INDICATION [A-1], or CALL BACK [C-1] is directed toward Station A, with CALL FORWARDING-BUSY LINE [C-2] set to Station B, Station A will receive call waiting tones when Station B is also busy.
3. A non-controlling UCD station is allowed to activate CALL FORWARDING-BUSY LINE [C-2]. When this station sets CALL FORWARDING-BUSY LINE [C-2], only directly-dialed calls to this station are call forwarded.
4. If a controlling station of a UCD group sets CALL FORWARDING-BUSY LINE [C-2], forwarding will not take place. The incoming call will follow the UCD hunt.

Interactions (cont'd)

5. If an Attendant attempts BUSY VERIFICATION [B-3] to Station A, which has CALL FORWARDING-BUSY LINE [C-2] set to Station B and Station B is busy, BUSY VERIFICATION [B-3] proceeds against Station B. If Station A has set CALL FORWARDING-BUSY LINE [C-2] to the Attendant Console, BUSY VERIFICATION [B-3] is allowed at Station A, if Station A is busy.

6. When CALL FORWARDING-BUSY LINE [C-2] is in effect, the activating station may be used to originate calls.

7. When a station is call forwarded, the destination station is recorded by STATION MESSAGE DETAIL RECORDING [S-10].

Programming

STEP 1: **ASYD** - System Data 1, Index 5, Bit 0. Are the access codes for CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING-DON'T ANSWER [C-3] the same or separate? 0/1: Same/Separate.

System Data 1, Index 5, Bits 3, 2, & 1. Maximum number of MULTIPLE CALL FORWARDING-ALL CALLS [M-44], -BUSY LINE [M-24] occurrences.)

Bit 3	Bit 2	Bit 1	Max. No. of Jumps
0	0	0	1
0	0	1	1
0	1	0	2
0	1	1	3
1	0	0	4
1	0	1	5
1	1	0	5
1	1	1	5

System Data 1, Index 69, Bit 5. Station Hunting after CALL FORWARDING-BUSY LINE [C-2]. Data "0": Hunting takes place in forwarding station's group. Data "1": Hunting takes place in destination station's group.

System Data 1, Index 69, Bit 7. MULTIPLE CALL FORWARDING-BUSY LINE, -ALL CALLS [M-44], in service? 0/1: No/Yes.

System Data 2, Index 6, Bit 1. Enable CALL FORWARDING-BUSY LINE [C-2] on a per-tenant basis.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-BUSY LINE [C-2] entry, SID = 10 and to CALL FORWARDING-BUSY LINE [C-2] cancel SID = 11. Assign a Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 9 to the stations that have CALL FORWARDING-BUSY LINE [C-2].

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-ALL CALLS [C-5D] may be assigned to a programmable line/feature key. Type:Function:CALL FORWARDING-BUSY LINE [1].

STEP 6: **ADSL** - Assign SN=1 (Originating; DT Connection) and FKY=1 (Call Forwarding - Busy Line; FDB).

This command is used for assigning the function to a soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ASYDN** - These data must be set to the NCN.

System Data 1, Index69, b7. Enable Multiple Call Forwarding-Busy Line/Don't Answer/All Calls. 0/1=Out of Service/In Service. Index5, b1-b3. Assign the number of time for forwarding.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-25   Multiple Call Forwarding - Don't Answer

General Description

This feature permits a call to an unanswered station to be forwarded, multiple times, to preprogrammed idle stations that do not have Call Forwarding set.

Operating Procedure

To set CALL FORWARDING - DON'T ANSWER [C-3] from an individual station:
1.   Lift the handset; receive dial tone.
2.   Dial the specific CALL FORWARDING - DON'T ANSWER [C-3] access code; receive special dial tone.
3.   Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - DON'T ANSWER [C-3] from an individual station:
1.   Lift the handset; receive dial tone.
2.   Dial the specific CALL FORWARDING - DON'T ANSWER [C-3] cancel code; receive service set tone.

To set CALL FORWARDING - DON'T ANSWER [C-3] from the ATTENDANT CONSOLE [A-3]:
1.   Press an idle loop key.
2.   Dial the specific CALL FORWARDING - DON'T ANSWER [C-3] access code; receive special dial tone.
3.   Dial the TENANT [T-12] number (2 or 3 digits).
4.   Dial the originating telephone number.
5.   Dial the desired target telephone number; receive service set tone.

To cancel CALL FORWARDING - DON'T ANSWER [C-3] from the ATTENDANT CONSOLE [A-3]:
1.   Press an idle loop key.
2.   Dial the specific CALL FORWARDING - DON'T ANSWER [C-3] cancel code; receive special dial tone.
3.   Dial the TENANT [T-12] number (2 or 3 digits).
4.   Dial the originating telephone number; receive service set tone.

Service Conditions

1.   If the called station does not answer and MULTIPLE CALL FORWARDING - DON'T ANSWER [M-25] is set at the called station, the call is forwarded to the designated station.
2.   There is no limit to the number of times a call can be forwarded by MULTIPLE CALL FORWARDING - DON'T ANSWER [M-25].
3.   A call cannot be forwarded to the originating station.
4.   CALL FORWARDING - DON'T ANSWER [C-3], CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - ALL CALLS [C-5] combined:
      a.) After a CALL FORWARDING - DON'T ANSWER [C-3] forward has been made, up to five CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY LINE [C-2] forwards may be made.
      b.) If the fifth or last CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY LINE [C-2] destination after a CALL FORWARDING - DON'T ANSWER [C-3] is busy, the originally called station will continue ringing.
      c.) If a station has CALL FORWARDING - BUSY LINE [C-2] or CALL FORWARDING - ALL CALLS [C-5] to the originating station set, the call will not be forwarded to the originating station. The originally called station is rung.

Service Conditions (cont'd)

    d.) If the forwarding sequence, after a CALL FORWARDING - DON'T ANSWER [C-3] goes through several stations with CALL FORWARDING - ALL CALLS [C-5] set and ends up at the original CALL FORWARDING - DON'T ANSWER [C-3] station, CALL FORWARDING - DON'T ANSWER [C-3] is not activated.
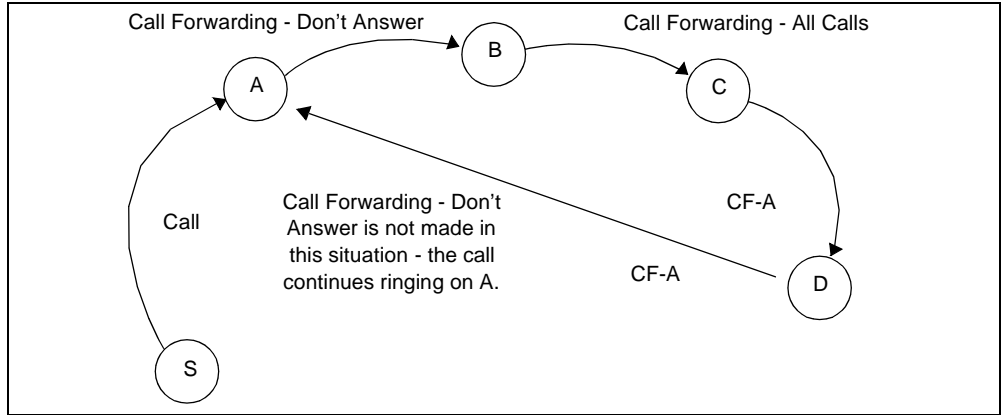
    e.) If the forwarding sequence, after a CALL FORWARDING - DON'T ANSWER [C-3] goes through several busy stations with CALL FORWARDING - BUSY LINE [C-2] set and ends up at the original CALL FORWARDING - DON'T ANSWER [C-3] station, CALL FORWARDING - DON'T ANSWER [C-3] is not activated.
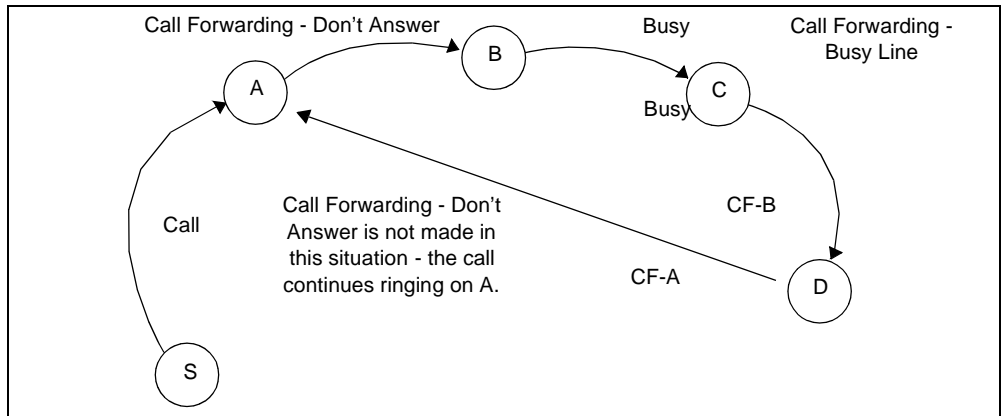
5.   If a call is transferred blind to a station that is CALL FORWARDED - DON'T ANSWER [C-3] to another destination (internal or external), the call will not forward but will recall back to the transferee station. This recall parameter is controlled by System Data.

6.   Forwarding to an Attendant Console:

    a.) If an Attendant Console is the destination of MULTIPLE CALL FORWARDING - DON'T ANSWER [M-25], the call is forwarded to the Attendant Console that handles the tenant to which the CALL FORWARDING - DON'T ANSWER [C-3] station belongs.

Service Conditions (cont'd)

b.) The Attendant Console key that lights when a call is forwarded to the console depends on the forwarding status of the originally called station (except in case c). The following table shows the key that will light (e.g., if the forwarding status of the originally called station is CALL FORWARDING - BUSY LINE [C-2], and the call is from a station, then the BUSY key will light).

Forwarding Status Of Originally Called Station			
	Call Forward -All Calls	**Call Forward -Busy**	**Call Forward -Don't Answer**
Call From Station	ATND	BUSY	NANS
Call From Trunk	Depends on trunk class	BUSY	NANS

c.) If the call is forwarded by CALL FORWARDING - DON'T ANSWER [C-3] at any point in a forward sequence, the NANS key on the Attendant Console will light, even if the call status of the originally called station is CALL FORWARDING - ALL CALLS or CALL FORWARDING - BUSY LINE.

7. Forwarding to a D^{term}:
   a.) The calling D^{term}'s display will show the number of the called station on the left, and the number of the station being rung on the right. The display on the ringing D^{term} will show the number of the originally called station on the left, and the number of the calling station on the right.
   b.) The forwarding status of the originally called station is shown on the far left of each D^{term}'s display: FDB for CALL FORWARDING - BUSY LINE or FDA for CALL FORWARDING - ALL CALLS.

8. UCD Groups:
   a.) If the destination of a CALL FORWARDING - DON'T ANSWER [C-3] is a UCD group control station, the call will be forwarded into the UCD group.
   b.) If the destination of a CALL FORWARDING - BUSY LINE [C-2] or a CALL FORWARDING - ALL CALLS [C-5] forward is a UCD group control station, the call will be forwarded into the UCD group.

9. Hunting:
   a.) If the final destination station of a MULTIPLE CALL FORWARDING-DON'T ANSWER is a controlling station in a STATION HUNTING-TERMINAL [S-9] or a member station of a STATION HUNTING-CIRCULAR [S-7], then hunting will take place if that destination station is busy.

10. An Applications Floppy Disk is needed to permit the CALL FORWARDING-DON'T ANSWER [C-3] call to be transferred up to five times by CALL FORWARDING-ALL CALLS [C-5] and CALL FORWARDING-BUSY LINE [C-2].

11. For the FCCS network, assign ASYDN SYS1, index 69, b7=1 (MULTIPLE CALL FORWARDING-DON'T ANSWER is in service).

12. The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number.

Interactions

1. If access codes for CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING-DON'T ANSWER [C-3] are the same, only one key needs to be assigned in AKYD or ADSL, and only one access code needs to be assigned in ASPA.

Interactions (cont'd)

2. Any UCD station is allowed to activate CALL FORWARDING-DON'T ANSWER [C-3]. When this station sets CALL FORWARDING-DON'T ANSWER [C-3], calls directed to this station through UCD hunting or directly-dialed will ring and then follow the destination of the CALL FORWARDING-DON'T ANSWER [C-3].

3. CALL FORWARDING-DON'T ANSWER [C-3] to an Attendant Console will not operate when the system is in Night mode. If ATTENDANT NIGHT TRANSFER [A-19] is provided, the call is forwarded to the night transfer station.

4. If the CALL FORWARDING-DON'T ANSWER [C-3] target station is a D^{term} with DO NOT DISTURB [D-21D] activated, call forwarding is not activated. The forwarding station will ring beyond the timer set in ASYD, System Data 1, Index 139.

5. When the CALL FORWARDING-DON'T ANSWER [C-3] feature is set from Station A to Station B, if Station A is idle and Station B is busy, Station A will ring beyond the timer set in ASYD, System Data 1, Index 139.

6. When a call is call forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

Programming

STEP 1:   **ASYD** - System Data 1, Index 5, Bit 0. Access codes for CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING-DON'T ANSWER [C-3] are same or separate? 0/1: Same/Separate.

System Data 1, Index 69, Bit 2. Is a short tone set to alert person receiving the call that this is a CALL FORWARDING-DON'T ANSWER [C-3] call? 0/1: No/Yes.

System Data 1, Index 69, Bit 7. MULTIPLE CALL FORWARDING-BUSY [M-24], -ALL CALLS [M-44], in service? 0/1: No/Yes.

System Data 1, Index 139. Assign the No-Answer timer for station-to-station, DID and TIE Line calls. For 30 seconds, assign 00H (RAM data is 3FH).

System Data 1, Index 141. Assign the No Answer timer for incoming calls via the Attendant Console. It will then be forwarded to the next station according to the System Data 1, Index 145 timer. For 10 seconds, assign 00H. (RAM data is 35H.)

System Data 2, Index 6, Bit 2. Enable CALL FORWARDING-DON'T ANSWER [C-3] on a per-tenant basis.

System Data 2, Index 6, Bit 7. Enable CALL FORWARDING-DON'T ANSWER [C-3] via Attendant Console.

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to CALL FORWARDING-DON'T ANSWER [C-3] entry, SID = 12 and to CALL FORWARDING-DON'T ANSWER [C-3] cancel SID = 13. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4:   **ASFC** - Assign the stations to activate CALL FORWARDING-DON'T ANSWER [C-3] a Service Feature Class that allows SFI = 8.

STEP 5:   **AKYD** - For D^{term} sets, CALL FORWARDING-ALL CALLS [C-5] may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARD-DON'T ANSWER [22].

STEP 6:   **ADSL** - Assign SN=1 (Originating; DT Connection) and FKY=22 (Call Forwarding - Don't Answer; FDN).

This command is used for assigning the function to a soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDN** - These data must be set to the NCN.

System Data 1 Index69, b7. Enable Multiple Call Forwarding-Busy Line/Don't Answer/All Calls. 0/ 1=Out of Service/In Service

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-26 Message Center Interface

General Description

This feature provides an interface to an external CPU for Message Center information when a specific UCD [U-1] group or ATTENDANT CONSOLE [A-3] is called. This interface allows external control of Call Indicator Lamp **(Note)** indications on equipped NEAX2400 IMX stations. This feature also provides a socket interface (LAN interface) for connection to an external LAN.

Note: *Call Indicator Lamp on D^{term} Series E is used as the Message Waiting Lamp.*

This feature also provides a socket interface (LAN interface) for connection to an external LAN.

Operating Procedure

The MESSAGE CENTER INTERFACE (MCI) can provide one of two modes of operation. These modes are described as Feature 1 and Feature 2. The functions of each feature are as follows:

Feature 1:

1. Incoming call information is sent to the MCI when an Attendant answers.
2. Control of Call Indicator Lamp based on data from the external CPU.

Feature 2:

1. Incoming call information is sent to the MCI when a UCD station is called.
2. Dual Call Forwarding service is possible.
3. Control of Call Indicator Lamp based on data from the external CPU.

Note: *Feature 2 is not available when a hot line call terminates to a UCD station.*

Feature 1

1. When the Attendant answers a call, the NEAX2400 IMX transmits a call handling record to the MCI. The external CPU, based on the received data, will display a profile of the station/trunk being handled by the Attendant on the CRT.
2. Call Indicator Lamp control is based on data from the external CPU. Through the external CPU terminal, when information is registered, the Host/CPU system forwards Call Indicator Lamp control data according to the Call Indicator Lamp On/Off control information sent.
3. The NEAX2400 IMX, upon receiving this control data from the MCI, will extinguish or illuminate the Call Indicator Lamp, depending on the subscriber displayed on the Attendant's monitor/display.
4. The called station will be able to receive a message from the Attendant by dialing "0", or a computer terminal by entering an identification number.
5. The external CPU, upon receiving retrieved message information, will transmit a data record requesting the NEAX2400 IMX to extinguish the Call Indicator Lamp of the corresponding station.

Feature 2

1. This provides an interface to a Voice Mail System, or a Message Center Computer that is capable of sending Call Indicator Lamp control data to the NEAX2400 IMX.
2. To perform the data transfer to the external CPU, a station/trunk is connected to a designated UCD [U-1] group. The stations of the UCD [U-1] group are connected to the Voice Mail System/Message Center System in order to collect call connection status of Call Indicator Lamp control information. The block diagram of this concept follows on the next page.
3. The NEAX2400 IMX, upon receiving this control data from the MCI, extinguishes or illuminates the Call Indicator Lamp depending upon the information displayed on the Attendant's monitor/display.
4. The called station will be able to receive a message by dialing "0", or by a computer terminal by entering his/her identification number.

Operating Procedure (cont'd)

5. The external CPU, upon receiving retrieved message information, will transmit a data record requesting the NEAX2400 IMX to extinguish the Call Indicator Lamp of the corresponding station.

Service Conditions

1. The call type is sent to the external CPU via the MCI interface, this call record will pertain to the following services:

ATTENDANT CAMP-ON	[A-1]
AUTOMATIC RECALL	[A-8]
CALL FORWARDING - DON'T ANSWER	[C-3]
CALL FORWARDING - BUSY LINE	[C-2]
CALL FORWARDING - ALL CALLS	[C-5]
Call returned from Hold	
CALL TRANSFER - ALL CALLS **(Note)**	[C-11]
CENTRALIZED ATTENDANT SERVICE (CAS)	[C-20]
DIAL ACCESS TO ATTENDANT	[D-2]
DID to the Specific UCD Group	
DIT to the Specific UCD Group	
Intercept Call to the Attendant	
INTER-POSITION TRANSFER	[I-5]
LDN call	
OFF-HOOK ALARM	[O-6]
Recall	
Recall from a Series Call	
Series Call Re-Entry	
Tandem Transferring/Hold Entry	

Note: *Available for interoffice station transfer calls only.*
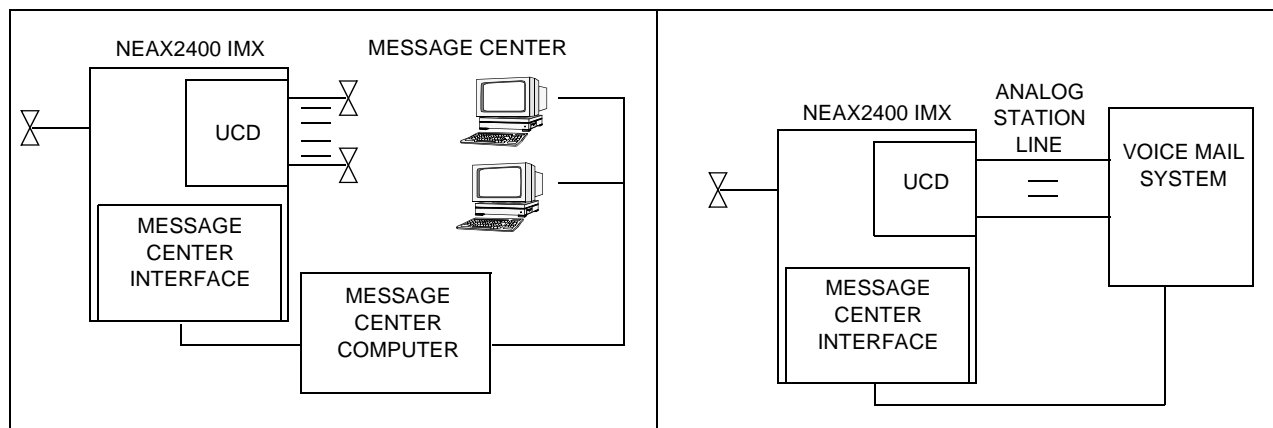
2. The NEAX2400 IMX MESSAGE CENTER INTERFACE [M-26] can control the display of a D^{term} for Message Indication; MW in a Message Center application.

3. If an ATTENDANT CONSOLE [A-3] calls a UCD [U-1] group directly, for Feature 2, the NEAX2400 IMX will not generate a call record to the MCI.

Service Conditions (cont'd)

4. If the Host/CPU malfunctions and stops collecting call records, the NEAX2400 IMX can store up to 16 call records. If the maximum of 16 call records is stored and a 17th is generated, the system will write over the oldest stored record, thus giving the stack the most recently generated call records.

5. MCI data will not be output when a hotline station is terminated to a station that is forwarded to a Voice Mail System.

6. It can be determined on a UCD group basis whether to send the incoming call information of the call terminating to a station in the UCD group to the message center CPU. When OVERFLOW - UCD [O-7] is activated, the MCI operation of the overflow UCD group is followed.

7. When the calling party number is received via the C.O. line/ISDN line/CCIS line, the number is sent to the MCI. The calling number is output to the additional MCI text format.

8. When activating this feature via the FCCS network, the station number type (Physical Station Number or telephone number) to be output for MCI IMX format may be designated in system data.

9. When activating this feature via the FCCS network, a maximum of 2 Messages Centers per node are available.

SOCKET Interface (LAN interface) Conditions:

1. LAN interface and IOC interface cannot be used concurrently for MCI.
2. The socket interface will be used for transfer data to and from the Message Center connected to the LAN.
3. After the link has been released, it will always be the client which presents a link establishment request.
4. The MCI messages which are transferred via the LAN interface is IMX format messages only.
5. Multiple nodes within an FCCS network can accommodate the Message Center (MC).
6. When activating this feature via the FCCS network, a maximum of 32 nodes can be assigned as the remote node. Stations accommodated in remote node are controlled by the Message Waiting Lamp (MWL) by the MC.
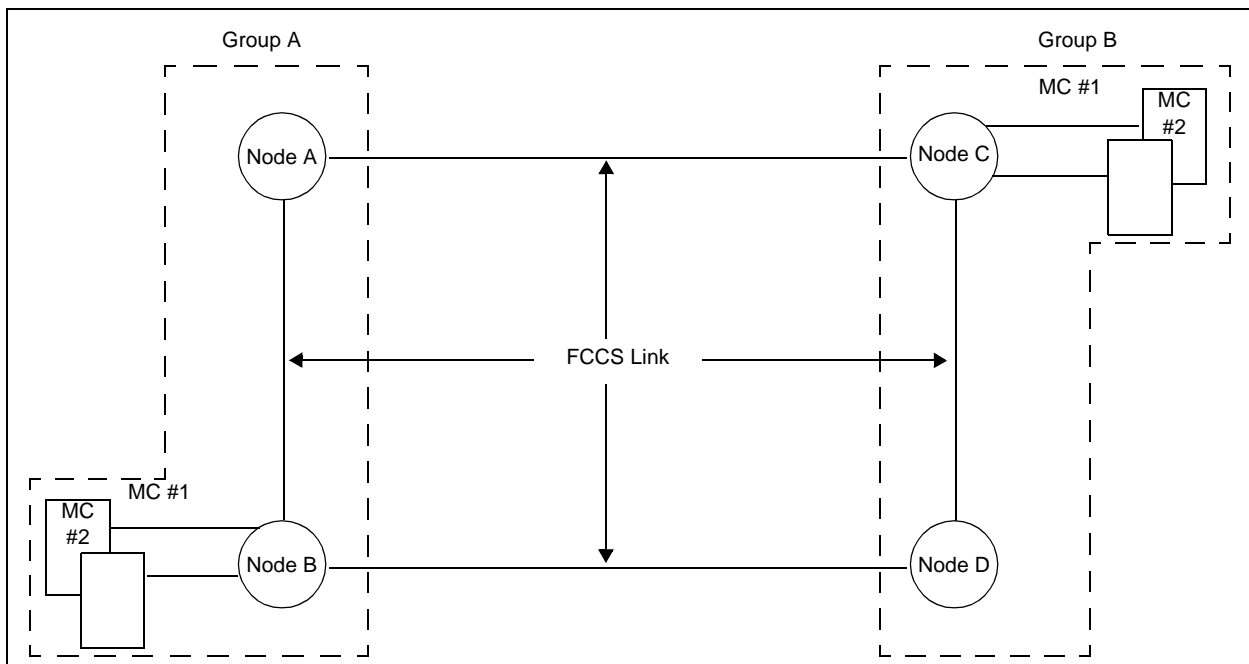
Interactions

1. In case a Message Center exists on each side of the FCCS network and CCIS network:
   a.) Message data will be transmitted to the MC on the side of the CCIS network (in the figure below, MC#1), provided that a call from any of the FCCS network nodes (in the figure, node A/B/C) terminates to an ATTCON/UCD station of the non-FCCS node (in the figure, node D).
   b.) Message data will be transmitted to the MC on the side of the FCCS network (in the figure below, MC#2), provided that a call from the non-FCCS node (in the figure, node D) terminates to the ATTCON/UCD station of any of the FCCS network nodes (in the figure, node A, B, C).
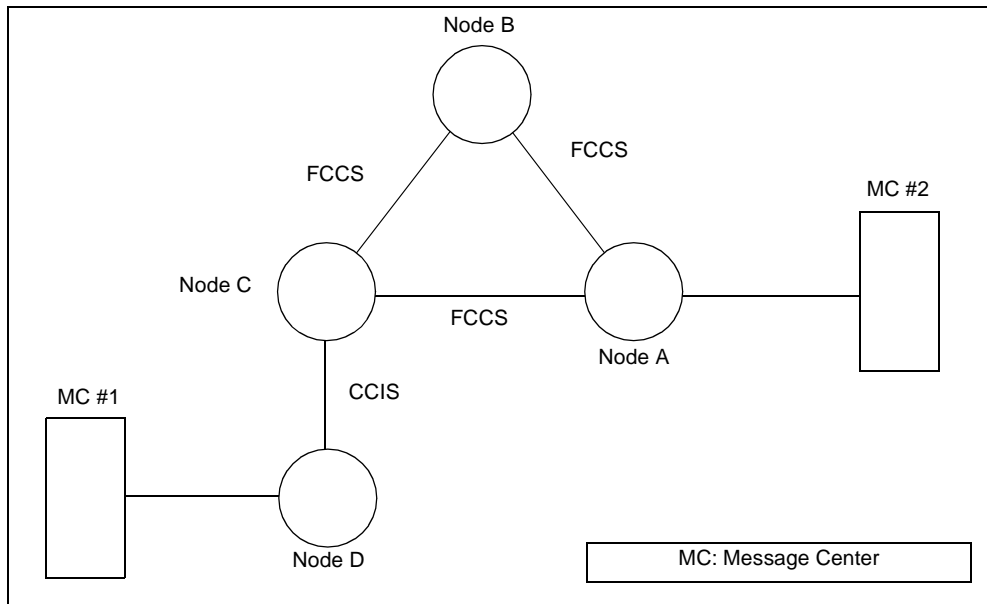
2. In case a Message Center is shared by both CCIS and FCCS networks:
   a.) Message data will be transmitted to the shared MC (in the figure below, assumed to be connected to the FCCS node A), given that a call from the CCIS node (in the figure, node D) terminates to the ATTCON/UCD station of any of the FCCS network nodes (in the figure, node A, B, C).

Interactions (cont'd)

      b.) The shared Message Center also can let the Message Waiting Lamps for both FCCS and non-FCCS (CCIS) network stations go ON and OFF to inform the telephone user of the message arrival.
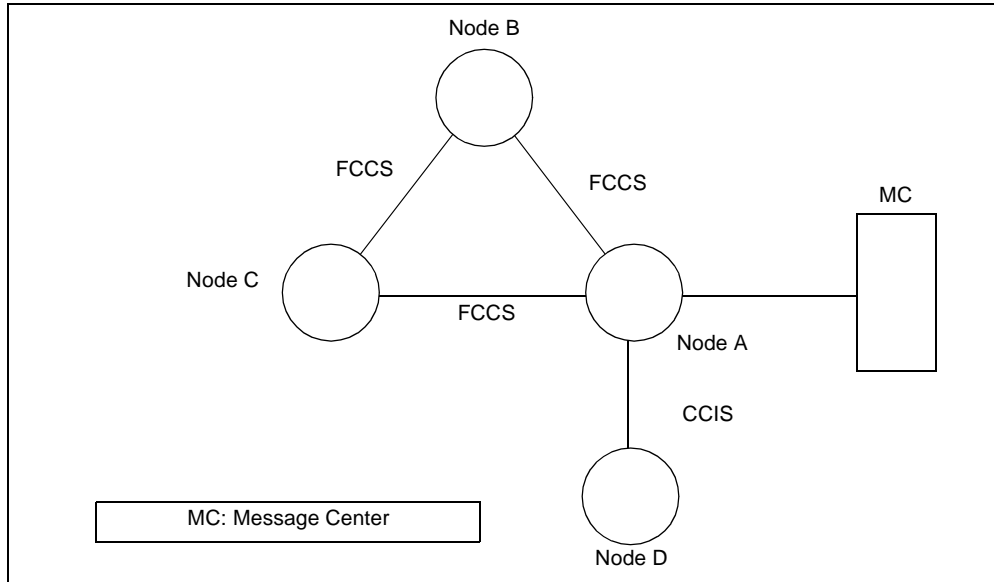
   3.   In case the Message Center exists only on the side of CCIS network:

      a.) Message data will be transmitted to the offered MC (in the figure below, assumed to be connected to node D), given that a call from any of the FCCS network nodes (in the figure, node A/B/C) terminates to an ATTCON/UCD station of the CCIS node (in the figure, node D).

      b.) The MC, though provided outside the FCCS network, can also control the Message Waiting Lamp for each station on the FCCS service link, as well as ON/OFF indication of the lamps for stations on the CCIS link.
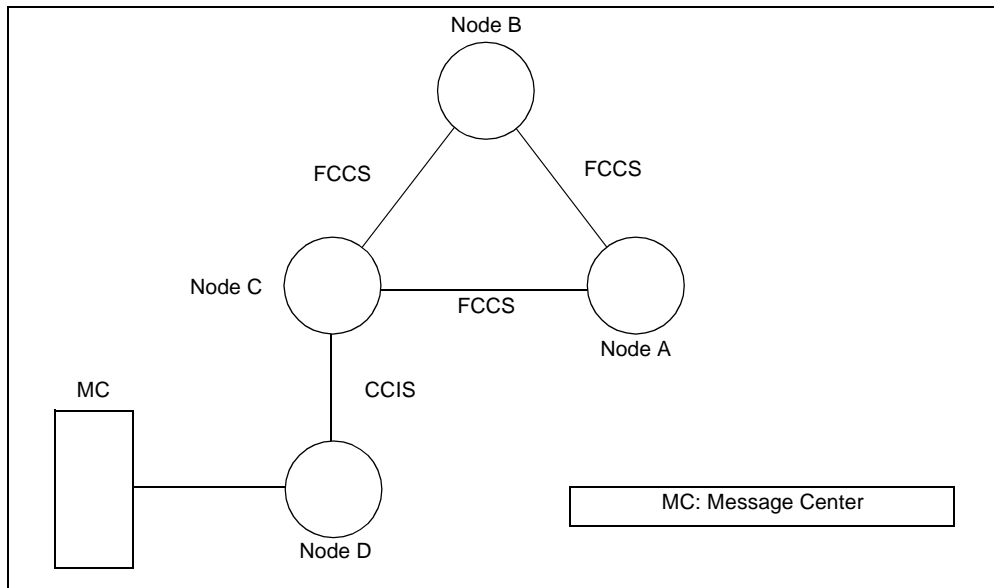
Interactions (cont'd)

4. In case the Message Center exists only on the side of FCCS network:

   a.) Message data will be transmitted to the offered MC (in the figure below, assumed to be connected to node A), given that a call from the CCIS node (in the figure, node D) terminates to the ATTCON/UCD station of any of the FCCS network nodes (in the figure, node A, B, C).

   b.) The MC, though provided only inside the FCCS network, can also control the Message Waiting Lamp for each station on the CCIS link, as well as ON/OFF indication of the lamps for stations within the FCCS link.
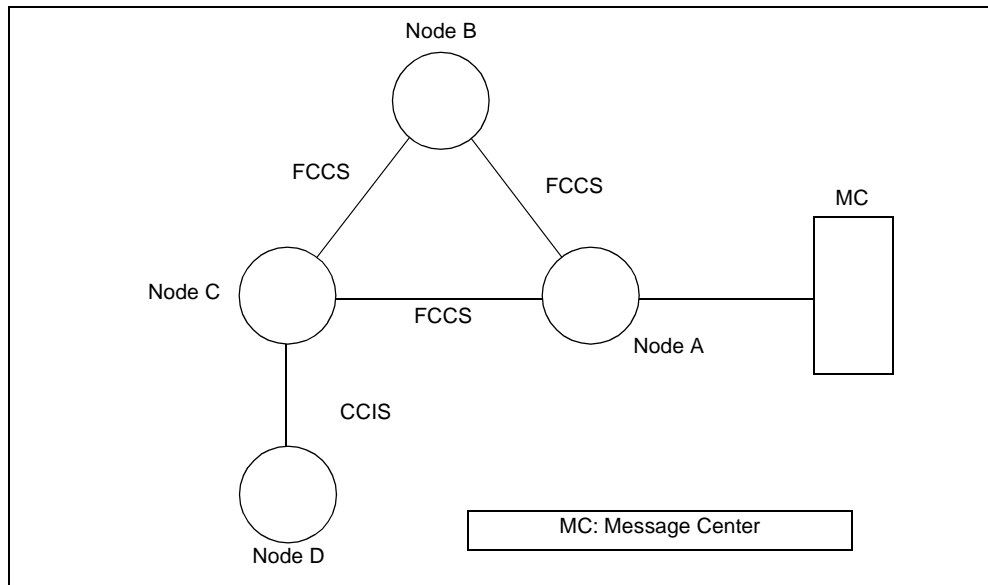
MC: Message Center

Programming

STEP 1:   **ASYD** - System Data 1, Index 28, Bits 0-4. Assign a Miscellaneous Timer Counter (MTC) used to calculate the message-sending Guard Timer for Message Center.

Timer = MTC x 128ms. Normally a Guard Timer is not required. If not required, assign data "0" to these bits.

System Data 1, Index 28, Bit 5. Is Message Waiting Lamp setting from the Message Center to be used? 0/1: No/Yes.

System Data 1, Index 29, Bits 0-4. Assign which I/O port will act as the MESSAGE CENTER INTERFACE. Bit 0 as Port 0 is always used as a Maintenance Administration Terminal (MAT). Bit 1 = Port 1, Bit 2 = Port 2; Bit 3 = Port 3; Bit 4 = Port 4; Bit 5 = Port 5, for a maximum of 2 ports.

System Data 1, Index 34, Bit 0 &1.

b2, b1 = "00"; no parity and output data Bit 7 is "0".

System Data 1, Index 70, Bit 0. Called Number Display on the console for DID and TIE Line calls must be enabled. Assign Bit 0 as data "1" when System Data 2, Index 6, Bit 7 is also enabled.

System Data 1, Index 78, Bit 0. CALLING NUMBER DISPLAY-D^{term} [C-24D] must be enabled. Assign Bit 0 as data "1".

System Data 1, Index 78, Bit 1. CALLING STATION STATUS DISPLAY-D^{term} [C-22D] must be enabled. Assign Bit 1 as data "1".

Note: *Index 116, Port 0 is assigned as data 02H, MAT.*

Programming (cont'd)

System Data 2, Index 6, Bit 0. Is MCI service with UCD groups to be enabled? 0/1: No/Yes.

System Data 2, Index 7, Bit 1. Is MCI service for calls via the Attendant Console to be enabled? 0/1: No/Yes.

STEP 2:   **AIOC** - Assign the function and attribute data of the IOC ports.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ASYDL** - System Data 1, Index 641 Bit 1. Designate output numbers for MCI IMX format. **(Note 2)**

0/1 = Physical (station) number/telephone number

System Data 1, Index 832. Assign the Fusion Point Code (FPC) of the node providing the MC **(Note 3)**

System Data 1, Index 641 Bit 1. Designate output numbers for MCI IMX format.

0/1 = Physical (station) number/telephone number **(Note 2)**

System data 1, Index 833, Bit 0. Interface type for MCI. 0/1 = IOC/LAN interface **(Note 3)**

System data 1, Index 833, Bit 1. Text format for MCI. 0/1 = ICS/IMX format **(Note 2)**

Note: *When more than a 5 digit telephone number is assigned, designate 1 = IMX format.*

STEP 2:   This data is required for the LAN interface.

ASYDL - System Data 1, Index 529, Bits 0 and 1. Parity check method of SMDR/MCI with LAN interface.

b1, b0: 00 = No parity

01 = Odd parity

10 = Even parity

System Data 1, Index 834, Bit 0. 0/1 = MC0 for LAN is not mounted/mounted. **(Note 2)**

System Data 1, Index 834, Bit 1. 0/1 = MC1 for LAN is not mounted/mounted. **(Note 2)**

STEP 3:   **AMWF** - Assign Fusion Point Code (FPC) of the node for being controlled the MWL on the D^term by the MC. **(Note 2)**

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *Assign this data to the node accommodating the MC.*

Note 3: *Assign this data to all the nodes to be provided MCI service.*

M-30 Message Waiting Lamp Setting - Station

General Description

This feature allows a station to set/cancel a Message Waiting indication or lamp. Any single line telephone or D^{term} can set/cancel Message Waiting indication to any single line telephone equipped with a 90v neon lamp, or a D^{term}.

Note: *Call Indicator Lamp on D^{term} Series E is used as the Message Waiting Lamp.*

Operating Procedure

For example:

> Station 200: User's station
> Station 201: Message Agent*

Note: *A Message Agent is a preassigned station allowed to set/cancel a Message Waiting indication.*

1. Station 200 sets Call Forwarding to Station 201.
2. An incoming call to Station 200 is call forwarded to Station 201.
3. Station 201 receives a message from the calling party.
4. Station 201 hangs up.
5. Station 201 sets the Message Waiting indication for Station 200. (Procedure 1)
6. Station 200 sees the Message Waiting indication.
7. Station 200 calls Station 201.
8. Station 200 receives the message from Station 201.
9. The call is terminated.
10. Station 201 cancels the Message Waiting indication for Station 200. (Procedure 2)

Procedure 1:
To set a Message Waiting Indication from a single line telephone:
1. Lift the handset; receive dial tone.
2. Dial the Message Waiting Set access code (up to 3 digits); receive special dial tone.
3. Dial the desired telephone number; receive service set tone.
4. Message Waiting indication is set.

To set a Message Waiting Indication from a D^{term} or MY Line:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the Message Waiting Set line/feature key; receive special dial tone.
3. Dial the desired telephone number; the LCD displays:

> **MW SET**

Service set tone is heard.
4. Message Waiting indication is set.

Procedure 2:
To cancel a Message Waiting Indication from a single line telephone:
1. Lift the handset; receive dial tone.
2. Dial the Message Waiting Cancel access code (up to 3 digits); receive special dial tone.
3. Dial the desired telephone number; receive service set tone.
4. Message Waiting indication is cancelled.

Operating Procedure (cont'd)

To cancel a Message Waiting Indication from a D^{term} or MY Line:

1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the Message Waiting Cancel line/feature key, receive special dial tone.
3. Dial the desired telephone number; the LCD displays, and service set tone is heard.:

> **MW CANCEL**
> **(Time Display)**

4. Message Waiting indication is cancelled.

Service Conditions

1. Any number of D^{term} stations within the system can be assigned to activate this feature.
2. Any attempt to set Message Waiting to a station that already has a Message Waiting indication will receive busy tone.
3. Each station can cancel the Message Waiting indication.
4. This feature can be restricted by CLASS OF SERVICE - INDIVIDUAL [C-15].
5. Message Waiting for one station of the network can be controlled from the ATTENDANT CONSOLE [A-3] and any other station at the same time.
6. The Message Waiting indication on a station appears as follows:

Type of Station Set	Condition
Single line telephone with MWL D^{term} Series without display	Message Waiting Lamp is ON
D^{term} Series with display	Display shows: **MW** **(Time Display)**

Service Conditions (cont'd)

7. The LCD on the D^{term} Series E station displays the following messages:

		LCD	
MESSAGE WAITING already set	SETTING	**MW BUSY** (Time Display)	Busy Tone
	CANCELLING	**MW CANCEL** (Time Display)	Service Set Tone
MESSAGE WAITING not set	SETTING	**MW SET** (Time Display)	Service Set Tone
Restricted station, unused telephone number, dead level, restriction	SETTING	**MW REST** (Time Display)	Reorder Tone
	CANCELLING	**MW REST** (Time Display)	Reorder Tone

Interactions

1. For MESSAGE WAITING LAMP SETTING-STATION, the 8DLC/16ELC card is required.
2. An external power source is required to light a single line telephone lamp. The nondisplay D^{term}s use an 80 VDC power source. NEC stocks Lorain Model HSA3H.
3. The use of the following features has no effect on this feature. MESSAGE WAITING LAMP SETTING-STATION can still be set to a station that has previously activated any of the following features:
   - DO NOT DISTURB-D^{term} [D-21D].
   - CALL BACK-D^{term} [C-1D] set to called station.
   - CALL BACK-D^{term} [C-1D] set from called station.
   - CALL FORWARDING-ALL CALLS-D^{term} [C-5D] will not follow forwarding data.
   - CALL FORWARDING-DON'T ANSWER-D^{term} [C-3D] will not follow forwarding data.
   - CALL FORWARDING-BUSY LINE-D^{term} [C-2D] will not follow forwarding data.

Interactions (cont'd)

4. When an incoming call is answered by the sub-line appearance on another station, the following services may be activated either by the answering station or by another station towards the answering station. These services will not interfere with the answering station's ability to leave a Message Waiting indication.

PRIVACY-D^{term}	[P-14D]
CONSULTATION HOLD-ALL CALLS	[C-17]
ATTENDANT CAMP-ON WITH TONE INDICATION (set to answering station)	[A-1]
CALL WAITING-ORIGINATING (set to answering station)	[C-31]
CALL WAITING-ORIGINATING (set from answering station)	[C-31]
THREE-WAY CALLING-D^{term}	[T-2D]
NON-EXCLUSIVE HOLD-D^{term}	[N-7D]
EXCLUSIVE HOLD-D^{term}	[E-4D]
DUAL HOLD	[D-32]

5. Message Waiting can be set to yourself if you wish to leave yourself a reminder.
6. Numbering plan data (ANPD and ASPA) is not required if only digital D^{term} sets use this feature.

Programming

STEP 1:   **ANPD** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPA** - Assign an access code for setting the Message Waiting Lamp. Set SRV = SSCA (Service Code Appendix); SIDA = 54. Cancel Message Waiting Lamp SRV = SSCA (Service Code Appendix); SIDA = 55. Assign Connection Status Index (CI) for Normal (N) service.

STEP 3:   **ASFC** - Assign a Service Feature Class that allows SFI = 74 and SFI = 82 to the stations that receive the Message Waiting Lamp setting feature.

STEP 4:   **AKYD** - Assign Message Waiting Lamp set feature to a programmable line/feature key. Assign Type:Function:BOSS-SECRETARY MSG WAIT-SET [9] and a Message Waiting Lamp cancel key, Type:Function:BOSS-SECRETARY MSG WAIT-CANCEL [11].

Assign SN=1 (Originating; DT Connection) and FKY=11 (Boss - Secretary - Message Waiting Lamp Control; Cancel).

STEP 5:   **ADSL** - Assign SN=1, 2, 3, 4, 5 and FKY=9 (Boss-Secretary-Message Waiting Lamp Control; Set).

Assign SN=1, 2, 3, 4, 5 and FKY=11 (Boss-Secretary-Message Waiting Lamp Control; Cancel).

This command is used for assigning the function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   **ANPDL** - Reserve a number level for feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2:   **ASPAL** - Assign an access code for setting the Message Waiting Lamp. Set SRV = SSCA (Service Code Appendix); SIDA = 54. Cancel Message Waiting Lamp SRV = SSCA (Service Code Appendix); SIDA = 55. Assign Connection Status Index (CI) for Normal (N) service.

M-44 Multiple Call Forwarding - All Calls

General Description

This feature permits a call to a CALL FORWARDING - ALL CALLS station to be forwarded multiple times to a predesignated idle station.

Operating Procedure

To set MULTIPLE CALL FORWARDING - ALL CALLS [C-5] from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the specific CALL FORWARDING - ALL CALLS access code; receive special dial tone.
3. Dial the desired target telephone number; receive service set tone.

To cancel MULTIPLE CALL FORWARDING - ALL CALLS [C-5] from an individual station:
1. Lift the handset; receive dial tone.
2. Dial the specific CALL FORWARDING - ALL CALLS cancel code; receive service set tone.

To set MULTIPLE CALL FORWARDING - ALL CALLS [C-5] from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the specific CALL FORWARDING - ALL CALLS access code; receive special dial tone.
3. Dial the TENANT [T-12] number (2 or 3 digits).
4. Dial the originating telephone number.
5. Dial the desired target telephone number; receive service set tone.

To cancel MULTIPLE CALL FORWARDING - ALL CALLS [C-5] from the ATTENDANT CONSOLE [A-3]:
1. Press an idle loop key.
2. Dial the specific CALL FORWARDING - ALL CALLS cancel code; receive special dial tone.
3. Dial the TENANT [T-12] number (2 or 3 digits).
4. Dial the originating telephone number; receive service set tone.

Service Conditions

1. If CALL FORWARDING - ALL CALLS [C-5] is set at the called station, the call is forwarded to a designated station that has set CALL FORWARDING-ALL CALLS [C-5] or CALL FORWARDING-BUSY LINE [C-2].
2. A call can be forwarded a maximum of five times by MULTIPLE CALL FORWARDING - ALL CALLS [C-5], and only by the voice port of a D^{term}, or by a single line telephone.
3. A call will not forward any farther than the station to where it has been forwarded to.
4. If a forward destination is busy, and if neither CALL FORWARDING - BUSY LINE [C-2] nor CALL FORWARDING - ALL CALLS [C-5] is set, the caller hears a busy tone.
5. If the originating station is designated as the forward destination, the call will not be forwarded.
6. CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - ALL CALLS [C-5] combination:
   a.) A maximum of five forwarding operations can be performed by any combination of CALL FORWARDING-ALL CALLS [C-5] AND CALL FORWARDING-BUSY LINE [C-2].
   b.) If the fifth forward destination is busy, the call will forward if CALL FORWARDING - DON'T ANSWER [C-3] is set. Otherwise, the caller will hear a busy tone.

Service Conditions (cont'd)

     c.) If a sequence of CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2] forwards the call back to the originating station, the forward is not made and the caller hears a busy tone.

     d.) If a sequence of CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2] forwards the call back to the originally called station, and if that station forwards the call with CALL FORWARDING - BUSY LINE [C-2], the ultimate destination will be the originally called station. If, however, the originally called station forwards the call with CALL FORWARDING - ALL CALLS [C-5], the ultimate destination will be the station it has designated as its CALL FORWARDING - ALL CALLS [C-5] destination.

     e.) If the call is forwarded back to the station where it has been forwarded to, the CALL FORWARD will terminate at that station.

7.   CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2] and CALL FORWARDING - DON'T ANSWER [C-3] combination:

Although CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2] and combinations of the two are limited to forwarding five times, when a sequence of forwards is divided by CALL FORWARDING - DON'T ANSWER [C-3], CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-3], forwards can begin again (the only limit is shown below).
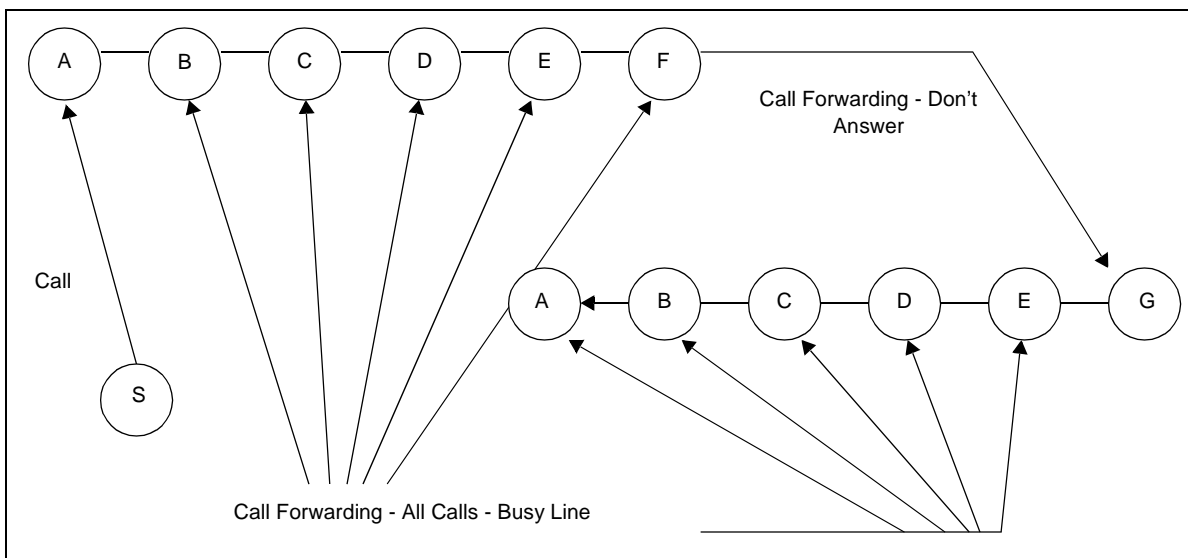
8.   Forwarding to an Attendant Console:

     a.) If an Attendant Console is designated as the destination of CALL FORWARDING - ALL CALLS [C-5], the call is forwarded to the Attendant Console handling the tenant to which the calling station belongs.

Service Conditions (cont'd)

b.) The Attendant Console key that lights when a call is forwarded to the console depends on the forwarding status of the originally called station (except in paragraph c). The following table shows the key that will light; e.g., the BUSY key will light, if the forwarding status of the originally called station is CALL FORWARDING - BUSY LINE [C-2], and the call is from a station.

Forwarding Status Of Originally Called Station			
	Call Forward -All Calls	**Call Forward -Busy**	**Call Forward -Don't Answer**
Call From Station	ATND	BUSY	NANS
Call From Trunk	Depends on trunk class	BUSY	NANS

c.) If the call is forwarded by CALL FORWARDING - DON'T ANSWER [C-3] at any point in a forwarding sequence, the NANS key on the Attendant Console will light, even if the call status of the originally called station is CALL FORWARDING - ALL CALLS or CALL FORWARDING - BUSY LINE.

d.) Called Number Display is only provided if a call is forwarded to the Attendant Console by CALL FORWARDING - ALL CALLS [C-5] or by CALL FORWARDING - BUSY LINE [C-2].

9. Forwarding to a D^{term}:

a.) The calling D^{term}'s display will show the number of the called station on the left, and the number of the station being called on the right. The display on the ringing D^{term} will show the number of the originally called station on the left, and the number of the calling station on the right.

b.) The forward status of the originally called station is shown on the far left of each D^{term}'s display: FDB for CALL FORWARDING - BUSY LINE [C-2]; FDA for CALL FORWARDING - ALL CALLS [C-5].

10. UCD Groups:

a.) If the destination of a CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2], or CALL FORWARDING - DON'T ANSWER [C-3] is a UNIFORM CALL DISTRIBUTION (UCD) [U-1] group control station, and CALL FORWARDING - ALL CALLS [C-5] is not set at that station, the call will be forwarded according to UCD [U-1] procedures.

b.) In the UCD procedure, if CALL FORWARDING - ALL CALLS [C-5] is set on a station in the group, that station is skipped.

11. Hunting:

a.) If the final destination station is busy, or if some condition prevents the call from being forwarded, a busy line is selected, and a hunting check is performed.

Service Conditions (cont'd)

b.) If a call is forwarded by CALL FORWARDING - BUSY LINE [C-2] to stations that are members of hunting groups, a hunting check is performed on the busy line closest to the called station, or on the busy line closest to the final forward destination. In the diagram below, a hunting check is performed on Hunt Groups 1 or 4. A hunting check is never performed on Groups 2 or 3.

Hunting Group #1 Hunting Group #2   Hunting Group #4

Hunting Group #3
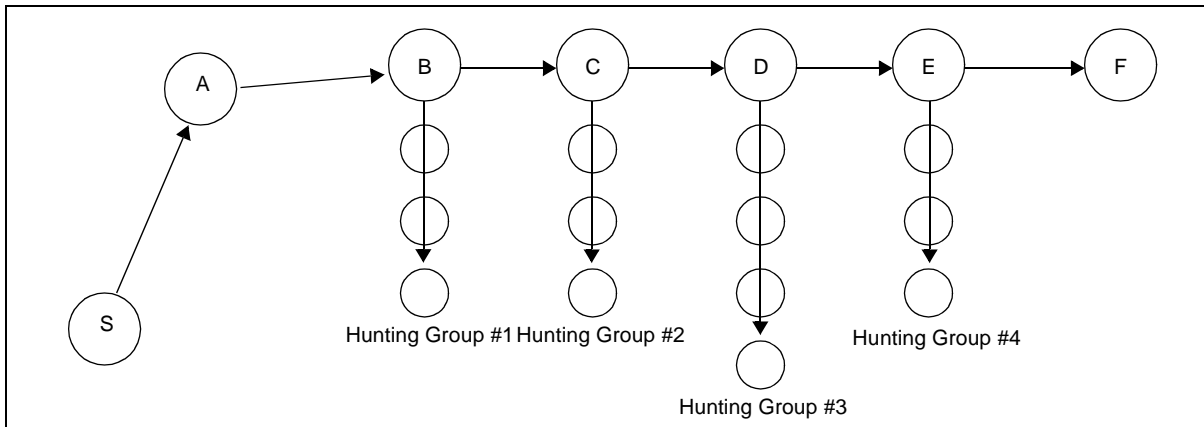
12. Busy Services, such as, EXECUTIVE OVERRIDE [E-1], CALL BACK [C-1], etc.:
    a.) Busy service is provided to the busy line closest to the originally called station.
13. DIT, NIGHT CONNECTION - FIXED [N-1]:
    a.) For CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2], a forwarding check is made up to 5 times by System Data.
    b.) If a line is busy in DIRECT-IN TERMINATION [D-7], CALL FORWARDING - BUSY LINE [C-2] to the Attendant is not activated. Instead, the destination for the call can be specified by System Data:
    System Data 2 INDEX = 11
    Bit 7 = 0 - Call is routed to the Attendant Console
    Bit 7 = 1 - Call is placed in queue until the called station becomes idle.
14. When activating this feature via FCCS, a telephone number must be set to the call forwarding destination.
15. When activating this feature via FCCS, a call cannot be forwarded more than five times.
16. When activating this feature via FCCS, the number of times is assigned by system data.
17. The OAI monitor number and the ACD pilot number cannot be assigned as the Call Forwarding target telephone number.

Interactions

1. Users are unaccustomed to hearing ringback tone when responding to their own station's ring. Be sure to inform users when providing ringback tone with MULTIPLE CALL FORWARDING-ALL CALLS in System Data 1, Index 69, Bit 1.
2. MULTIPLE CALL FORWARDING can only be activated from an idle station.
3. When CALL WAITING [C-12, 31] ATTENDANT CAMP-ON WITH TONE INDICATION [A-1], and CALL BACK [C-1] is directed toward Station A with CALL FORWARDING set to Station B, Station B will receive CALL WAITING tones.

Interactions (cont'd)

4. When a station in a STATION HUNTING [S-7, 8, 9] group initiates MULTIPLE CALL FORWARDING-ALL CALLS, calls normally destined for this station will not be received. The hunt group operates as if the station were busy.

5. A noncontrolling UCD station is allowed to activate CALL FORWARDING [C-5]. With this station call forwarded, only calls dialed directly to this station are call forwarded. The member station is removed from the UCD group under the conditions of this call forwarding feature.

6. If an Attendant attempts BUSY VERIFICATION [B-3] to Station A, which has MULTIPLE CALL FORWARDING-ALL CALLS set to Station B, BUSY VERIFICATION proceeds as if the Attendant had attempted to verify Station B. If Station A has set MULTIPLE CALL FORWARDING-ALL CALLS to the Attendant Console [A-3], BUSY VERIFICATION [B-3] is allowed at Station A, if Station A is busy.

7. When MULTIPLE CALL FORWARDING-ALL CALLS is in effect, the activating station may be used to originate calls. See System Data 2, Index 6, Bit 4.

8. When a station is call forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

9. MULTIPLE CALL FORWARDING-ALL CALLS can be overridden, allowing Station B to initiate or transfer calls back to Station A.

10. STATION-TO-STATION CALLING [S-11] must be provided first.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, Bit 6. One burst of ringing at forwarding station when MULTIPLE CALL FORWARDING-ALL CALLS is in service? 0/1: No/Yes.

System Data 1, Index 69, Bit 1. A burst of ringback tone to alert the person receiving a call that this is a MULTIPLE CALL FORWARDING-ALL CALLS call. In service? 0/1: No/Yes. Normally assigned as data "0".

System Data 1, Index 69, bit 7. MULTIPLE CALL FORWARDING - BUSY LINE [M-24], - ALL CALLS [M-44], in service? 0/1: No/Yes.

System Data 2, Index 6, Bit 4. Enable stations set for MULTIPLE CALL FORWARDING-ALL CALLS be allowed to use their phones normally. If data "0" is assigned, the station will only be able to call the Attendant Console. Assign on a per-tenant basis.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to MULTIPLE CALL FORWARDING-ALL CALLS entry, SID = 8 and to MULTIPLE CALL FORWARDING-ALL CALLS cancel SID = 9. Assign a Connection Status Index (CI) for Normal service (N).

STEP 4: **ASFC** - Assign the stations to activate MULTIPLE CALL FORWARDING-ALL CALLS a Service Feature Class that allows SFI = 7.

STEP 5: **AKYD** - For D^{term} sets, MULTIPLE CALL FORWARDING-ALL CALLS may be assigned to a programmable line/feature key. AssignType:Function:CALL FORWARDING-ALL CALLS [2].

STEP 6: **ADSL** - SN=1 (Originating; DT Connection) and FKY=2 (Call Forwarding - All Calls; FDA). This command is required only for assigning the function to each soft key.

STEP 7: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this service feature to be set by the Attendant Console, assign Inter and Intra-Tenant connection via the Attendant Console TRI = 3. Also allow TRI = 0, station-to-station calling.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ASYDN** - These data must be set to the NCN.

System Data 1 Index 69, b7. Enable Multiple Call Forwarding-Busy Line/Don't Answer/All Calls. 0/1=Out of Service/In Service. Index5, b1-b3. Assign the number of time for forwarding.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-47 Manual Signaling

General Description

This feature permits D^{term} users to send a one-second ring to a predetermined station. The manual intercom SIGNAL key (SIG key) is operational at all times. An Intercom call is not required. If the signalled station is ringing from another call, the manual intercom signal will interrupt that ringing.

Operating Procedure

Press the SIG key; send a one-second ring to the predetermined station.

Service Conditions

1. When MANUAL SIGNALING is initiated by a user, this one-second ring takes priority over any other incoming call indications from the multi-line appearances.
2. Only D^{term} can be assigned a manual SIG key.
3. One destination station can be assigned for manual signaling through the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
4. Stations that can signal each other must be assigned in the same Module Group. **(Note)**
5. A station can manually signal one other D^{term}.
6. MANUAL SIGNALING is an operation of MANUAL INTERCOM [A-30] and is used independently of the MANUAL INTERCOM [A-30] feature.

Note: *This is also applied to FCCS service.*

Programming

STEP 1: **ASYD** - SYS1, Index 59, Bit 7. Is AUTOMATIC/MANUAL INTERCOM [A-30] in service? 0/1: No/ Yes.

STEP 2: **AICD** - For a station to manually signal another station, an AUTOMATIC/MANUAL INTERCOM [A-30] group must be assigned. Bridge Call is not required. The maximum number of stations per group may be assigned. Assign the intercom station number as the signaling station and the signaling station number as the signaled station.

    MG: Module Group

    G-ID: Group ID Number per MG

    A/M: Automatic/Manual Signaling (0/1)

        0: Automatic

    ⟶ 1: Manual

    BCR: Bridge Call Restriction (0/1)

    ⟶ 0: Restricted

        1: Allowed

    TN: Tenant Number

    ⟶ICM STN: Intercom Station Number

    ⟶SIG STN: Signaling Station Number

STEP 3: **AKYD** - Assign to the station an Intercom Line according to the following parameters:

    TN: 1

    STN: Station Number

Programming (cont'd)

TP: Type of D^{term} 0/1:

RING:

      0:   No Ringing

      1:   Ringing All Lines

      2:   Ringing on Prime Line Only

      3:   Flexible Ring Assignment, enables RG parameter.

PRI: Form of Line Preference (0-3)

KYN: Key Number (1-40)

KYI: Service Index

      0:   Key Not Used

      1:   Feature Key

⟶   2:   Multi-line Key

KD: Kind of Line

      0:   Multi-line

⟶   1:   Intercom Line

⟶ICM: Kind of Intercom

      0:   Automatic Intercom

      1:   Manual Intercom

      2:   Dial Intercom

If MANUAL SIGNALING is used, assign a programmable line/feature key as Type:Function:MANUAL SIGNALING KEY [60].

STEP 4: **ADSL** - Assign SN=0, 1, 2, 3, 4, 5, 6, 7, 15 and FKY=60 (Manual Signaling Key; SIG).

This command is used only for assigning the function to each soft key.

M-48 Multi Channel Recording - DAT

General Description

This feature allows a user to record a message to multiple Digital Announcement Trunks (DATs) in a single operation. The message recorded in a trunk is automatically copied to other trunks one after another.

Operating Procedure

1. Recording by designating RT and TK:

   a.) Lift a handset; receive dial tone.

   b.) Dial the MULTI CHANNEL RECORDING (RECORDING) access code from the station; receive special dial tone.

   ```
   REC

              (Time Display)

   ```

   c.) Enter Route Number and Trunk number; the special dial tone stops.

   ```
   REC



                        005     001
   ```
   　　　　　　　　　　　　　└─┘　└─┘
   　　　　　　　　　　　　　Route　Trunk

   Hear service set tone when #is pressed. The service set tone continues for 3 seconds.

   ```
   RECORDING START

   ```

   d.) Start your recording when the service set tone is stopped.

   ```
              DDD              1

   ```
   └──┘
   Recording Time **(Note)**

   e.) Replace the handset to finish recording.

   ```
   RECORDING END

   ```

   ↓ In 5 seconds

   ```
              (Time Display)

   ```

Note: *The recording length is a multiple of 2 (= 2n sec).*

2. Playback by designating RT and TK

   a.) Lift a handset; receive dial tone.

Operating Procedure (cont'd)

b.) Dial the MULTI CHANNEL RECORDING (REPLAY) access code from the station; receive special dial tone.

```
┌─────────────────────────────────────┐
│ REPLAY                               │
│              (Time Display)          │
│                                      │
└─────────────────────────────────────┘
```

c.) Enter Route Number and Trunk Number; the special dial tone stops.

```
┌─────────────────────────────────────┐
│ REPLAY                               │
│                                      │
│                  005      001        │
└─────────────────────────────────────┘
                 Route    Trunk
```
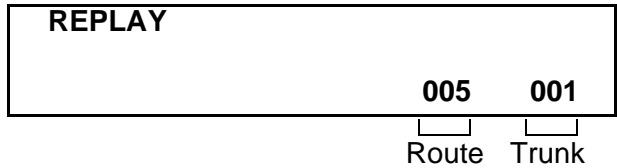
d.) A recorded message of the designated trunk is automatically played back.

```
┌─────────────────────────────────────┐
│ REPLAY START                         │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

↓ In 5 seconds

```
┌─────────────────────────────────────┐
│                                      │
│            DDD              1         │
│                                      │
└─────────────────────────────────────┘
  Replay Time
```

e.) Replace the handset to finish playback of the recorded message.

```
┌─────────────────────────────────────┐
│                                      │
│              (Time Display)          │
│                                      │
└─────────────────────────────────────┘
```
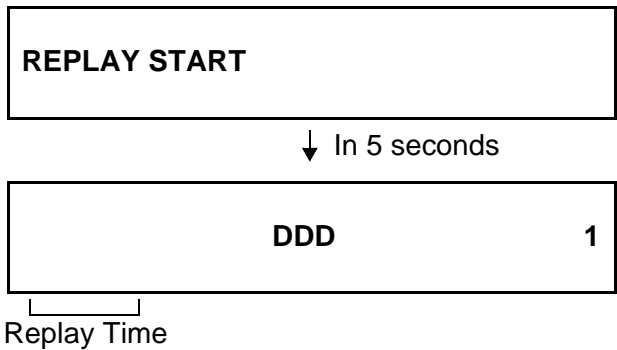
Note: *Even though recording of a message has been finished, playback of the trunk cannot be accepted until dubbing of the message to the remaining trunks is complete.*

3. Recording by designating RT (All trunks within the designated route are recorded.)

a.) Lift a handset; receive dial tone.

b.) Dial the MULTI CHANNEL RECORDING (RECORDING) access code from the station; receive special dial tone.

```
┌─────────────────────────────────────┐
│ REC                                  │
│              (Time Display)          │
│                                      │
└─────────────────────────────────────┘
```

c.) Enter Route Number and press #; the special dial tone stops.

```
┌─────────────────────────────────────┐
│ REC                                  │
│                                      │
│                  005                 │
└─────────────────────────────────────┘
                 Route
```

Operating Procedure (cont'd)

Hear service set tone when # is pressed. The service set tone continues for 3 seconds.

```
RECORDING START
```

d.) Start your recording when the service set tone is stopped.

```
DDD                    1
```
└─ Recording Time **(Note)**

e.) Replace the handset to finish recording.

```
RECORDING END
```

↓ In 5 seconds

```
(Time Display)
```

Note: *The recording length is a multiple of 2 (= 2n sec).*

4. Playback by designating RT

    a.) Lift a handset; receive dial tone.

    b.) Dial the MULTI CHANNEL RECORDING (REPLAY) access code from the station; receive special dial tone.)

```
REPLAY
              (Time Display)
```

    c.) Enter Route Number and press #; the special dial tone stops.

```
REPLAY

                    005
```
└─ Route

    d.) A recorded message of the designated route is automatically played back.

```
REPLAY START
```

↓ In 5 seconds

```
DDD                    1
```
└─ Replay Time

Operating Procedure (cont'd)

e.) Replace the handset to finish playback of the recorded message.

```
┌─────────────────────────────────────┐
│                                      │
│          (Time Display)              │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

Note: *Even though the recording of a message has been finished, playback of the trunk cannot be accepted until dubbing of the message to the remaining trunks is complete.*

5. Recording of an announcement for a UCD group

   a.) Lift a handset; receive dial tone.
   b.) Dial the MULTI CHANNEL RECORDING (RECORDING) access code from the station; receive special dial tone.

```
┌─────────────────────────────────────┐
│  REC                                 │
│          (Time Display)              │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

   c.) Press * and enter the UCD controlling telephone number.

```
┌─────────────────────────────────────┐
│  REC                                 │
│                                      │
│                                      │
│                     25191            │
└─────────────────────────────────────┘
                     └──┘
             UCD controlling telephone number
```

   d.) Wait until you hear service set tone. The waiting time depends upon Register Inter Digit Timer (normally 6 seconds).
       The service set tone continues for 3 seconds.

```
┌─────────────────────────────────────┐
│                                      │
│  RECORDING START                     │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

   e.) Start your recording when the service set tone is stopped.

```
┌─────────────────────────────────────┐
│                                      │
│              DDD          1          │
│                                      │
│                                      │
└─────────────────────────────────────┘
    └─────────┘
   Recording Time **(Note)**
```

   f.) Replace the handset to finish recording.

```
┌─────────────────────────────────────┐
│                                      │
│  RECORDING END                       │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

            ↓ In 5 seconds

```
┌─────────────────────────────────────┐
│                                      │
│          (Time Display)              │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

Note: *The recording length is a multiple of 2 (= 2n sec).*

6. Playback of a message recorded for a UCD group

   a.) Lift a handset; receive dial tone.

Operating Procedure (cont'd)

b.) Dial the MULTI CHANNEL RECORDING (REPLAY) access code from the station; receive special dial tone.

```
REPLAY
             (Time Display)
```

c.) Press * and enter the UCD controlling telephone number; the special dial tone is stopped.

```
REPLAY

                    25191
```
UCD controlling telephone number

d.) A recorded message of the designated UCD group is automatically played back.

```
REPLAY START
```

↓ In 5 seconds

```
DDD                    1
```
Replay Time

e.) Replace the handset to finish playback of the recorded message.

```
             (Time Display)
```

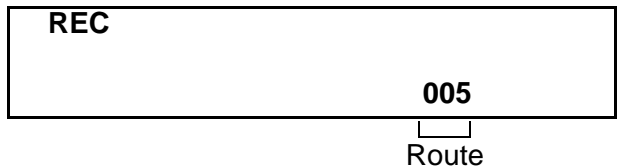**Note:** *Even though the recording of a message has been finished, playback of the trunk cannot be accepted until dubbing of the message to the remaining trunks is complete.*

7. Recording of a message for ACD
   a.) Lift a handset; receive dial tone.
   b.) Dial the MULTI CHANNEL RECORDING (RECORDING) access code from the station; receive special dial tone.

```
REC
             (Time Display)
```

Operating Procedure (cont'd)

   c.) Press # and enter the message number that has been assigned in the AAST command; receive service set tone. The service set tone continues for 3 seconds.

```
┌──────────────────────────────────────┐
│ REC                                  │
│                                      │
│                               15     │
└──────────────────────────────────────┘
                    │        └──┘
                    │      Message Number
                    ↓
┌──────────────────────────────────────┐
│ RECORDING START                      │
│                                      │
│                                      │
└──────────────────────────────────────┘
```

   d.) Start your recording when the service set tone is stopped.

```
┌──────────────────────────────────────┐
│                                      │
│            DDD              1         │
│                                      │
└──────────────────────────────────────┘
     └────┘
   Recording Time **(Note)**
```

   e.) Replace the handset to finish recording.

```
┌──────────────────────────────────────┐
│ RECORDING END                        │
│                                      │
│                                      │
└──────────────────────────────────────┘
                    │ In 5 seconds
                    ↓
┌──────────────────────────────────────┐
│                                      │
│          (Time Display)              │
│                                      │
└──────────────────────────────────────┘
```
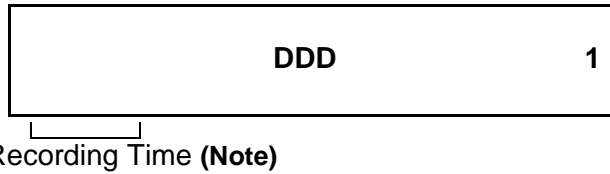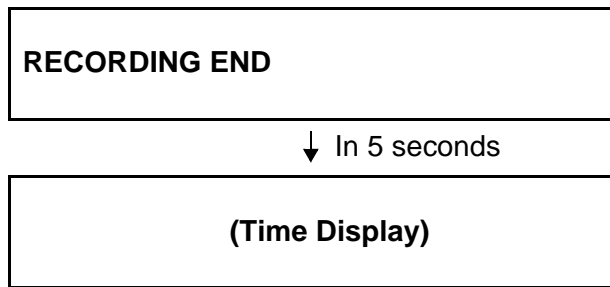
Note: *The recording length is a multiple of 2 (= 2n sec).*

   8.   Playback of a message for ACD
      a.) Lift a handset; receive dial tone.
      b.) Dial the MULTI CHANNEL RECORDING (REPLAY) access code from the station; receive special dial tone.

```
┌──────────────────────────────────────┐
│ REPLAY                               │
│              (Time Display)          │
│                                      │
└──────────────────────────────────────┘
```

   c.) Press # and enter the Message Number that has been assigned in the AADT command.

```
┌──────────────────────────────────────┐
│ REPLAY                               │
│                                      │
│                               15     │
└──────────────────────────────────────┘
                                └──┘
                          Message Number
```
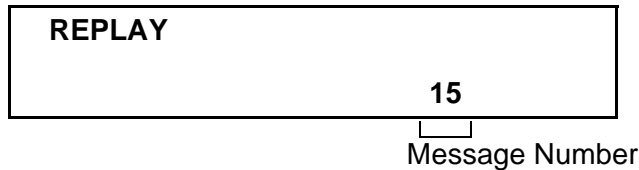
Operating Procedure (cont'd)

d.) A recorded message of the designated Message Number for ACD is automatically played back.
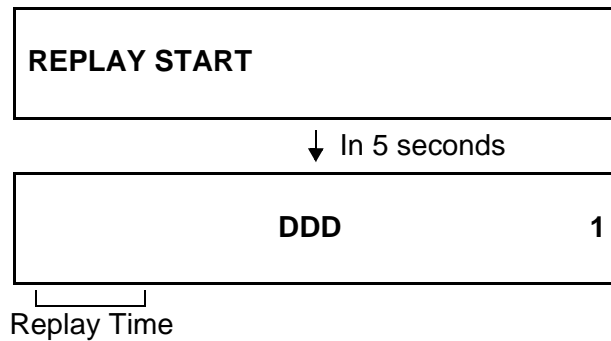
```
┌─────────────────────────────────────┐
│                                     │
│   REPLAY START                      │
│                                     │
└─────────────────────────────────────┘
```

↓ In 5 seconds

```
┌─────────────────────────────────────┐
│                                     │
│          DDD               1        │
│                                     │
└─────────────────────────────────────┘
```
Replay Time

e.) Replace the handset to finish playback of the recorded message.

```
┌─────────────────────────────────────┐
│                                     │
│          (Time Display)             │
│                                     │
└─────────────────────────────────────┘
```

Note: *Even though the recording of a message has been finished, playback of the trunk cannot be accepted until dubbing of the message to the remaining trunks is complete.*
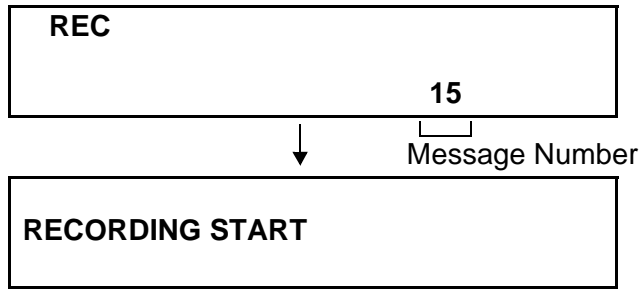
Service Conditions

1. Any entry of RT, TK, UCD Controlling Station, and Message Number that has not been assigned results in reorder tone (ROT) connection.

   The values that each parameter can take fall into the ranges:
   RT: 001 - 999
   TK: 000 - 255
   Message Number: 01 - 58
2. The maximum recording length is 60 sec (30 sec in the case of UCD).
3. This feature is not effective for trunks being dubbed or placed in busy.
4. A user cannot record a message to a trunk in which a recording/dubbing is being made.
5. When a user encounters Digital Announcement Trunk-All Busy, after dialing RT/TK/UCD Controlling telephone number/Message Number from the terminal, the user hears a busy tone.
6. After completion of dialing RT/TK/UCD Controlling telephone number/Message Number, a user hears the service set tone. In this instance, if the designated trunk is making a dub or being dubbed, the dubbing is stopped. When the user goes on-hook during the service set tone, the dubbing is also stopped.
7. A message is recorded in the following sequence. As illustrated below, 1.5 sec after the service set tone and 1 sec before going on-hook are not recorded.

```
┌──────────────────────────────────────────────────────────────────────────────┐
│                                                                                │
│   ┌─────┐        ┌────────────┐              ┌──────────┐  ┌──────────┐         │
│   │ SST │        │ REC STARTS │              │ REC ENDS │  │ ON-HOOK  │         │
│   └─────┘        └────────────┘              └──────────┘  └──────────┘         │
│      ↓               ↓                            ↓                             │
│   ┌─────┬──────────┐            MESSAGE        ┌──────────┐                     │
│   │ SST │ NO TONE  │                           │ NO TONE  │                     │
│   └─────┴──────────┘                           └──────────┘                     │
│       ├──  1.5  ──┤                             ├──  1.5  ──┤                    │
│           sec                                       sec                         │
│                                                                                │
└──────────────────────────────────────────────────────────────────────────────┘
```

Service Conditions (cont'd)

8. When the system encounters a busy trunk in an attempt to make a dubbing of the message to the remaining trunks, the trunk is retried after a 16 second interval. Each trunk is attempted a maximum of 16 times. If the final attempt is rejected because of busy, no further dubbing attempts will be made.

```
                    ┌─────────────┐
                    │  EXECUTION  │
                    │ OF DUBBING  │
                    └─────────────┘
                          │
              16              16              16
             sec             sec             sec
       (BUSY)      (BUSY)      (BUSY)    (BUSY)      (BUSY)   ──► TIME

          RETRY #1       RETRY #2           RETRY #16
```
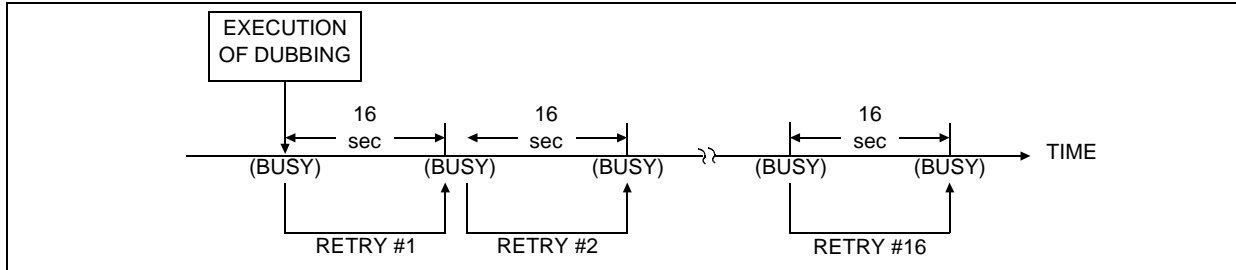
9. Only the portion in which a message has been recorded is played back.
10. The dubbing time is calculated by the following equation: (Dubbing Time) = (Recording time + 2 sec) x (Number of Trunk). Refer to the following table to obtain the approximate time for dubbing:

Dubbing Time	Number of Trunk					
	1	10	15	20	63	1
6 seconds	8	80	120	160	504	8n
16 seconds	18	180	270	360	1134	18 x 1
30 seconds	32	320	480	640	2016	32 x 1
46 seconds	48	480	720	960	3024	48 x 1
60 seconds	62	620	930	1240	3906	62 x 1

11. This feature is not available to access a 4-DAT trunk through FCCS link.

Programming

STEP 1:   **ANPD** - Assign Number of Necessary Digits (NND) for the 1st digit of the access code of MULTI CHANNEL RECORDING.

STEP 2:   **ASPA** - Assign access codes for the following Service Code Appendix (SSCA).

     SRV   SIDA

     SSCA   66 (= MULTI CHANNEL RECORDING <REC>

             68 (= MULTI CHANNEL RECORDING <RPY>)

STEP 3:   **ASFC** - For this feature, Service Feature Restriction data must be entered on a Service Feature Class (SFC) basis.

     SFI

     87 (= MULTI CHANNEL RECORDING <REC>

     90 (= MULTI CHANNEL RECORDING <REPLAY>)

STEP 4:   **ARTD** - Assign Route Class Data for an announcement trunk.

STEP 5:   **ATRK** - Assign the announcement trunk data.

STEP 6:   **MBTK** - Assign the Make Idle status to the announcement trunk.

M-84   MF Signaling - DID

General Description

In the Associated Channel Interoffice Signaling system, this feature allows use of selective codes of Multifrequency (MF) signals.

MF - (ANSI) codes: A total of 15 codes are available by combining two out of six frequencies.

Code	CCITT/ BELL	0 (700Hz)	1 (900Hz)	2 (1100Hz)	4 (1300Hz)	7 (1500Hz)	K (1700Hz)
1	1	X	X				
2	2	X		X			
3	3		X	X			
4	4	X			X		
5	5		X		X		
6	6			X	X		
7	7	X				X	
8	8		X			X	
9	9			X		X	
10	0				X	X	
11	C_{11}	X					X
12	C_{12}		X				X
13	KP_1			X			X
14	KP_2				X		X
15	ST					X	X

(ANSI)

Operating Procedure

No manual operation is required.

Service Conditions

1. When using MF signaling system, Least Cost Routing (LCR) or Register Sender LCR (LCRS) must be assigned.
2. Even when LCRS is assigned, digit outpulsing to the distant office is not started until all digits have been received when the signaling is MF. If there is DP or PB lines among alternate routes, an outgoing call may be originated by seizing a DP or PB line, even when the route advance sequence for that line is lower than MF lines. When the route advance sequence of MF to DP or PB is predetermined, LCR must be assigned in the numbering plan.
3. Unless otherwise specified, MP starting at termination of an incoming call will be activated upon receiving an ST signal.

Service Conditions (cont'd)

4. Connection patterns to which MF signaling system can be applied are as follows:
    a.) Individual call origination by station
    b.) Attendant-to-Attendant connection
    c.) Individual call origination by Attendant
    d.) Call origination by Attendant via station/trunk
    e.) MF line connection from CONSULTATION HOLD [C-17]
    f.) Call transfer to MF line via Call Forwarding.
5. Connection to the following services is not available:
    a.) Call origination services to MF lines, such as, OUTGOING TRUNK QUEUING
    b.) Call termination services from MF lines, such as, UCD [U-1]
    c.) Call Waiting, REMOTE ACCESS TO SYSTEM [R-2].
6. Assignment of MF signaling system or DP, PB signaling system can be determined on a per route basis.
7. A PA-8RSTK (8RST) circuit card is required for performing this service.

Programming

STEP 1: **ASYD** - System 1, Index 234, Bit 0.

          (0) No reverse-type connection acknowledgment

STEP 2: **ANPD** - Assign the first digit of the MF line access code.

STEP 3: **ASPA** - Assign the LCR or LCR (S) access code by providing a dummy route.

STEP 4: **AMND** - Assign the maximum number of necessary digits to the Dial (Area/Office) Code.

STEP 5: **ARNP** - Assign the access code to the route number. When multiple access codes are present by alternative routing, set one of them.

STEP 6: **ARTD** - MF line- Assign the following data, depending on the trunk type, as shown below:

Trunk Type	OSGS	ONSG	ISGS	INSG	LSG	Display
OGT	7	4	0	0	5	1
ICT	0	0	7	4	5	1
BWT	7	4	7	4	5	1

     Dummy route-Assign 1 at all times for CDN 13:AC. The route data of the dummy route is TCL = 1, AC = 1 and L/T = 1.

     For the others, assign 0 in all cases.

     Assign the following route class data to the route of the MF line.

     TCMN = 0, TCMC = 0, MFSP: MF Sending Speed.

     KPST: Duration of KP sending,

     KPPT: Pause after KP sending,

     CNI: CNI Calling Number Identification format (=1)

     Assign CDN 22:CNI = 1.

STEP 7: **ATRK** - MF line-Assign the LENS data of each trunk.

     MF Register/Sender-Assign the following data to the LENS of thePA-8RSTK circuit card.

     RT = 904: MF Register

     RT = 905: Sender

STEP 8: **AFRS** - Assign the number Pattern Code (NPC) and Outgoing route selection pattern (OPR) to the dummy route.

Programming (cont'd)

STEP 9: **AOPR** - Assign the route number, including the alternative route to the outgoing route selection pattern (OPR). Assigns the number of skipped digits and pattern number location (PNL) to each route.

STEP 10: **ARSC** - Release the dummy route and station connection restriction.

Release the connection restriction on the route of the MF line and station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Assign the first digit of the MF line access code.

STEP 2: **ASPAL** - Assign the LCR or LCR (S) access code by providing a dummy route.

STEP 3: **ARNPL** - Assign the access code to the route number. When multiple access codes are present by alternative routing, set one of them.

STEP 4: **ARTDN** - MF line- Assign the following data, depending on the trunk type, as shown below:

Trunk Type	OSGS	ONSG	ISGS	INSG	LSG	Display
OGT	7	4	0	0	5	1
ICT	0	0	7	4	5	1
BWT	7	4	7	4	5	1

Dummy route-Assign 1 at all times for CDN 13:AC. The route data of the dummy route is TCL = 1, AC = 1 and L/T = 1.

For the others, assign 0 in all cases.

Assign the following route class data to the route of the MF line.

TCMN = 0, TCMC = 0, MFSP: MF Sending Speed.

KPST: Duration of KP sending,

KPPT: Pause after KP sending,

CNI: CNI Calling Number Identification format (=1)

Assign CDN 22:CNI = 1.

STEP 5: **AFRSL** - Assign the number Pattern Code (NPC) and Outgoing route selection pattern (OPR) to the dummy route.

STEP 6: **AOPRL** - Assign the route number, including the alternative route to the outgoing route selection pattern (OPR). Assigns the number of skipped digits and pattern number location (PNL) to each route.

STEP 7: **ARSCN** - Release the dummy route and station connection restriction.

Release the connection restriction on the route of the MF line and station.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

M-85D   Message Waiting Indication - D^term

General Description

This feature allows Message Waiting (MW) information to be displayed on the middle line (24 digits) of the LCD.

Operating Procedure

No manual operation is required.

Service Conditions

1. The LCD displays the following information, when MESSAGE WAITING INDICATION - D^term is activated:

    Initial Display
    (Time Display)

10:00 AM FRI 01 JAN 1999

    When controlled by
    MCI, Attendant or
    station

MW

2. When this service is assigned to a D^term with a 1-line LCD, the service is not available, and the display remains unchanged.
3. This service can be controlled via MAT command program.
4. This service is available only when OAI service is not available (SYS1, INDEX=79, b6=1). When OAI service is available (SYS1, INDEX=79, b6=0), the information cannot be displayed on the lower line of LCD, but will be displayed on the upper line.
5. While Message Waiting information control is being executed to a D^term equipped with a 2-line LCD by this service, time information is not displayed on the LCD. When Message Waiting information control is cancelled, the time information display is resumed.
6. For the FCCS network, this feature is available for a telephone number having less than 7 digits.

Programming

STEP 1:   **ASYD** - System Data 1, Index 79, Bit 6 = 1.

STEP 2:   **AKYD** - Assign the following data to the D^term that executes this service.

   (MWD = 1: Message Waiting Indication in Service)

FCCS Programming

   No unique programming is required for the FCCS network.

M-101 MF ANI to SMDR

General Description

This feature allows an office receiving ANI information by means of MF signal to output the information to the expanded SMDR area.

Operating Procedure

No manual operation is required.

Service Conditions

1. Output conditions are same as current conditions of MF ANI. (i.e., charging information for incoming calls is output only).

2. About the expanded output format, refer to SMDR OUTPUT EXPANSION-ANI/CPN [S-129].

3. When the tandem connection is established through CCIS, the maximum digits of ANI information output to the SMDR port are 16.

Programming

Also see TRUNK LINE APPEARANCE [T-23] for information on how to accommodate C.O. line on a D^{term} line/feature key.

STEP 1: **ASYD** - System Data 1, Index 241, Bit 4. 0/1 = No ANI output to SMDR/ANI output to SMDR.

System Data 1, Index 241, Bit 6. 0/1 = When the length of Caller ID exceeds the limit, only the former/latter part of data appears on the LCD.

System Data 1, Index 390, Bit 0. Caller ID display pattern on the LCD. 0/1 = Calling Number/Calling Name has priority.

System Data 1, Index 390, Bit 2. when using D^{term} 2-line LCD, the lower LCD can be used for displaying Caller ID. 0/1 = Out/In service.

When Calling Number is output to SMDR, the following expanded format is used.

Programming (cont'd)

System Data 1, Index 288, Bit 5. Expanded SMDR Output for SMDR A Apparatus. 0/1 = Out/In Service.

System Data 1, Index 290, Bit 5. Expanded SMDR Output for SMDR B Apparatus. 0/1 = Out/In Service.

System Data 1, Index 292, Bit 5. Expanded SMDR Output for SMDR C Apparatus. 0/1 = Out/In Service.

System Data 1, Index 294, Bit 5. Expanded SMDR Output for SMDR D Apparatus. 0/1 = Out/In Service.

System Data 1, Index 296, Bit 0. Output of Calling Number (ANI Information). 0/1 = Out/In Service. Assign data "1".

System Data 1, Index 300, Bit 0. 0/1 = Billing information is sent to the Main Node in Expanded SMDR format if CENTRALIZED BILLING - CCIS [C-55].

STEP 2: **ASFC** - Assign a Service Feature Class that allows SFI 14 to stations allowed STATION MESSAGE DETAIL RECORDING [S-10].

STEP 3: **ARTD** - Assign route class data for the C.O. trunk.

RT: 1
15-LSG   :3   50-DPLY   :1
When Calling Number is output to SMDR:
RT: 1
10-SMDR   :1
Assign Route Class Expansion Data: CNI - 1. SVI: 1645 = 1

When My Line is Prime Line, Call Id Change Display Key is effective while terminating or in conversation.

When My Line is not Prime Line, Call Id Change Display Key is effective while in conversation.

However, display pattern returns to the original setting when answering, holding, or transferring the call.

STEP 4: **ATRK** - Assign trunk data for the C.O. trunk.

STEP 5: **MBTK** - Cancel the make busy of the C.O. trunk.

STEP 6: **AKYD** - Assign Call Id Change Display key. Assign Type:Function:CALL ID CHANGE DISPLAY [113]. When Call Id Change Display key is pressed, display pattern on the LCD assigned by ASYD command changes according to the conditions above.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDL** - System Data 1, Index 576, Bit 0=1. Enable central SMDR polling method for fusion.
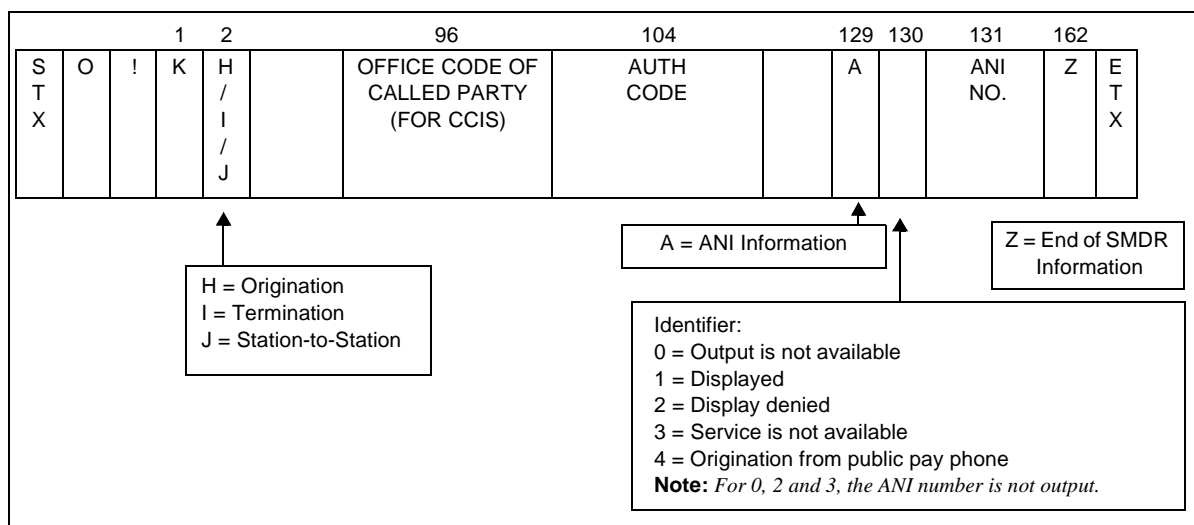
System Data 1, Index 241, Bit 4. 0/1 = No ANI output to SMDR/ANI output to SMDR.

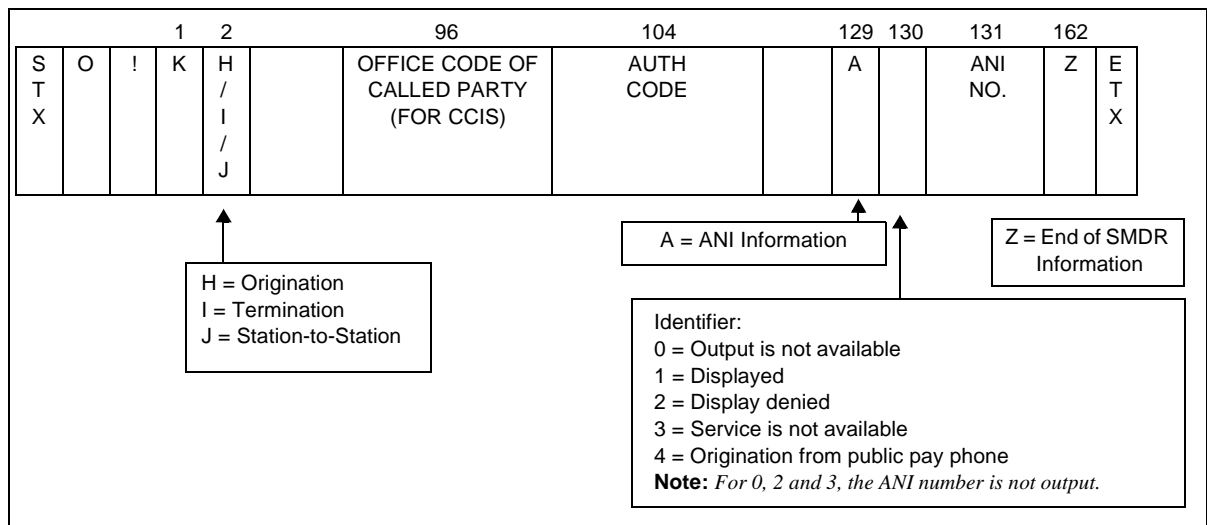System Data 1, Index 241, Bit 6. 0/1 = When the length of Caller ID exceeds the limit, only the former/latter part of data appears on the LCD.

System Data 1, Index 390, Bit 0. Caller ID display pattern on the LCD. 0/1 = Calling Number/Calling Name has priority.

System Data 1, Index 390, Bit 2. when using D^{term} 2-line LCD, the lower LCD can be used for displaying Caller ID. 0/1 = Out/In service.

FCCS Programming (cont'd)

When Calling Number is output to SMDR, the following expanded format is used.

				1	2	96	104	129	130	131	162
S T X	O	!	K	H / I / J		OFFICE CODE OF CALLED PARTY (FOR CCIS)	AUTH CODE		A	ANI NO.	Z	E T X

H = Origination
I = Termination
J = Station-to-Station

A = ANI Information

Z = End of SMDR Information

Identifier:
0 = Output is not available
1 = Displayed
2 = Display denied
3 = Service is not available
4 = Origination from public pay phone
Note: *For 0, 2 and 3, the ANI number is not output.*

System Data 1, Index 288, Bit 5. Expanded SMDR Output for SMDR A Apparatus. 0/1 = Out/In Service.

System Data 1, Index 290, Bit 5. Expanded SMDR Output for SMDR B Apparatus. 0/1 = Out/In Service.

System Data 1, Index 292, Bit 5. Expanded SMDR Output for SMDR C Apparatus. 0/1 = Out/In Service.

System Data 1, Index 294, Bit 5. Expanded SMDR Output for SMDR D Apparatus. 0/1 = Out/In Service.

System Data 1, Index 296, Bit 0. Output of Calling Number (ANI Information). 0/1 = Out/In Service. Assign data "1".

System Data 1, Index 300, Bit 0. 0/1 = Billing information is sent to the Main Node in Expanded SMDR format if CENTRALIZED BILLING - CCIS [C-55].

STEP 2: **ARTDN** - Assign route class data for the C.O. trunk.

RT: 1
15-LSG   :3   50-DPLY   :1
When Calling Number is output to SMDR:
RT: 1
10-SMDR   :1
Assign Route Class Expansion Data: CNI - 1. SVI: 1645 = 1

When My Line is Prime Line, Call Id Change Display Key is effective while terminating or in conversation.

When My Line is not Prime Line, Call Id Change Display Key is effective while in conversation.

However, display pattern returns to the original setting when answering, holding, or transferring the call.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

N-1   Night Connection - Fixed

General Description

This feature routes calls normally directed to the ATTENDANT CONSOLE [A-3] to a preselected common station within the system when the Night Mode has been entered.

Operating Procedure

To answer NIGHT CONNECTION calls:
1. The incoming calls to the ATTENDANT CONSOLE [A-3] in the night mode are automatically transferred to a preselected NIGHT CONNECTION - FIXED station.
2. Calling party hears ringback tone.
3. Ring signal is sent to the NIGHT CONNECTION - FIXED station.
4. NIGHT CONNECTION - FIXED station goes off-hook to answer the incoming call. If necessary, this station can transfer the incoming call to another station within the system, using CALL TRANSFER - ALL CALLS [C-11] feature.

Service Conditions

1. Calls that are being processed or are in the hold state when the night mode is entered, continue being processed or held after the mode changeover has been completed.
2. If the NIGHT CONNECTION - FIXED station, to which an incoming call has been directed is busy, the calling party will hear ringback tone until the station becomes idle.
3. This service feature may be provided with NIGHT CONNECTION - FLEXIBLE [N-2] and TRUNK ANSWER FROM ANY STATION [T-8] in the same system.
4. If the NIGHT CONNECTION - FIXED station is set for CALL FORWARDING - ALL CALLS [C-5], incoming Central Office trunk calls terminated to that station will be forwarded to the designated station.
5. Programmed NIGHT CONNECTION - FIXED stations can use CALL HOLD [C-6], CALL TRANSFER [C-10, 11] and THREE-WAY CALLING [T-2] provided these features are programmed into its CLASS OF SERVICE - INDIVIDUAL [C-15].
6. Only Ring Down (COT) incoming calls will be routed to NIGHT CONNECTION - FIXED stations.
7. If an incoming call has terminated to a NIGHT CONNECTION - FIXED, and if the station is busy or in LINE LOCKOUT [L-3], the call will be forwarded to the TRUNK ANSWER FROM ANY STATION (TAS) [T-8] unit, if equipped.
8. When activating this feature within an FCCS network, the different destination for C.O. incoming calls (Ring down) cannot be set at each tenant group.

Interactions

1. The Night station is assigned to each trunk, and the same NIGHT CONNECTION - FIXED can be assigned to several trunks.
2. All trunks to be terminated at the NIGHT CONNECTION - FIXED station must be programmed in ACSI. Refer to DIRECT-IN TERMINATION [D-7] for more information on DITs.
3. The system must enter Night mode. Refer to ATTENDANT CONSOLE [A-3] and DAY/NIGHT CLASS OF SERVICE [D-15].
4. The Attendant Console must first be provided.

Interactions (cont'd)

5. When the NIGHT CONNECTION - FLEXIBLE [N-2] feature is provided, assignments can be made by the ATTENDANT CONSOLE [A-3] or NIGHT CONNECTION - FIXED station by use of the CALL FORWARDING - ALL CALLS [C-5] feature.

6. CALL FORWARDING - BUSY LINE/DON'T ANSWER [C-2, 3]: A Night user can activate the CALL FORWARDING - BUSY LINE/DON'T ANSWER [C-2, 3] feature if available to the user. A call ringing at an idle NIGHT CONNECTION - FIXED station rings for 30 seconds before forwarding. A call forwarded from a busy NIGHT CONNECTION - FIXED station rings normally at the designated station. A station-to-Attendant call cannot be forwarded to a NIGHT CONNECTION - FIXED station. An incoming trunk call forwarded from an idle unanswered NIGHT CONNECTION - FIXED station alerts the designated station with distinctive ringing.

7. CALL WAITING [C-12, 13]: Call Waiting tones are not directed to a busy NIGHT CONNECTION - FIXED. When the Night user goes on-hook, ringing is returned if a call is waiting.

8. CALL TRANSFER - ALL CALLS [C-11]: When the NIGHT CONNECTION feature is active, the CALL TRANSFER - ALL CALLS [C-11] feature is always enabled, regardless of the Class of Service of the station assigned to NIGHT CONNECTION - FIXED.

9. STATION MESSAGE DETAIL RECORDING (SMDR) [S-10]: The SMDR records contain Night service calls. The SMDR call record includes the station number answering the call.

10. Incoming Restricted Line: When NIGHT CONNECTION - FIXED or FLEXIBLE [N-2] is active, the line Class of Service restrictions can be automatically changed when the system is in the Night mode, to allow a station normally restricted during the day to receive incoming calls.

11. NIGHT CONNECTION - FIXED: Arrangements are provided to route calls normally directed to the Attendant, to a preselected station line within the system when Night service is activated. In addition, incoming calls from specific non-Direct Inward Dialing (DID) exchange network trunks can be arranged to route to specific station lines. The routings are provided on a fixed basis via the MAT [M-18]. TRUNK ANSWER FROM ANY STATION (TAS) [T-8], when available, may also be provided for Night calls not assigned to Night stations. Assignments can be made per incoming trunk.

12. When CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY LINE/DON'T ANSWER [C-2, 3] is provided, and the station is busy, Call Forwarding is implemented on the station line. If the station is in a HUNT GROUP [S-7, 8, 9], call forwarding will take place prior to the station hunting feature or UCD [U-1].

13. CALL QUEUING [C-9]: Incoming trunk calls to the Night Connection station will queue on a First In/First Out basis.

14. CLASS OF SERVICE - INDIVIDUAL [C-15]: Night Connection station's class of service should be constructed to allow access to the routes and service features required to complete the tasks of the Night Connection station.

15. DIRECT INWARD DIALING [D-8]: Only Listed Directory Number DID calls (as assigned in the ALDN command) will be directed to the Night Connection station. All DID trunks must be programmed to the Night Connection station via the ACSI command.

16. When system is in the Night mode of operation, incoming calls are directed in the following order:

NIGHT CONNECTION - FLEXIBLE	[N-2]
NIGHT CONNECTION - FIXED	[N-1]
TAS	[T-8]

Programming

STEP 1:   **ASYD** - System Data 1, Index 147. DIT supervisory timer for a busy station. How often will the CPU look at the Idle/Busy status of the station for rerouting the DIT call to the destination? Always leave this index as 00H.

For NIGHT CONNECTION-FIXED Only.

STEP 2:   **ACSI** - Assign Route Number, Trunk Number, Connection Service Index of "4" for NIGHT CONNECTION-FIXED, and the Tenant Number and Station Number to serve as the NIGHT CONNECTION-FIXED station.

STEP 3:   **ACFR** - Allow a Transfer Service Feature Index of 2, NIGHT CONNECTION-FIXED, for the types of incoming calls listed in Call Class Index (CCI).

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ACSIL** - This command must be assigned to the node accommodating the COT. Assign the logical route number (LGRT), trunk number, and Connection Service Index (CSI)=4 for DIT activated in Night mode. Then assign the user group number (UGN) and Telephone Number to serve as the NIGHT CONNECTION - FIXED station.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command. The command to be set to the node accommodating the COT: ASYD/ACFR.*

N-2   Night Connection - Flexible

General Description

This feature provides arrangements to route calls, usually directed to the ATTENDANT CONSOLE [A-3], instead to a preselected station on a flexible, assignable basis within the system, when the Night Mode has been entered.

Operating Procedure

1. Answering the operation is the same as that for NIGHT CONNECTION - FIXED [N-1].
2. Each evening, before placing the ATTENDANT CONSOLE [A-3] into the Night Connection mode, the Attendant programs CALL FORWARDING - ALL CALLS [C-5] from the fixed NIGHT CONNECTION - FIXED station to the desired station.

Service Conditions

1. The NIGHT CONNECTION - FLEXIBLE station may be programmed from either the ATTENDANT CONSOLE [A-3] or the NIGHT CONNECTION - FIXED [N-1] station. Refer to CALL FORWARDING - ALL CALLS [C-5] for details.
2. NIGHT CONNECTION - FLEXIBLE: Arrangements are provided to route calls, normally directed to the Attendant, to a preselected station line within the system when Night service is activated. Additionally, incoming calls from specific non-DID exchange network trunks can be arranged to route to the specific station line. The routings can be assigned on a flexible basis by the Attendant or NIGHT FIXED station by use of the Call Forwarding feature and remain in effect until changed. For NIGHT CONNECTION - FLEXIBLE to function, a NIGHT CONNECTION - FIXED telephone number must be assigned to the trunk via the MAT [M-18]. In the event of a power failure, the assignments are not lost. The TAS [T-8] answering capability is provided for Night calls not assigned to Night stations.
3. When activating this feature within an FCCS network, the different destination for C.O. incoming calls (Ring down) cannot be set at each tenant group.

Programming

STEP 1:   **ACSI** - NIGHT CONNECTION-FLEXIBLE is a combination of CALL FORWARDING-ALL CALLS [C-5] and NIGHT CONNECTION-FIXED [N-1] features.

STEP 2:   **ASFC** - CLASS OF SERVICE-INDIVIDUAL [C-15]: The station chosen as the Night Connection-Flexible station should be assigned a CLASS OF SERVICE-INDIVIDUAL [C-15] capable of performing the Night station functions.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1:   **ACSIL** - This command must be assigned to the node accommodating the COT. Assign the logical route number (LGRT), trunk number, and Connection Service Index (CSI)=4 for DIT activated in Night mode. Then assign the user group number (UGN) and Telephone Number to serve as the DIT station.

Note: *The current data should also be set in addition the above-mentioned command. The command to be set to the node accommodating the COT.*

N-3 Non-delay Operation

General Description

This feature allows the ATTENDANT CONSOLE [A-3] to place any calling party on hold, dialing the call, and connecting the calling and called parties.

Operating Procedure

1. The Attendant answers an operator call by pressing the ANSWER or ATND key.
2. Press the START key.
3. Dial the exchange network access code.
4. Dial the desired telephone number.
5. Press the RELEASE key.
6. The parties are connected.

Service Conditions

1. The Attendant may terminate the connection either before or after the called station answers.
2. There is no AUTOMATIC RECALL [A-8] for station-to-trunk and trunk-to-trunk calls when the called party does not answer.
3. If the station is restricted, the Attendant will receive a reorder tone when attempting to establish a Central Office connection.
4. When the PASSING DIAL TONE [P-2] feature is provided, and the Attendant has accessed an outgoing trunk, the call may be released from the ATTENDANT CONSOLE [A-3], and the user is allowed to complete dialing.
5. This feature allows the Attendant to place an outgoing call for a user who reached the Attendant via a dial "0" call without requiring the user to hang up.
6. The Attendant can dial the called number for the user, or using the PASSING DIAL TONE [P-2] feature, allow the user to complete the dialing.
7. A call can be transferred to a trunk in the remote node via FCCS link.

Interactions

1. The Attendant Console can seize the dial tone and dial an outgoing number for any station in the system. The Attendant Console cannot pass an unrestricted dial tone to any station. See PASSING DIAL TONE [P-2] for more information.
2. The Attendant Console must first be provided.

Programming

STEP 1:   **ARSC** - Construct a Route Restriction Class (RSC) that will allow outgoing access to various routes using the Route Restriction Index (RRI) 2 through the Attendant Console.

STEP 2:   **ASDT** - Assign a Route Restriction Class (RSC) that allows outgoing access to the various routes via the Attendant Console to the station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ARSCN** - Construct a Route Restriction Class (RSC) that will allow outgoing access to various routes using the Route Restriction Index (RRI) 2 through the Attendant Console.

# N-7D   Non-exclusive Hold - D^term

General Description

This feature allows a D^term user to place a call on Hold, from which it can be retrieved by any D^term station that displays the held line.

Operating Procedure

1.   While a call is in progress, press the HOLD key.
2.   To retrieve a held call; press the held line.

Service Conditions

1.   Any D^term station displaying the held line can seize the held call.
2.   AUTOMATIC RECALL [A-8] is directed only to the station that placed the call on Hold.
3.   The station initiating Hold will receive a distinctive I-HOLD INDICATION [I-7D].
4.   A two-party Hold is available when a D^term is engaged in a three-party conference with a station and/or trunk. An EXECUTIVE RIGHT-OF-WAY [E-1] call cannot activate a two-party Hold.
5.   When two parties are put on Hold, service features such as EXECUTIVE RIGHT-OF-WAY [E-1], ATTENDANT OVERRIDE [A-7], CALL WAITING - ORIGINATING [C-31], CALL WAITING - TERMINATING [C-12], BUSY VERIFICATION [B-3] and ATTENDANT CAMP-ON [A-1], cannot be activated to the busy line.
6.   The two held parties remain connected and can talk to each other. MUSIC ON HOLD [M-7] is not activated.
7.   The two held parties cannot be placed on EXCLUSIVE HOLD [E-3D] by the D^term user.
8.   If one of the two held parties is released from the connection, MUSIC ON HOLD [M-7] will be activated on the remaining connection. When the holding party returns to the connection, a two-party connection is established.
9.   If the sub-line appearance placed in the NON-EXCLUSIVE HOLD condition is assigned to a single-line telephone, the single-line telephone can retrieve the held call by lifting the handset.
10.   NON-EXCLUSIVE HOLD - D^term will operate when the D^term station has been put in CONSULTATION HOLD by the other party.
11.   This service feature is available when a station is in the following states, where "=" means a path and "-" means music on hold:

  a.) when a station has a path to another station:

  | Station | = Station
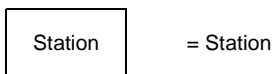
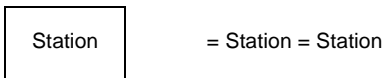 b.) when a station has a path to a trunk

  | Station | = Trunk

  c.) when a station has a path to a station that has a trunk held by MUSIC ON HOLD [M-7] for CONSULTATION HOLD - ALL CALLS [C-17] D^term [C-17D]:

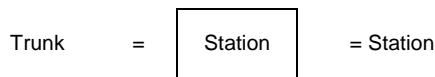 | Station | = Station - Trunk
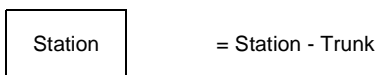
Service Conditions (cont'd)

      d.) when a station has a path to a station that has a station held by MUSIC ON HOLD [M-7] for CONSULTATION HOLD - ALL CALLS [C-17] or CONSULTATION HOLD - ALL CALLS D^{term} [C-17D]:

Station	

   = Station = Station

      e.) when a station has a path to two trunks at one time for THREE-WAY CALLING [T-2] or THREE-WAY CALLING - D^{term} [T-2D]:

Trunk   = | Station | = Trunk

      f.) when a station has a path to a trunk and a station at one time for THREE-WAY CALLING [T-2] or THREE-WAY CALLING - D^{term} [T-2D]:

Trunk   = | Station | = Station

12.   This service feature is not available when a station is in the following states:

      a.) when a station has a path to a trunk and a trunk held by MUSIC ON HOLD [M-7] for CONSULTATION HOLD - ALL CALLS [C-17] or CONSULTATION HOLD - ALL CALLS - D^{term} [C-17D]:

Trunk   = | Station | = Trunk

      b.) when a station has a path to two stations at one time for THREE-WAY CALLING [T-2] or THREE-WAY CALLING - D^{term} [T-2D]:

Station   = | Station | = Station

Programming

ASYD - System Data 1, Index 144. Recall timer for NON-EXCLUSIVE HOLD. Assign data 00H for 30 seconds. ROM default data is 3FH.

System Data 2, Index 12, Bit 0. Is Automatic Recall Ringing for NON-EXCLUSIVE HOLD provided on a per-tenant basis? 0/1: Yes/No.

N-8D   Non-square Line Assignment - D^{term}

General Description

This service feature allows the line function buttons on the D^term^ set to be freely assigned as line keys or as service feature keys. These assignments are done on a per-station basis.

Operating Procedure

Key designations are assigned via the Maintenance Administration Terminal (MAT) [M-18].

Service Conditions

Programming one feature to more than one key will not provide enhanced service. For example, two MSG keys will not provide a D^term^ set with eight message memories. See MESSAGE REMINDER - D^term^ [M-19D].

Programming

STEP 1:   **ASDT** - A LEN equipped with a D^term^ Circuit Board must be assigned a station number and a Telephone Equipment Class (TEC) of 12.

STEP 2:   **AKYD** - Assign a MY Line, a Prime Line, and various sublines to the D^term^s.

       ⟶ TN: 1

       ⟶ STN: Station Number

       TP: Type of D^term^ 0/1:

       ⟶ RING: Assign ringing to the entire phone

            0:   No Ringing

            1:   Ringing All Lines

            2:   Ringing on Prime Line Only

            3:   Flexible Ring Assignment enables RG parameter

       PL TN STN:Prime Line Tenant and Station Number

       KYN: Key Number (1-40)

       KYI: Service Index

            0:   Key Not Used

            1:   Feature Key

       ⟶   2:   Multi-line Key

       KD: Not assigned for Feature Key

       TN STN:Tenant Number and Station Number of Multi-line

       RG: Ringing Assignment per Multi-line Appearance

            0:   No Ringing

            1:   Ringing in Day Mode Only

            2:   Ringing in Night Mode Only

            3:   Ringing in Day and Night Mode

       Any combination of available system extension numbers may be assigned to the keys of the D^term^ instruments. There are no restrictions on order of multi-line appearance. Line appearances may be arranged in any fashion, provided they are located within the same Module Group.

N-17   Night Connection Outside - System

General Description

This is a night transfer service on a system basis, enabling a ring-down or LDN call to be transferred to a preselected station outside the NEAX2400 IMX when night mode has been set.

Operating Procedure

1. The Attendant sets night mode. (Night Key, PB, Handset Extraction, MB).
2. A ring-down or LDN call terminates from a trunk.
3. The call is transferred to the outside party in accordance with NIGHT CONNECTION OUTSIDE system data.

Service Conditions

1. The priority of this service is higher than TRUNK ANSWER FROM ANY STATION (TAS) [T-8] service but lower than DIRECT-IN TERMINATION (DIT) [D-7] and NIGHT CONNECTION - FIXED [N-1] services. Thus, if DIT [D-7] and NIGHT CONNECTION - FIXED [N-1] are set, this service is not activated.
2. If the terminating side is a ring-down trunk, a release signal cannot be received after communication is established. Therefore, the trunk to which the call is transferred must be capable of sending back a release signal.
3. Tandem restriction is applied to this feature.
4. This service cannot be used in combination with CONSECUTIVE SPEED CALLING [C-62] service.
5. The call transfer destination can be fixed on a per-tenant basis.

Programming

STEP 1: **ASYD** - System Data 1, Index 77, Bit 0, DAY/NIGHT mode Changeover via handset jack 0/1: Not Required/Required.

STEP 2: **ALDN** - Assign LDN, allow night transfer, assign TYPE = 3, and the ADC number assigned in ASPD.

STEP 3: **ASPD** - Assign abbreviated digit code (ADC) and access code to the dialed (000-999). This step is required only if the access code and outside number are greater than eight digits.

STEP 4: **ACFO** - Assign call forwarding data, CF = 4: Night Connection, and the ADC assigned in ASPD.

STEP 5: **ARRC** - Allowing incoming route to outgoing route. Use Alternative Route Index (ARI-D-RES) for Direct Connection. Three possible restrictions (RES) may be assigned: data "0" = connection is restricted; data "1" = connection is allowed; or data "2" = toll restriction is required. For NIGHT CONNECTION-OUTSIDE-SYSTEM, toll restriction is not required.

STEP 6: **ACFR** - Assign Transfer Service Feature Index (TSFI) = 2: Direct In Termination Night Only, to be allowed CCI: 1 (LDN). This allows LDN to go to Night transfer destination. Assign TSFI: 5 (TAS) to be allowed CCI: 1 (LDN). This allows LDN to go to TRUNK ANSWER ANY STATION (TAS).

FCCS Programming

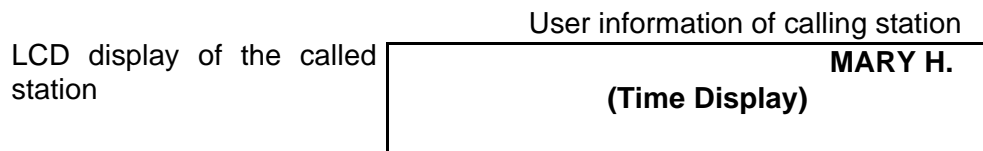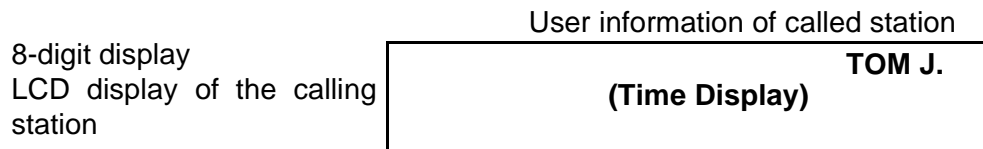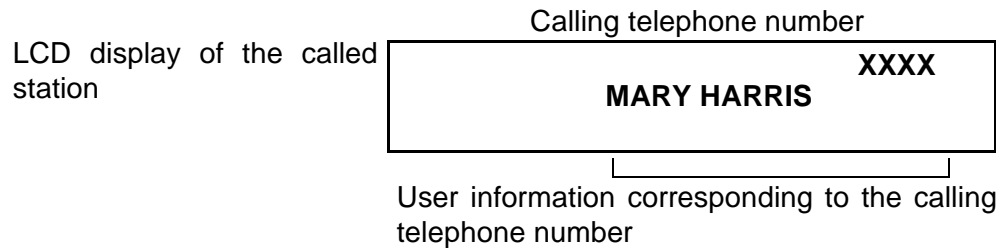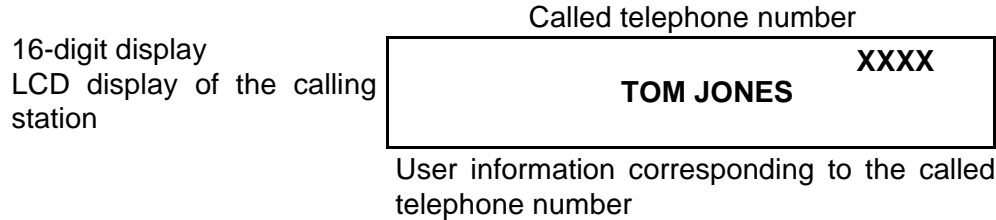No unique programming is required for the FCCS network.

N-28 Name Display - System

General Description

This feature allows a D^{term} with LCD display to indicate the user information corresponding to the calling telephone number while engaged in STATION-TO-STATION CALLING [S-11].
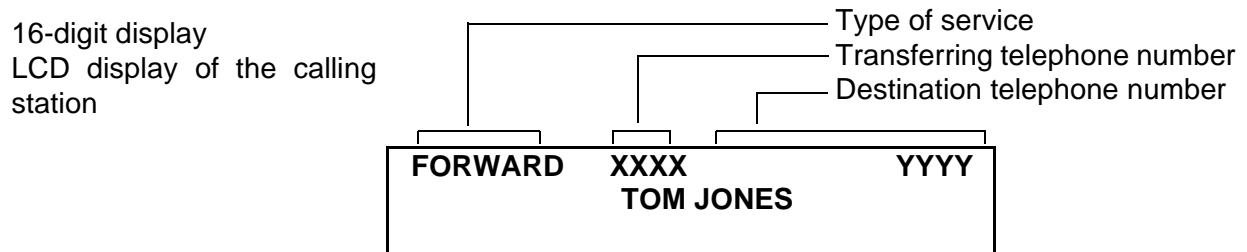
Operating Procedure

1. When originating a station-to-station call:

16-digit display
LCD display of the calling station

Called telephone number

	XXXX
TOM JONES	

User information corresponding to the called telephone number

LCD display of the called station

Calling telephone number

	XXXX
MARY HARRIS	

User information corresponding to the calling telephone number

8-digit display
LCD display of the calling station

User information of called station

	TOM J.
(Time Display)	

LCD display of the called station

User information of calling station

	MARY H.
(Time Display)	

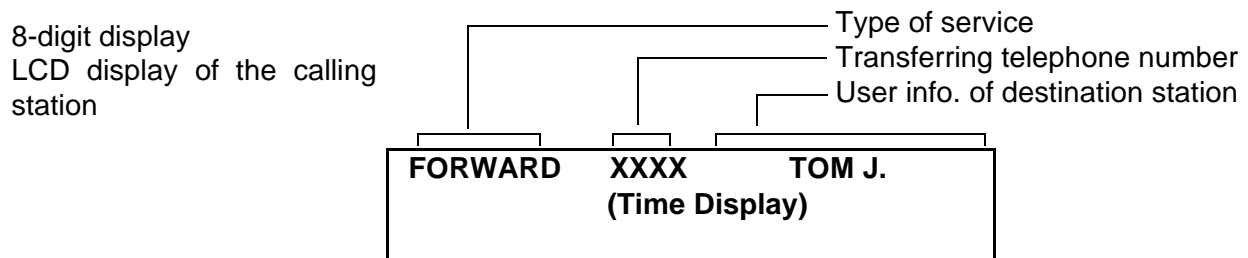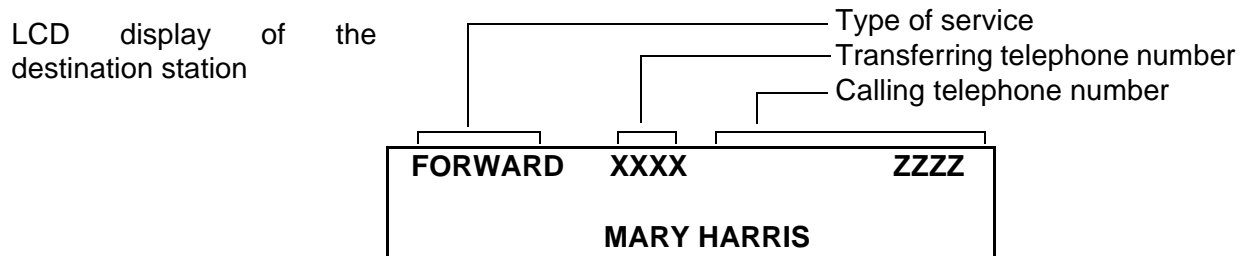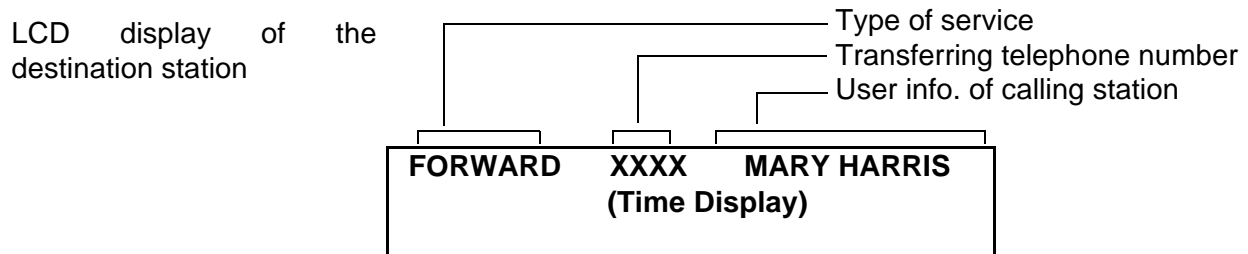**Note:** *The user information on the LCD flashes until the call is answered.*

2. When a station call has been transferred to another station by CALL FORWARDING - ALL CALLS [C-5]/ BUSY LINE [C-2]/DON'T ANSWER [C-3]:

16-digit display
LCD display of the calling station

Type of service
Transferring telephone number
Destination telephone number

FORWARD	**XXXX**	**YYYY**
	TOM JONES	

Operating Procedure (cont'd)

LCD display of the destination station

| Type of service
| Transferring telephone number
| Calling telephone number

```
FORWARD    XXXX              ZZZZ

           MARY HARRIS
```

8-digit display
LCD display of the calling station

| Type of service
| Transferring telephone number
| User info. of destination station

```
FORWARD    XXXX        TOM J.
(Time Display)
```

Note: *The user information on the LCD flashes until the call is answered.*

LCD display of the destination station

| Type of service
| Transferring telephone number
| User info. of calling station

```
FORWARD    XXXX    MARY HARRIS
(Time Display)
```

3. When both the calling/called station are released from a station-to-station call, the LCD of the calling/called station displays:

```
           (Time Display)
```

Service Conditions

1. This service is available when either of the calling/called station is a D^{term}, with an LCD display.
2. By this service, ASCII character data can be displayed.
3. User information corresponding to the telephone number that can be displayed on the LCD is a maximum of 16 digits. The information displayed may consist of upper case letters, numeric characters, and most keyboard symbols.
4. This service and Name Display service by Open Application Interface (OAI) cannot be activated concurrently.
5. 8-digit display or 16-digit display is selectable by System Data, but cannot be used concurrently.
6. 16-digit display:
   a.) 16-digit display is available only in case of station (My Line only) -to-station (My Line only) calls between D^{term}s with 2-line LCD display.

Service Conditions (cont'd)

      b.) User information is displayed on the middle line of LCD, beginning on the 9th segment from the left. When the information is less than 16 digits, the unused segments are left blank. The information cannot be displayed on the upper line of LCD.

7.   8-digit display of D^{term} Series E:

      a.) User information is displayed on the upper line of LCD, beginning on the 17th segment from the left. When the information is less than 8 digits, the unused segments are left blank.

8.   If the station has no name programmed for Name Display service, the telephone number is repeated in the name field.

9.   User information will not be guaranteed when 16-digit display service is changed to 8-digit display service.

10.   When telephone number has been changed to a new one, the telephone number and user information to be displayed cannot be guaranteed. Therefore, system data assignment must be properly managed.

11.   User information may be assigned to all sub-lines of a D^{term}.

12.   The Name Display data stored on the hard disk is loaded to the memory at the time of system initialization (including power on) or when the office data load initialization is requested by MAT command or the keys on the TOPU.

13.   The Name Display data is backed up to the hard disk at the time of routine diagnosis.

Programming

STEP 1:   **ASYD** - System Data 1, Index 78, Bit 3. Station Number with Name Display 0/1 = No/Yes (only used with 8-digit display)

    System Data 1, Index 78, Bit 5. Name Display Service

    0/1: Out/In Service. Assign 1 (= In Service).

    System Data 1, Index 79, Bit 5. Name Display Enhance Service

    0/1: Shows the name of the calling person on the answered phone/Shows time and date on the answered phone

    System Data 1, Index 79, Bit 6, OAI Service 0/1: In Service/Out. Assign 0 (= OAI is in service).

    System Data 1, Index 241, Bit 1, The Number of digits displayed in NAME DISPLAY service 0/1: 8 digits 16 digits

Note: *ASYD - System Data 1, Index 31. CM capacity is 04(hex).*

STEP 2:   **ANDD** - Assign user's information to Station Number.

FCCS Programming

    No unique programming is required for the FCCS network.

O-1 On-line Maintenance

General Description

This service feature permits maintenance routines to be performed on the NEAX2400 IMX without affecting normal system operation.

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

1. The following maintenance functions may be performed while the system is ON-LINE:
   a.) Generic Program and Operating Memory testing
   b.) Fault Contents Display and Diagnosis
   c.) System/Office Data Entry and Change
   d.) REMOTE MAINTENANCE [R-7]
   e.) Traffic Measurement
   f.) Testing facilities of outside trunks is provided as an option
   g.) PEG COUNT [P-7] display
2. I/O port "0" is fixed at 4800 bps.

Interactions

1. MAINTENANCE ADMINISTRATION TERMINALS [M-18] must first be provided.
2. Verify all cable connections.

Programming

STEP 1: **ATCC** - Assign the communication speed of the MAT at 4800 bps.
STEP 2: **AIOC** - Assign function and attribute data of the IOC ports.

FCCS Programming

No unique programming is required for the FCCS network.

O-2   Outgoing Trunk Queuing

General Description

This feature allows a user to dial a specified access code and enter a first-in, first-out queue, when encountering a trunk busy signal. As soon as an OUTGOING TRUNK becomes available, stations in the queue will be called back on a first-come, first-served basis.

Operating Procedure

When LEAST COST ROUTING - 3/6-DIGIT [L-5] is not provided:
1. Dial the trunk access code and receive busy tone.
2. Press the switch hook and receive special dial tone.
3. Dial the OUTGOING TRUNK QUEUING (OGQ) access code and receive service set tone.
4. Replace the handset.

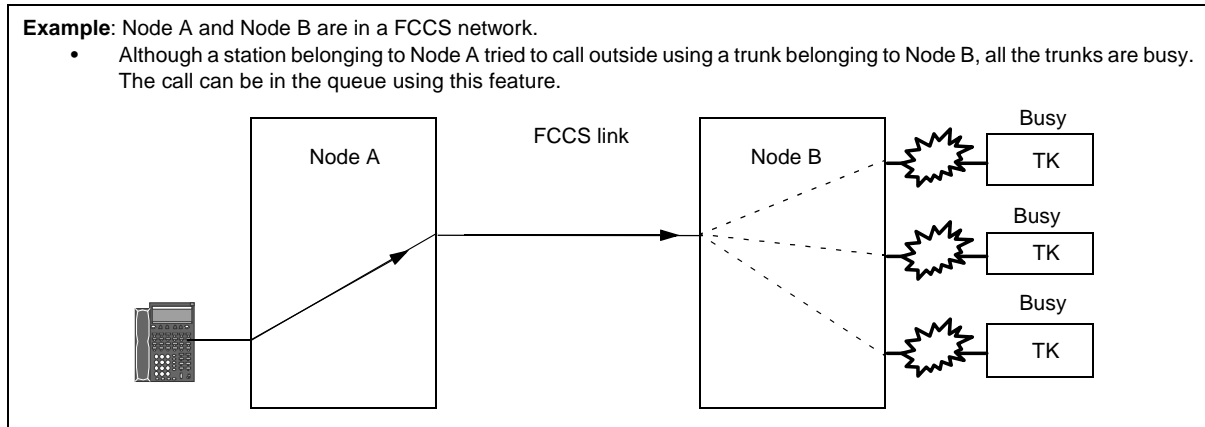**When LEAST COST ROUTING - 3/6-DIGIT [L-5] is provided:**
1. Dial the trunk access code and receive PBX dial tone.
2. Dial the desired number and receive busy tone.
3. Press the switch hook and receive special dial tone.
4. Dial the OGQ access code and receive service set tone.
5. Replace the handset.

Service Conditions

1. After an OUTGOING TRUNK becomes available, the user's station will ring for 30 seconds. If not answered within that time, the station will automatically be dropped from the queue.

2. When this feature is used in conjunction with SPEED CALLING - SYSTEM [S-3], or LEAST COST ROUTING [L-5], where a sender is involved, the sender will automatically dial out the called subscriber number when the handset is lifted.

3. If the user wishes to remove himself from the queue prior to being rung, the specified cancellation code must be dialed.

4. Individual stations may only initiate one outgoing trunk queue at a time. Subsequent attempts will result in a reorder tone.

5. Stations may be restricted from using this feature in CLASS OF SERVICE - INDIVIDUAL [C-15].

6. This feature is not available for an ATTENDANT CONSOLE [A-3].

7. The maximum number of simultaneous OGQs per system:

       1 IMG: 64 calls
       4 IMG/IMX-U: 256 calls

   The queue slots are used commonly by OFF-HOOK QUEUING [O-7], INTER-OFFICE OFF-HOOK QUEUING [I-11], and OGQ [O-2, 2D, 16].

8. CALL PICKUP - GROUP [C-7] cannot be used to answer a call directed to another station using OGQ.

9. OGQ is common to all Central Office-type trunk groups (COT, TIE, FX, WATS, etc.) in the system.

10. OGQ call back will return to the originating station, not the CALL FORWARDING [C-2, 3, 5] terminating station.

11. OGQ is denied to a station line when the CALL BACK [C-1] or CALL HOLD [C-6] feature is already activated.

12. The Attendant cannot CAMP-ON [A-1] a call to a station that has activated OGQ.

Service Conditions (cont'd)

13. If a user goes on-hook within 6-8 seconds after encountering all trunks busy, OUTGOING TRUNK QUEUING can be set automatically to the station.

14. The station is set for OGQ for a minimum of 30 seconds to one hour, maximum. This time is adjustable through the System Data base. After this time, OGQ will be cancelled automatically.

15. ACCOUNT CODE [A-18] and FORCED ACCOUNT CODE [F-7] information can be recorded on SMDR [S-10], when used in conjunction with OGQ.

16. This feature can be activated when using a trunk in the remote node via FCCS link.

Example: Node A and Node B are in a FCCS network.
   • Although a station belonging to Node A tried to call outside using a trunk belonging to Node B, all the trunks are busy. The call can be in the queue using this feature.

17. The maximum number of the OGQs stations is 1,024 within the FCCS network (NCN can manage a maximum of 1,024 calls).

18. OGQ data is transmitted to and stored in the Network Control Node (NCN). Therefore, all the OGQ data will be cleared by the system initialization of the NCN.

19. When the access to the NCN is impossible (system down or cable disconnection or any trouble has happened), the user cannot set or cancel OGQ data. (After dialing the access code or pressing the feature keys for set/cancel OGQ, the user hears the reorder tone.)

20. When the trunk becomes idle status after the NCN is recovered, the call in the queue will be called back, if data has not been cleared. If data has been cleared, the call is cancelled automatically.

Interactions

1. Dial pad operation for D$^{\text{term}}$ sets may be used. A FLASH BUTTON [F-3D] must be programmed to a programmable line/feature key.

2. OGQ-AUTOMATIC may operate with either same or separate access codes. If the Automatic option is chosen, service set tone will be sent when encountering an all trunks busy situation. No dial pad operation will be required.

3. When testing OGQ, at least one trunk of the trunk group being tested must be engaged in a station-to-trunk or trunk-to-trunk connection. Use of the MB key only on the trunk circuit card will not allow OGQ to test and operate properly.

Programming

STEP 1: **ASYD** - System Data 1, Index 68, Bit 3. Enables automatic cancel timer, as set in System Data 1, Index 159. 0/1: -/Enable.

System Data 1, Index 159. OGQ release timer. Standard data of 00H for 30 minutes may be assigned.

Programming (cont'd)

(RAM data of 3C [Hex] provides for 30 minutes).

System Data 2, Index 4, Bit 0. Should the access code for CALL BACK and OGQ be the same? 0/1: No/Yes. Usually assign data "1". Assign on a per-tenant basis.

System Data 2, Index 4, Bit 1. Enable Automatic OGQ? 0/1: No/Yes. Assign on a per-tenant basis. Automatic operation eliminates the need to access via dial pad.

System Data 2, Index 4, Bit 2. Enable OFF-HOOK OGQ for the Attendant Console? 0/1: No/Yes. Assign on a per-tenant basis. (See OUT GOING TRUNK QUEUING-ATTENDANT [O-16].)

System Data 1, Index 139, timer for the recall ringing.

STEP 2: **ANPD** - Reserve a number level for service feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - If System Data 2, Index 4, Bit 0 is assigned for separate access codes, assign an access code to OGQ, SRV = SSC (Service Code), SID = 19, and to OGQ cancel, SRV = SSC (Service Code), SID = 20. Assign SID = 19 for a Connection Index of Busy (B) and SID = 20 for a Connection Index of Normal (N). If the access codes are the same, either the access codes for OGQ or the access codes for CALL BACK may be assigned.

STEP 4: **ASFC** - If access codes are separate, assign a Service Feature Class that allows SFI 1 to stations that will have OGQ. If access codes are the same, assign an SFC that allows SRI 1, SFI 1 and SFI 2 to the station.

STEP 5: **ARTD** - Routes to be used for OGQ must be flagged in CDN 9:TQ, Trunk Queuing Service. Always allow queuing to Route 31, the LCR (S) flag route.

STEP 6: **AKYD** - D^{term} - set the following data to assign CALL BACK Key. Type:Function:CALL BACK [5].

STEP 7: **ADSL** - SN=6 (Trunk is Busy) and FKY=5 (Call Back; CB).

This command is used for assigning the function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDN** - These data must be assigned to the NCN.

System Data 1, Index 41:Designate the Trunk Queuing Override Timer

Index 68, b3:   Enables automatic cancel timer

0/1:   -/Automatic cancel timer is Available

Index 159:   Designate Automatic Cancel Timer

STEP 2: **ASPAN** - These data must be assigned to the NCN.

TN: Tenant Number

ACC: Access number

CI: B = Busy (for Entry), N = Normal (for Cancel)

SRV: SSC

SID: 19 = OG Queuing-Entry

CI: N = Normal

SID: 20 = OG Queuing-Cancel

FCCS Programming (cont'd)

STEP 3: **ANPDN** - These data must be assigned to the NCN.

        TN: Tenant

        1st DC: 1st Digit

        CI: Normal (N), Hooking (H) and Busy (B)

        NND: Number of Necessary Digits

        BLF: Busy Lamp Field

STEP 4: **ARTDN** - These data must be assigned to the NCN.

        LGRT: Logical Route Number

        Assign CDN 9:TQ, Trunk Queuing Service = 1

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command.*
The command to be set to the node that accommodates the trunk: ARTD
The command to be set to all the nodes: ASFC, AKYD

O-2D   Outgoing Trunk Queuing - D^term

General Description

This service allows a D^term user, upon encountering a trunk busy signal, to enter a first-in, first-out queue.

Operating Procedure

Without LEAST COST ROUTING - 3/6-DIGIT [L-5]:
1. Dial the trunk access code; receive busy tone.
2. Press the CALL BACK key, receive service set tone. The LCD displays:

```
┌─────────────────────────────┐
│ OG-Q SET                     │
│              (Time Display)  │
│                              │
│                              │
└─────────────────────────────┘
```

3. Replace the handset.
4. When the trunk becomes idle, the station will be rung.

With LEAST COST ROUTING - 3/6-DIGIT [L-5]:
1. Dial the trunk access code; receive PBX dial tone.
2. Dial the desired number; receive busy tone. The LCD displays:

Called Party

```
┌─────────────────────────────┐
│ BUSY                  XXXXXX │
│              (Time Display)  │
│                              │
│                              │
└─────────────────────────────┘
```

3. Press the CALL BACK key; receive service set tone. The LCD displays:

```
┌─────────────────────────────┐
│ OG-Q SET                     │
│              (Time Display)  │
│                              │
│                              │
└─────────────────────────────┘
```

4. Replace the handset.
5. When the trunk becomes idle, the station will be rung. Once connected to the trunk, the system automatically redials the number.
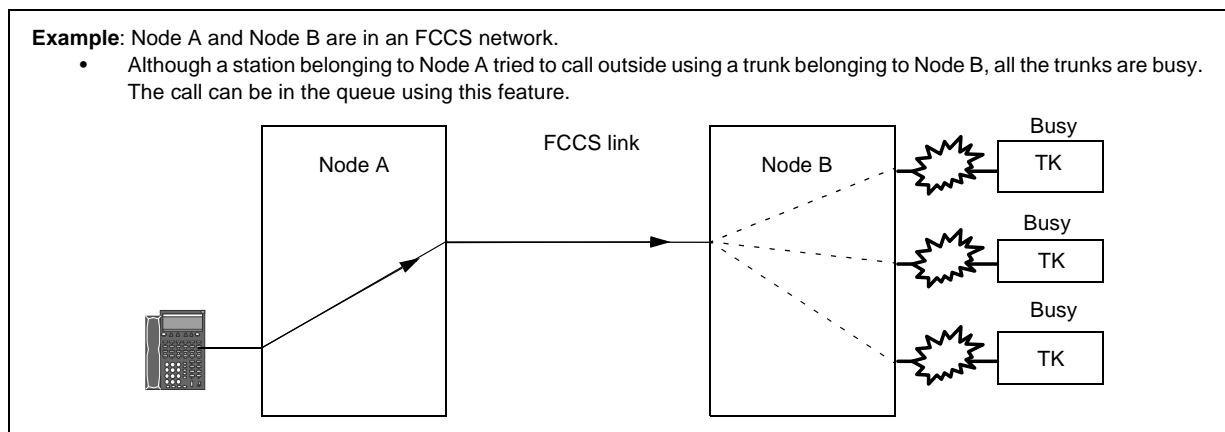
Service Conditions

1. When an OUTGOING TRUNK becomes available, the user's station will ring for 30 seconds. If the user does not answer within that time, the station will be automatically dropped from queue.
2. When this feature is used in conjunction with SPEED CALLING [S-3, 21, 23], or LEAST COST ROUTING - 3/6-DIGIT [L-5] where a sender is involved, the sender will automatically dial out the called number when the handset is lifted.
3. To cancel the OUTGOING TRUNK QUEUING from a D^term, go off-hook and press CALL BACK key. The LCD displays:

```
┌─────────────────────────────┐
│ OGQ CANCEL                   │
│              (Time Display)  │
│                              │
└─────────────────────────────┘
```

The user will hear service set tone.

Service Conditions (cont'd)

4. Individual stations may only initiate one OUTGOING TRUNK QUEUE - D^{term} at a time. Subsequent attempts will produce a reorder tone.

5. Stations may be restricted from use of this feature via CLASS OF SERVICE - INDIVIDUAL [C-15].

6. The station is put in queuing condition for a maximum of 30 seconds to one hour (adjustable through system data). After this timing, OG queuing will be cancelled automatically.

7. The maximum number of simultaneous OGQs per system:

1 IMG:	64 calls
4 IMG/IMX-U:	256 calls

8. CALL PICKUP [C-7] cannot be used to answer a call directed to another station using the OUTGOING TRUNK QUEUING - D^{term} feature.

9. OUTGOING TRUNK QUEUE - D^{term} is common to all trunk groups (COT, TIE, FX, WATS, etc.) in the system.

10. OUTGOING TRUNK QUEUING - D^{term} and CALL BACK [C-1] are mutually exclusive.

11. OUTGOING TRUNK QUEUING - D^{term} is denied to a station if the CALL BACK [C-1] or CALL HOLD [C-6] feature is already activated.

12. The Attendant cannot CAMP-ON [A-1] a call to a station that has activated this feature.

13. ACCOUNT CODE [A-18] and FORCED ACCOUNT CODE [F-7] information can be recorded on SMDR [S-10] when used in conjunction with OUTGOING TRUNK QUEUING - D^{term}.

14. OUTGOING TRUNK QUEUING - D^{term} is only available from the MY- Line of a D^{term}.

15. This feature can also be activated when using a trunk in the remote node via FCCS link.

Example: Node A and Node B are in an FCCS network.
- Although a station belonging to Node A tried to call outside using a trunk belonging to Node B, all the trunks are busy. The call can be in the queue using this feature.

16. The maximum number for the OGQ station is 1,024 within the FCCS network (NCN can manage a maximum of 1,024 calls).

17. OGQ data is transmitted to and stored in the Network Control Node (NCN). Therefore, all the OGQ data will be cleared by the system initialization of the NCN.

18. When the access to the NCN is impossible (system down, cable disconnection or trouble has occurred), the user cannot set or cancel OGQ data. (After dialing the access code or pressing the feature keys for set/cancel OGQ, the user hears the reorder tone.)

19. When the trunk becomes idle status after the NCN is recovered, the call in the queue will be called back, if data has not been cleared. If data has been cleared, the call is cancelled automatically.

Interactions

1. Dial pad operation for D^term sets may be exercised. A FLASH BUTTON [F-3D] must be programmed to a programmable line/feature key.

2. OGQ-AUTOMATIC may operate with either same or separate access codes. If the Automatic option is chosen, service set tone will be sent when encountering an all trunks busy situation. No dial pad operation will be required.

3. When testing OGQ, at least one trunk of the trunk group being tested must be engaged in a station-to-trunk or trunk-to-trunk connection. Use of the MB key only on the trunk circuit card will not allow OGQ to test and operate properly.

Programming

STEP 1:   **ASYD** - System Data 1, Index 68, Bit 3. Enables automatic cancel timer, as set in System Data 1, Index 159. 0/1: -/Enable.

System Data 1, Index 159. OGQ release timer. Standard data of 00H for 30 minutes may be assigned. (RAM data of 3C [Hex] provides for 30 minutes).

System Data 2, Index 4, Bit 0. Should the access code for CALL BACK and OGQ be the same? 0/1: No/Yes. Usually assign data "1". Assign on a per-tenant basis.

System Data 2, Index 4, Bit 1. Enable Automatic OGQ? 0/1: No/Yes. Assign on a per-tenant basis. Automatic operation eliminates the need to access via dial pad.

System Data 2, Index 4, Bit 2. Enable OFF-HOOK OGQ for the Attendant Console? 0/1: No/Yes. Assign on a per-tenant basis. (See OUTGOING TRUNK QUEUING-ATTENDANT [O-16].)

System Data 1, Index 139, timer for the recall ringing.

STEP 2:   **ANPD** - Reserve a number level for service feature access and cancel. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - If System Data 2, Index 4, Bit 0 is assigned for separate access codes, assign an access code to OGQ, SRV = SSC (Service Code), SID = 19, and to OGQ cancel, SRV = SSC (Service Code), SID = 20. Assign SID = 19 for a Connection Index of Busy (B) and SID = 20 for a Connection Index of Normal (N). If the access codes are the same, either the access codes for OGQ or the access codes for CALL BACK may be assigned.

STEP 4:   **ASFC** - If access codes are separate, assign a Service Feature Class that allows SFI 1 to stations that will have OGQ. If access codes are the same, assign an SFC that allows SRI 1, SFI 1 and SFI 2 to the station.

STEP 5:   **ARTD** - Routes to be used for OGQ must be flagged in CDN 9:TQ, Trunk Queuing Service. Always allow queuing to Route 31, the LCR (S) flag route.

STEP 6:   **AKYD** - For D^term set the following data to assign CALL BACK Key. Type:Function:CALL BACK [5].

STEP 7:   **ADSL** - SN=6 (Trunk is Busy) and FKY=5 (Call Back; CB).

This command is used for assigning the function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ASYDN** - These data must be assigned to the NCN.

FCCS Programming (cont'd)

System Data 1, Index 41:Designate the Trunk Queuing Override Timer

Index 68, b3:   Enables automatic cancel timer

0/1:   -/Automatic cancel timer is Available

Index 159:   Designate Automatic Cancel Timer

STEP 2:   **ASPAN** - These data must be assigned to the NCN.

TN: Tenant Number

ACC: Access number

CI: B = Busy (for Entry), N = Normal (for Cancel)

SRV: SSC

SID: 19 = OG Queuing-Entry

SID: 20 = OG Queuing-Cancel

STEP 3:   **ANPDN** - These data must be assigned to the NCN.

TN: Tenant

1st DC: 1st Digit

CI: Normal (N), Hooking (H) and Busy (B)

NND: Number of Necessary Digits

BLF: Busy Lamp Field

STEP 4:   **ARTDN** - These data must be assigned to the NCN.

LGRT: Logical Route Number

Assign CDN 9:TQ, Trunk Queuing Service = 1

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned command.*
The command to be set to the node that accommodates the trunk: ARTD
The command to be set to all the nodes: ASFC, AKYD, ASPA

O-6   Off-Hook Alarm

General Description

This feature allows a user to call the Attendant or a predetermined station by simply staying OFF-HOOK. The calling number is automatically displayed at the ATTENDANT CONSOLE [A-3] or a D^{term} series with a display.

Operating Procedure

1. Lift the handset and stay off-hook.
2. After a predetermined time elapses (2 to 30 sec.), the call will terminate at the ATTENDANT CONSOLE [A-3] or the predetermined station.
3. The calling telephone number will be displayed at the ATTENDANT CONSOLE [A-3] or D^{term} when answered.

Service Conditions

1. Predetermined timing interval is programmable through the MAINTENANCE ADMINISTRATION TERMINAL [M-18] (MAT) (2 to 30 seconds).
2. In the night mode, an OFF-HOOK ALARM call directed to the ATTENDANT CONSOLE [A-3] will not terminate at the ATTENDANT NIGHT TRANSFER [A-19] predetermined night station. The caller will receive a reorder tone.
3. A station will be assigned as a member of an OFF-HOOK ALARM group and will be connected to the predetermined stations that are assigned for each off-hook group.
4. Maximum number of OFF-HOOK ALARM groups is 7 per-TENANT [T-12] group. A group number must be assigned to all the stations to be included in a group.
5. The station assigned as a terminating station of each OFF-HOOK ALARM group can be a member of a HUNTING GROUP [S-7, 8, 9].
6. This service is programmed via System Data. Stations may be restricted from using this feature in CLASS OF SERVICE - INDIVIDUAL [C-15].
7. The ATTENDANT CONSOLE [A-3] can answer by pressing EMG key, which must be assigned by the MAT [M-18]. Using the ANSWER key will not give priority to the OFF-HOOK ALARM call.
8. The predetermined target station can set CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2].
9. When the predetermined station is busy, the OFF-HOOK ALARM call receives ringback tone until the station becomes idle.
10. This feature cannot be applied while in CONSULTATION HOLD - ALL CALLS [C-17] or CALL HOLD [C-6] mode.
11. When an OFF-HOOK ALARM call is directed to a Pilot station of a UCD [U-1] group, queuing is not available when all the stations within the group are busy.
12. This feature can also be activated when a station and the called party belong to different nodes.

Service Conditions (cont'd)

13. If a station belongs to the node that has an Attendant Console, the station is connected with the Attendant Console. If a station belongs to the node that does not have an Attendant Console, the station is connected with the specified Attendant Console in the remote node according to the system data assigned. See the figure below.
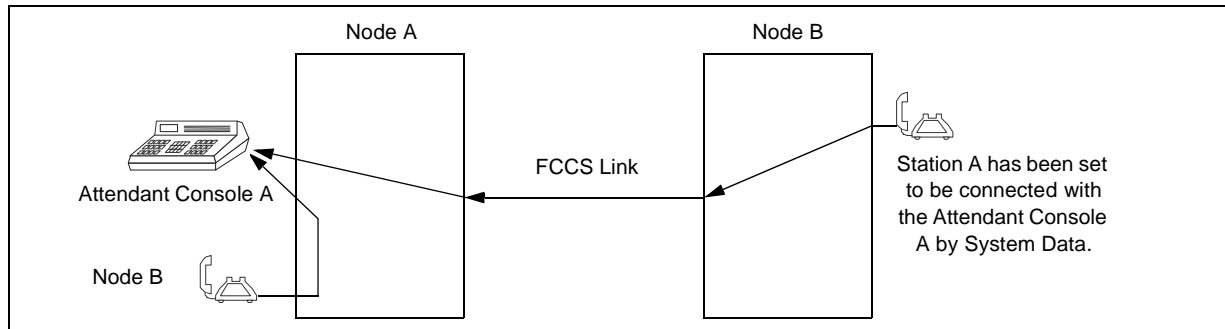
Interactions

1. A total of seven OFF-HOOK ALARM Groups per tenant may be assigned to the system, if the termination point is a station. Any station not assigned in ASGD will go to reorder tone after the Register Prepause timer (ASYD, System Data 1, Index 128) expires. If the termination point is the Attendant Console, all stations in the tenant will terminate to the Attendant Console.

2. ASAT cannot be used to construct different OFF-HOOK ALARM groups terminating to specific Attendant Consoles. If the tenant is equipped with more than one Attendant Console, OFF-HOOK ALARM calls will be directed to all consoles with OFF-HOOK ALARM keys programmed in AAKP.

3. The following features will function on terminating calls to a predetermined station:

CALL PICKUP	[C-7]
CALL TRANSFER	[C-11]
CALL HOLD	[C-6]
CALL FORWARDING	[C-5A]

4. No tone is provided on CALL WAITING-TERMINATING [C-12].

Programming

STEP 1: **ASYD** - System Data 1, Index 128, Bits 0-3. Register Prepause timer is used for OFF-HOOK ALARM. After the register times out, the station assigned to an OFF-HOOK ALARM group will ring at the terminating Attendant Console or station. Leave Index 128 as 00H for normal operation.

System Data 1, Index 168, Bit 4. Enable OFF-HOOK ALARM? 0/1: No/Yes.

System Data 1, Index 168, Bit 5. Is the terminating point for OFF-HOOK ALARM an Attendant Console or station? 0/1: Attendant Console/Station. If Attendant Console is chosen, go to AAKP command. If station is chosen, go to the ASID and ASGD commands.

STEP 2: **ASID** - This command defines the purpose of this Special Incoming Group, and is used in conjunction with ASGD. Assign the following:

TN: Tenant Number

F: Function Number (0-7)

0: OFF-HOOK ALARM

GN: Group Number (1-7).

S/A: Special Incoming Equipment

Programming (cont'd)

S: Station

A: Attendant Console

SSTN: Special Station Number

STEP 3: **ASGD** - This command defines what stations belong to the Special Incoming Group. Assign the following:

TN: Tenant Number

STN: Station Number

F: Function Number (0-7)

0: Off-Hook Alarm

GN: Group Number (1-7)

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 30 to stations that will have OFF-HOOK ALARM.

STEP 5: **AAKP** - Assign the Attendant Console Key Pattern. The ATN: Attendant Number (TRK No. for RTE 901); KYN = 1-6; and FUNC = 2. (The console must be in Night mode to assign this command.)

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

ASYDL - This data must be set to all the nodes.

System Data 1, Index 640, assign the Fusion Point Code (FPC) of the node providing the Attendant Console. **(Note 2)**

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *Assign the self FPC at the terminating node.*

The current data should also be set in addition the above-mentioned command.

The command to be set to the node that accommodates the attendant console: AAKP, ACFR (when the destination is the Night ATT: ATNR)

The command to be set to all the nodes: ASYD, ASFC

O-7 Off-Hook Queuing
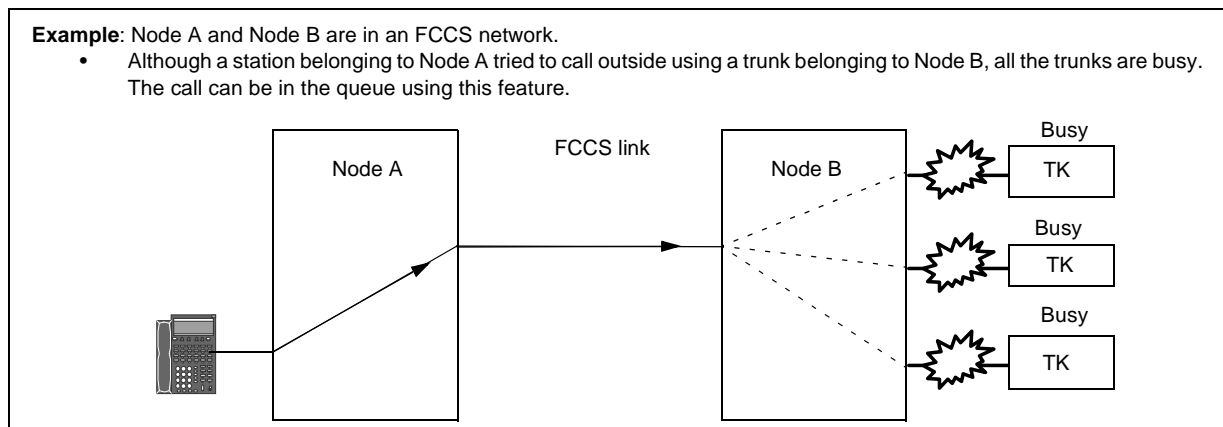
General Description

This service allows a user, upon encountering a trunk-busy condition, to remain off-hook and automatically enter a first-in, first-out queue. As soon as an outgoing trunk becomes available, the switch connects the next call to this trunk.

Operating Procedure

1. Lift the handset; receive a dial tone.
2. Dial the Outgoing Call access code and the desired number (LCR access).
3. The NEAX2400 IMX determines that no trunks are available and places the call in an available queue slot.
4. The caller receives service set tone; remains off-hook and waits.
5. When a trunk becomes available, the dialed number is automatically sent forward.

Service Conditions

1. This feature is usually used in conjunction with LEAST COST ROUTING - 3/6-DIGIT [L-5].
2. The maximum number of simultaneous OFF-HOOK QUEUEs per system:

   1 IMG: 64 calls
   4 IMG/IMX-U: 256 calls
3. The queue slots are used commonly by OFF-HOOK QUEUING, OUTGOING TRUNK QUEUING [O-2] and INTER-OFFICE OFF-HOOK QUEUING [I-11].
4. If no queue slots are available, the user will receive busy tone.
5. Route Class of the LCR can give the choice of the OFF-HOOK QUEUING.
6. CLASS OF SERVICE - INDIVIDUAL [C-15] is applied for each station. This class of service is different from the class of service for OUTGOING TRUNK QUEUING [O-2]. Both services are mutually exclusive.
7. When automatic outgoing queuing (on-hook queuing) is in service (tenant basis), OFF-HOOK QUEUING service is not effective.
8. ACCOUNT CODE [A-18] and FORCED ACCOUNT CODE [F-7] information can be recorded on SMDR [S-10], when used in conjunction with OFF-HOOK QUEUING.
9. This feature can also be activated when using a trunk in the remote node via FCCS link.

Example: Node A and Node B are in an FCCS network.
  • Although a station belonging to Node A tried to call outside using a trunk belonging to Node B, all the trunks are busy. The call can be in the queue using this feature.

Service Conditions (cont'd)

10. The maximum of number of the OGQ stations is 1,024 within the FCCS network (NCN can manage a maximum of 1,024 calls).
11. OGQ data is transmitted to and stored in the Network Control Node (NCN). Therefore, all the OGQ data will be cleared by the system initialization of the NCN.
12. When the access to the NCN is impossible (system down, cable disconnection or trouble has occurred), the user cannot set or cancel OGQ data. (After dialing the access code or pressing the feature keys for set/cancel OGQ, the user hears the reorder tone.)
13. When the trunk becomes idle status after the NCN is recovered, the call in the queue will be called back, if data has not been cleared. If data has been cleared, the call is cancelled automatically.

Interactions

1. UNIVERSAL SENDER [U-3] must first be provided.
2. The PBX attempts trunk seizure every four seconds until the connection has been completed.
3. LEAST-COST ROUTING-3/6 DIGIT [L-5] information will be applied to these attempts. Therefore, OUTGOING TRUNK QUEUING will be set against all routes in the Outgoing Routing Pattern (OPR).
4. If all queuing memory slots are in use, the user will receive a trunk-busy signal.
5. The time a call may remain in queue is unlimited.
6. The following features cannot be activated toward the busy station: CALL WAITING - ORIGINATING [C-31], CALL WAITING - TERMINATING [C-12], ATTENDANT CAMP-ON WITH TONE INDICATION [A-1], BUSY VERIFICATION [B-3] and EXECUTIVE RIGHT-OF-WAY [E-1].
7. Do not disable constant service set tone by changing System Data 1, Index 42, Bit 7 to data "1". This changes constant service set tone to burst special dial tone, and special dial tone to burst special dial tone, followed by constant dial tone. This will also disable TANDEM OFF-HOOK QUEUING.

Programming

STEP 1: **ASYD** - System Data 2, Index 4, Bit 1. Enable Automatic OUTGOING TRUNK QUEUING? 0/1: OFF-HOOK QUEUING/Automatic OUTGOING TRUNK QUEUING. (OFF-HOOK QUEUING and Automatic OUTGOING TRUNK QUEUING are mutually exclusive.) Assigning data "0" allows OFF-HOOK QUEUING.

STEP 2: **ASFC** - Assign a Service Feature Class that allows SFI 21 to stations that will have OFF-HOOK QUEUING.

STEP 3: **ARTD** - Routes to be used for OFF-HOOK QUEUING must be flagged in CDN 9:TQ. Also allow OUTGOING TRUNK QUEUING to the LCR(s) flag route.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDN** - This data must be assigned to the NCN. System Data 1, Index 41: Designate the Trunk Queuing Override Timer.

STEP 2: **ASPAN** - This data must be assigned to the NCN.

    TN: Tenant Number

    ACC: Access Number

FCCS Programming (cont'd)

        CI: B = Busy (for Entry), N = Normal (for Cancel)

        SRV: SSC

        SID: 19 - OG Queuing - Entry

        CI: N = Normal

        SID: 20 = OG Queuing - Cancel

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current data should also be set in addition the above-mentioned commands.*
The command to be set to the node accommodating the trunk: ARTD
The command to be set to all the nodes: ASYD, ASFC

O-13 Overflow - UCD

General Description

1. When a call has terminated to UCD [U-1] Group A, and the incoming call has encountered all stations busy in Group A, the call is transferred to UCD [U-1] Group B, if Group B is registered as the OVERFLOW-UCD destination.
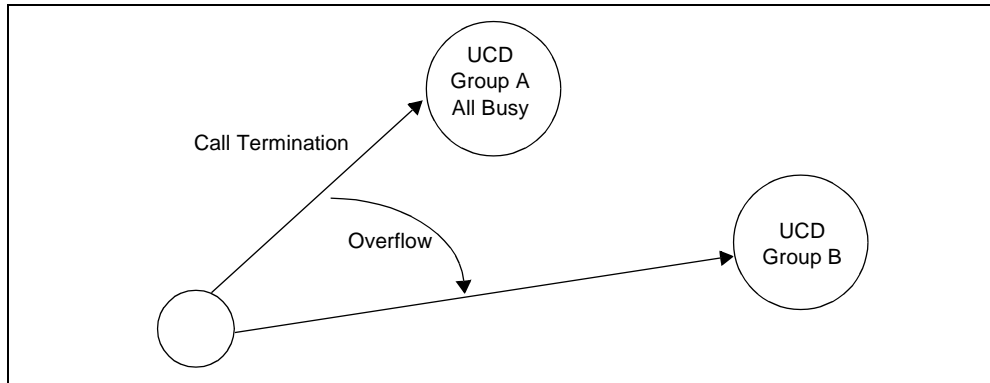
2. If all stations are busy in Group B, then the call is placed in queue for the originally called UCD [U-1] group (Group A).
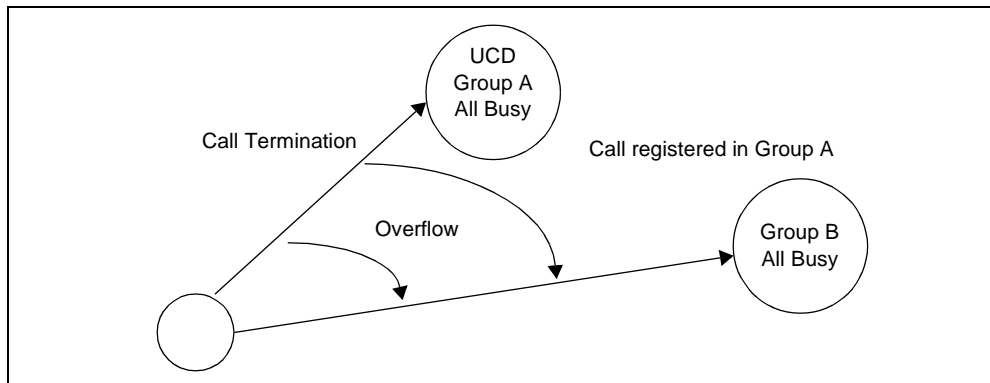
Operating Procedure

No manual operation is required.

Service Conditions

1. An OVERFLOW group must be a UCD [U-1] Group.
2. One OVERFLOW group can be provided for one UCD [U-1] Group.
3. OVERFLOW is performed only once.
4. An OVERFLOW group cannot be registered into a queue.
5. The NEAX2400 IMX can be provided with five OVERFLOW groups.
6. This feature can be activated via FCCS.
7. When using the FCCS network, the number type (telephone number or Physical Station Number) for the station assignment must be the same between the originally called group and the forwarded group.

Interactions

ALL UNIFORM CALL DISTRIBUTION [U-1] interactions apply to the UCD overflow group. The incoming overflow call is handled in the same way as a regular incoming call. If both UCD groups are busy, the call will queue at Group A.

Programming

STEP 1: **ASHU** - Assign the required data for the UCD Group:
- TN: Tenant Number
- STN: Station Number
- CNT: Number of stations to be entered (recommended maximum of 20 stations)
- ADD: Number of stations to be added (recommended maximum of 20 stations)
- *STN: Station Numbers of the stations included in the UCD group (*indicates the order of a station in the group)

STEP 2: **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B) (if applicable to any feature in this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to UNIFORM CALL DISTRIBUTION [U-1], SRV = SSCA (Service Code Appendix), SIDA = 50 Busy Set, SRV = SSCA (Service Code Appendix), SIDA = 51 Busy Cancel. Connection Status CI = N, Normal (N).

STEP 4: **AUOG** - Assign the UCD OVERFLOW data via this command. Assign the following:

TN-A, STN-A: Tenant Number and Station Number that belong to a UCD group.

TN-B, STN-B: Tenant Number and Station Number of a member station in a UCD group to be hunted in the case where the UCD group designated by TN-A and STN-A happens to be busy.

TRANSLATION: When UCD Group A is busy, calls will overflow to UCD Group B.

STEP 5: **AKYD** - To a programmable line/feature key on the UCD stations (when the stations are D$^{\text{term}}$s), assign FKY = 19-UCD Busy Out.

STEP 6: **ADSL** - Assign UCDBO key; Assign SN=0 (Idle), 3 (Called Station Busy) and FKY=19 (UCD Busy Out).

This command is required for assigning a function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDN** - This data must be assigned to the NCN. System Data 1, Index 60, b3: 0/1 = UCD Queuing is used/not used

STEP 2: **AUOGN** - This data must be assigned to the NCN. Assign the UCD OVERFLOW data via this command.
- UGN-A: User Group Number belonging to a UCD group
- TELN-A: Telephone Number belonging to a UCD group
- UGN-B: User Group Number of Overflow Destination
- TELN-B: Telephone Number of Overflow Destination

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

O-16   Outgoing Trunk Queuing - Attendant

General Description

This feature allows an ATTENDANT CONSOLE [A-3], upon encountering a trunk busy condition, to remain Off-Hook and automatically enter a first-in, first-out queue. As soon as an outgoing trunk becomes available, the switch connects the next call to that trunk.

Operating Procedure

1. Dial the access code and the desired number.
2. When no trunks are available, the call automatically enters an available queue slot.
3. The Attendant receives service set tone; remains off-hook and waits.
4. When a trunk becomes available, the dialed number is automatically sent forward.

Service Conditions

1. This feature is used with LEAST COST ROUTING - 3/6-DIGIT [L-5].
2. The maximum number of stations or ATTENDANT CONSOLEs [A-3] that may use OFF-HOOK QUEUING [O-7] simultaneously is 256 per system.
3. The queue slots are shared by OFF-HOOK QUEUING [O-7], OUTGOING TRUNK QUEUING (OGQ) [O-2, 12D, 16] and INTER-OFFICE OFF-HOOK QUEUING [I-11].
4. If no queue slots are available, the ATTENDANT CONSOLE [A-3] will receive busy tone.
5. CLASS OF SERVICE - INDIVIDUAL [C-15] is applied to each ATTENDANT CONSOLE [A-3]. (RSC 0 and SFC 0 are reserved for ATTENDANT CONSOLE [A-3].)
6. OFF-HOOK QUEUING is utilized for this service feature.

Programming

STEP 1:   **ASYD** - System Data 2, Index 4, Bit 2: Off-Hook OGQ for attendant 0/1: Out/In Service.

STEP 2:   **ASFC** - Assign 1 (= Allowed) in SFI21 (= Off-Hook OGQ) for SFC0.

FCCS Programming

No unique programming is required for the FCCS network.

O-21 Outgoing Trunk Busy Announcements

General Description

This feature permits a station-originated call, upon encountering a trunk busy signal, to be automatically routed to a recorded announcement informing the caller that all outgoing trunks are busy.

Operating Procedure

No manual operation is required after this feature has been programmed in System Data.

Service Conditions

1. This service feature is available when a station-originated call or tandem call encounters a busy condition.
2. MISCELLANEOUS TRUNK RESTRICTION [M-2] is also available for this service feature.
3. The announcement machine can be provided on a per-tenant basis.
4. The availability of this service feature cannot be determined for each outgoing trunk route.
5. The other services activated by an outgoing trunk-busy condition are executed prior to this service, for example:

OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2]
ROUTE ADVANCE	[R-6]

6. This feature is not available when a call origination is impossible because of a sender-busy condition, even though there are idle trunks.
7. This feature is available when a call using STATION-TO-STATION CALLING [S-11] is transferred by CALL FORWARDING - ALL CALLS - OUTSIDE [C-28] or CALL FORWARDING - BUSY LINE - OUTSIDE [C-60] and encounters busy outgoing trunks.
8. This feature is available when a station calling on a DIRECT INWARD DIALING [D-8] or a Tie Line is transferred by CALL FORWARDING - ALL CALLS - OUTSIDE [C-28] or CALL FORWARDING - BUSY LINE - OUTSIDE [C-60] and encounters busy outgoing trunks.
9. This feature is not available when a call is transferred by CALL FORWARDING - DON'T ANSWER - OUTSIDE [C-74] and encounters busy outgoing trunks.
10. This feature requires one of the following hardware alternatives:
    a.) Central Office Trunk (COT) or 2W E&M trunk and an announcement machine
    b.) Digital Announcement Trunk (DAT).
11. This feature is not available for DIT CALL FORWARDING-OUTSIDE.
12. This feature is only available to a trunk in the same node within the FCCS network.

Programming

STEP 1: **AAED** - Assign Announcement Equipment Number = 4.

STEP 2: **ARSC** - Set Route Restriction Class to allow RES = 1 for announcement trunk.

STEP 3: **ARRC** - Assign Alternative Route Restriction to allow or disallow the DID or Tie Line Route to the Announcement Route.

O-37D   Off-Hook Line Number Display - D^{term}

General Description

This feature permits the D^{term} LCD to display the calling telephone number/trunk number when the D^{term} user originates a call by pressing a line key or using TRUNK LINE APPEARANCE [T-23] service.

Operating Procedure

1. When a call is originated by pressing the line key:
    - In the on-hook status; the LCD displays:

    ```
                    (Time Display)
    ```

    In the idle status and no display.
    - In the off-hook status; the LCD displays:

    ```
                                       25640
                    (Time Display)
    ```

    Selected line number is displayed.
    - When dialing the one digit ("3"); the LCD displays:

    ```
                                           3
                    (Time Display)
    ```

    Selected line number is cleared and dialed number is displayed.
2. When a call is originated by using TRUNK LINE APPEARANCE service; the LCD displays:
    - In the on-hook status:

    ```
                    (Time Display)
    ```

    In the idle status and no display.
    - In the off-hook status:

    ```
                                        7702
                    (Time Display)
    ```

    Selected trunk number is displayed.
    - When dialing the one digit ("0"); the LCD displays:

    ```
                                           0
                    (Time Display)
    ```

    Selected trunk number is cleared and dialed number is displayed.

Service Conditions

1. This service is provided when off-hook. In the preselect status, this is not provided.
2. This service is not provided when a call is originated by using HOT LINE [H-1] service.
3. In case a call is originated by using TRUNK LINE APPEARANCE service, the connected trunk number is displayed.
4. If the trunk number is not assigned, the LCD doesn't display.
5. The maximum digits of the displayed trunk number is 4.
6. The display position of the selected line/trunk number may be changed by system data as below:

   a.)

25640
(Time Display)

   b.)

(Time Display)

   c.)

25640
(Time Display)

Programming

ASYD - System Data 1, Index 389, Bits 5 and 6. Location of Off-Hook Line Number Display on the D^term.

00:     Right side (Standard Setting)

01:     Center

10:     Left side

11:     -

System Data 1, Index 389, Bit 7. Off-Hook Line Number Display - D^term. 0/1= Out/In Service. Assign data "1".

FCCS Programming

No unique programming is required for the FCCS network.

P-1   Paging Access

General Description

This feature provides both ATTENDANT CONSOLE [A-3] and users dial access to PAGING equipment.

Operating Procedure

1. Go off-hook; receive dial tone.
2. Dial the Paging access code; receive ringback tone for several seconds.
3. Connection to Paging equipment is established.

Service Conditions

1. Amplifiers and speakers must be customer provided.
2. One trunk circuit is required for each Paging Access.
3. Where TENANT SERVICE [T-12] is provided, separate access codes and hardware should be provided for each tenant.
4. Maximum Paging Access code is 3 digits.
5. ALL ZONE PAGING [A-53]: If the system provides multi-zone Paging with a separate direct access code assigned for each area, stations or Attendants can use all-zone Paging by dialing a special access code common for all Paging systems.
6. PRIORITY PAGING [P-30]: A predetermined station or the Attendant can preempt a Paging trunk that is connected to any station.
7. Loop signaling is the recommended signaling type.
8. PAGING ACCESS [P-1], PAGING TRANSFER [P-10] and RADIO PAGING [R-16] are provided to the paging station and the paged station in FCCS nodes.
9. When PAGING ACCESS [P-1]/PAGING TRANSFER [P-10]/RADIO PAGING [R-16] service is set to a station in the remote node or the PAGING ACCESS [P-1]/PAGING TRANSFER [P-10]/RADIO PAGING [R-16] call is answered from the remote node via FCCS link:
    a.) the logical route number should be applied to each physical route that provides the service.
    b.) the restriction of route-to-route connection between FCCS nodes should be released.
10. The same paging route cannot be used by another station while the paged station does not answer the page activated using the route. However, the paging activation is automatically cleared when the call is not answered within a predetermined time.
11. A user can page one station at a time.

Interactions

1. MEET-ME PAGING [M-1, 11] and PAGING ACCESS [P-1] can be provided simultaneously in the same system.
2. To directly answer PAGING ACCESS [P-1] by the Attendant Console, the Paged party should use the INDIVIDUAL ATTENDANT ACCESS [I-4] feature.
3. Paging is limited to stations, Attendant Consoles, or TIE trunks. Other parties (CO trunks calls) must have the Attendant Console or user perform the Paging operation.
4. BUSY VERIFICATION [B-3], EXECUTIVE OVERRIDE [E-1]: These features will be denied if the Paging route has been assigned for Privacy. Verify the data in the Assignment of Route Data command, ARTD, CDN 44:PRV. If CDN 6:TCL is assigned as data "8", CDN 44:PRV is not required.

Interactions (cont'd)

5. For simple PAGING ACCESS [P-1], assignments in ASFC are not required. Refer directly to the other Paging features, such as PAGING TRANSFER [P-10].

6. The Attendant can dial the PRIORITY PAGING [P-30] access code and release a station.

7. When disconnecting from a Paging trunk, the trunk becomes idle immediately.

8. Paging is possible from a CONSULTATION HOLD [C-17]. Station A places Party B on soft hold and dials the access code to the Paging trunk. A momentary pressing of the switch hook disconnects the Paging trunk immediately and reconnects Party B to Station A.

9. CALL HOLD [C-6]: A Paging trunk cannot be placed on call hold.

10. BUSY is displayed on the D^{term} LCD display when the Paging trunk is busy. Reorder tone is returned.

11. If PRIORITY PAGING [P-30] is used with PAGING ACCESS [P-1]; ARTD, CDN 6 must be assigned as data "8", Page with ringback tone. System Data 1, Index 73 affects the operation of Page routes assigned Page with ringback tone. Therefore, if PRIORITY PAGING [P-30] is used with PAGING ACCESS [P-1], then MEET-ME PAGE [M-1, 11] and PAGING TRANSFER [P-10] are not available to the system.

12. PRIORITY PAGE [P-30] access will not disconnect an Attendant Console engaged in a Paging trunk connection.

Programming

STEP 1: **ASYD** - System Data 1, Index 73, bits 0 & 1. For PAGING function only, assign data "00".

STEP 2: **ARTD** - Assign the Paging route as shown below:

RT: 1

1-OSGS	:2	2-ONSG	:3	4-INSG	:3	5-TF	:1	6-TCL	:8
7-L/T	:1	8-RLP	:2	15-LSG	:0/1	44-PRV	:1		

STEP 3: **ATRK** - Assign the LEN, Paging Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the Paging trunks.

STEP 5: **ANPD** - Assign a level for trunk access. Assign Connection Indexes, CI = N, H; Normal (N), and Hooking (H). Assign the Number of Necessary Digits according to a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 6: **ASPA** - Assign the PAGE ACCESS code. Type of Service, SRV = OGC (Outgoing Call). Assign the proper route number associated with this access code. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H).

STEP 7: **ARSC** - Assign to the station that is allowed access to paging trunks a Route Restriction Class (RSC) that is allowed these routes in Route Restriction Indexes (RRI) 2 & 3.

FCCS Programming

No unique programming is required for the FCCS network.

P-2   Passing Dial Tone

General Description

This feature allows the Attendant to PASS DIAL TONE to a restricted user, enabling that user to place a call that would normally be restricted.

Operating Procedure

1. Restricted user dials Attendant.
2. Attendant presses ANSWER or ATND key; tenant number, trunk route restriction class and telephone number are displayed.
3. Obtain call details.
4. Dial central office access code; tenant number, and trunk identification number are displayed.
5. Press RELEASE key; user hears dial tone.
6. User places the call.

Service Conditions

1. This feature permits PASSING DIAL TONE to restricted and unrestricted stations only by the Attendant.
2. When LEAST COST ROUTING - 3/6-DIGIT [L-5] is provided in the system, the Attendant cannot pass dial tone. The call must be completed via the ATTENDANT CONSOLE [A-3].
3. TOLL RESTRICTION [T-7] is activated via system programming for the PASSING DIAL TONE feature.
4. The PASSING DIAL TONE feature is limited by the number of trunks that can be accessed by the Attendant and the Class of Service restrictions of the station.
5. Restriction from Outgoing Calls: This feature can be overridden by the use of the PASSING DIAL TONE.
6. The Attendant is allowed to pass dial tone to any station that has a class of service that allows normal direct dial access capabilities to the trunk group seized by the Attendant.
7. Any non-restricted station can dial through over the selected outgoing trunk. The type of address signals sent to the called location are determined by the trunk route class data.
8. Where SMDR [S-10] is provided, through-dialed calls are charged to the calling station line.
9. This feature is available when the numbering plan for call origination is Outgoing Call (OGC) or Outgoing Call Alternative (OGCA), and the answer-back signal is the second dial tone (mark-out method).
10. When placing outside calls, activation of the TOLL RESTRICTION - 3/6-DIGIT [T-7] is determined by System Data of the calling station on a tenant basis.
11. If TOLL RESTRICTION- 3/6-DIGIT [T-7] is not activated via System Data, neither the 3-digit area code nor the 6-digit area and office code are restricted.
12. If TOLL RESTRICTION- 3/6-DIGIT [T-7] is activated via System Data, the call will be restricted when the calling party dials the restricted area code.

Interactions

1. Any station that is restricted from a route may receive access to that route by the Attendant Console. A station that is toll restricted will not be able to place calls to destinations normally restricted by having the Attendant Console pass dial tone. The same ATDP tables will apply to that station. The Attendant Console must dial the number for the station when that station is toll restricted. See NON-DELAY OPERATION [N-3].

Interactions (cont'd)

2. The associated programming that should be examined is ATTENDANT CONSOLE [A-3], TOLL DENIAL/TOLL DIVERSION [T-7], TOLL RESTRICTION-3/6 DIGIT [T-8], LEAST-COST ROUTING-3/6 DIGIT [L-5], CLASS OF SERVICE-INDIVIDUAL [C-17], and the various trunk access features.

3. NIGHT CONNECTION FIXED/FLEXIBLE [N-1, 2]: The NIGHT CONNECTION FIXED/FLEXIBLE stations cannot pass dial tone to another station.

4. ATTENDANT NIGHT TRANSFER [A-19]: The ATTENDANT NIGHT TRANSFER station cannot pass dial tone to another station.

5. When LEAST-COST ROUTING-3/6 DIGIT [L-5] is programmed, the ATDP tables will be affected. During feature operation, the Attendant will dial the route access code and then release dial tone to the station. Because that route is assigned in ARNP tables against the LCR (S) access codes, the ATDP tables must also use the LCR (S) access code. For example, the Attendant dials 81 and releases. The station dials 1-516-753-7526. ATDP must be programmed as DC: 9151 and TDI: 1, allowed; not as DC: 81151. (ARNP for the route in this example is assigned with the access code = 9.)

Programming

STEP 1:   **ASYD** - System Data 2, Index 15, Bit 3. Toll restriction on an outgoing call placed by PASSING DIAL TONE. 0/1: Valid/Invalid.

STEP 2:   **ARSC** - Construct a Route Restriction Class (RSC) that will allow outgoing access to the various routes via Route Restriction Index (RRI) 2, via the Attendant Console. Be sure to assign RRI 3 as data "0 or 2", connection restricted.

STEP 3:   **ASDT** - Assign to the station a Route Restriction Class (RSC) that allows outgoing access to the various routes via the Attendant Console.

STEP 4:   **ATDP** - For those Route Restriction Classes that will receive dial tone from the Attendant Console, construct allow tables. The system does not pass the RSC of the Attendant Console to the restricted station. It bypasses the RRI 3 restriction and instructs the system to look at the ATDP tables for that RSC and govern connections accordingly.

FCCS Programming

No unique programming is required for the FCCS network.

P-3   Power Failure Transfer

General Description

This feature provides for certain specified trunks to be automatically connected to designated stations in the event of a loss of AC power. It is normally used when the system is not equipped with reserve power.

Station Application

Operation is automatic if there is loss of input power to the system.

Service Conditions

1. If the Central Office is wired ground start, stations must be equipped with ground buttons to complete calls over the exchange network.
2. Power failure station lines should not be wired to common bells. These require outside power sources and will not operate.
3. Type of telephone set (DP or DTMF) connected to CO line via POWER FAILURE TRANSFER shall correspond to the signaling system of the Central Office.
4. The maximum number of POWER FAILURE TRANSFER circuits per PIM is 24 (12 circuits per package).
5. The Power Failure Trunk (PFT) and associated Central Office Trunk should be in the same PIM.
6. When the POWER FAILURE TRANSFER feature is activated, telephone service is limited to incoming calls and/or outgoing calls via the serving Central Office. DID calls cannot be received.
7. D^{term}s cannot be used as Power Failure stations.
8. All calls in progress and/or established calls are lost when a POWER FAILURE TRANSFER occurs. When commercial power is restored, the NEAX2400 IMX is automatically reinitialized. Back-up service is provided via the HDD unit to retain the following features:

CALL FORWARDING	[C-2, C-2D, C-3, C-3D, C-5, C-5D]
SPEED CALLING - GROUP	[S-23]
SPEED CALLING - STATION	[S-21]
NAME DISPLAY DATA	[N-28]

Interactions

1. A PFT circuit card is required.
2. The POWER FAILURE TRANSFER station and Central Office trunk must be on the same Module Group.
3. When power is lost and the POWER FAILURE TRANSFER (PFT) feature is activated, telephone service is limited to incoming and outgoing calls via the predesignated PFT stations.
4. DID service will be lost, as this service is dependent on the operational status of Incoming Register Trunks (IRTs).
5. When power is lost, all calls (station-to-station and station-to-trunk) are lost. When power is restored, PFT calls will stay up until manually disconnected by the participants. Service to the PFT stations is then restored to normal.

Programming

No programming is required.

P-4   Pushbutton Calling

General Description

This feature permits users to originate calls using pushbutton telephones and also allows D^{term} stations the ability to control external devices requiring DTMF signals to initiate or perform functions (Code-A-Phone, Conference Unit, etc.).

Operating Procedure

1. The users press push-buttons corresponding to the desired numbers.
   OR
2. After a connection is established between a D^{term} station and a station or trunk port with an external device attached, the D^{term} user may press the key pad or SPEED CALLING BUTTONS - ONE TOUCH - D^{term} [S-32D] key to transmit DTMF signals to control the external device.

Service Conditions

1. If DTMF lines from the Central Office are not available, then the PUSHBUTTON-TO-ROTARY CONVERSION [P-6] feature must be provided.
2. Rotary and pushbutton instruments may be used simultaneously with PUSHBUTTON CALLING.
3. Timing for the DTMF signals can be set from 0.128 to 2.048 seconds via system commands on a system-wide basis.
4. DTMF frequency combinations are as follows:

Low - High	1,209Hz	1,336Hz	1,477Hz
697Hz	1	2	3
770Hz	4	5	6
852Hz	7	8	9
941Hz	*	0	#

Interactions

1. Each 8RST circuit card contains eight register and eight sender circuits. Each register circuit can accept either pushbutton or rotary dial pulses. The senders can transmit pushbutton or dial pulse signals and are also used with the ATTENDANT CONSOLE [A-3], LEAST-COST ROUTING-3/6 DIGIT [L-5], SPEED CALLING-SYSTEM, STATION, GROUP [S-3, 21, 23], OUTGOING TRUNK QUEUING [O-2], OFF-HOOK QUEUING [O-7], and PUSHBUTTON-TO-ROTARY CONVERSION [P-6].
2. Register circuits are located on the first four levels (0-3) and sender circuits are located on the last four levels (4-7) of the 8RST circuit card.

Programming

STEP 1:   **ASYD** - System Data 1, Index 128. Register Prepause Timer. How long the register waits for the first digit. Normally assign data 00H for 12 seconds.

System Data 1, Index 129. Register Inter-digit Timer. How long the register waits between digits. Normally assign data 00H for six seconds.

Programming (cont'd)

System Data 2, Index 2, Bit 0. Type of sender signal for station? 0/1: DP/PB. Assign as appropriate. (This data will only be used if the ARTD data of a specific route is assigned as DP/PB.)

System Data 3, Index 11. Normally assign data 00H for 128 milliseconds.

STEP 2: **ASDT** - Assign D^{term}, single-line stations, a Telephone Equipment Class (TEC) of 2; pushbutton (PB), TEC = 3, or Dial-Pulse/ Pushbutton, (DP/PB).

STEP 3: **ATRK** - Assign Originating Register Trunks (ORT) to the system in a quantity calculated from expected traffic. Registers are located on levels 0-3 of any 8RST circuit card.

Also, senders must be assigned to the system in a quantity calculated from expected traffic. Senders are located on levels 4-7 of any 8RST circuit card.

RT: Route Number

Trunk Route Number

Intra-office Route Number (901-931)

901-ATT	912-ORT for ATT
902-ORT	913-TCFT for ATT
903-IRT	915- Night ATT
905-Sender	916-MFCR
909-DCFT	917-MFCS
	919 to 926-Modem

TK: Trunk Number

TN: Tenant Number

RSC: Route Restriction Class

SFC: Service Feature Class

STEP 4: **ARTD** - Routes must be assigned as either PB, DP, or DP/PB. CDN 2:ONSG, Type of Outgoing Signal Selection (ONSG) is assigned to each route as data "1", DP; data "2", PB; or data "3", DP/PB.

P-5 Pushbutton Calling - Attendant Only

General Description

This feature permits an Attendant to place all calls over DTMF signaling lines from a pushbutton keypad on the ATTENDANT CONSOLE [A-3].

Operating Procedure

Attendant presses the pushbutton keypad to dial.

Service Conditions

1. This feature requires that all Central Office trunks and TIE Trunk terminals accept pushbutton signaling (DTMF).
2. PUSHBUTTON CALLING - ATTENDANT ONLY may be added to the system without providing PUSHBUTTON CALLING [P-4] capability to other stations.

Interactions

The Attendant Console must first be provided.

Programming

STEP 1: **ASYD** - System Data 1, Index 128. Register Prepause Timer. How long the register waits for the first digit. Normally assign data 00H for 12 seconds.

System Data 1, Index 134. Register Inter-digit Timer for the Attendant Console. How long the register waits between digits. Normally assign data 00H for four seconds.

System Data 2, Index 2, Bit 1. Sender signal for Attendant Console is DP/PB? 0/1: DP/PB. Assign as appropriate.

STEP 2: **ATRK** - Assign Originating Register Trunks (ORT) to the Attendant Console (optional). Registers are located on levels 0-3 of any 8RST circuit card.

Also, senders must be assigned to the system in a quantity calculated from expected traffic.

RT: Route Number

Trunk Route Number

Intra-office Route Number (901-931)

901-ATT	912-ORT for ATT
902-ORT	913-TCFT for ATT
903-IRT	915- Night ATT
905-Sender	916-MFCR
909-DCFT	917-MFCS
	919 to 926-Modem

TK: Trunk Number

TN: Tenant Number

RSC: Route Restriction Class

SFC: Service Feature Class

STEP 3: **ARTD** - Routes must be assigned as either PB, DP, or DP/PB. CDN 2:ONSG, Type of Outgoing Signal Selection, is assigned to each route as data "1", DP; data "2", PB; or data "3", DP/PB.

P-6 Pushbutton to Rotary Conversion

General Description

This feature allows DTMF telephones to be used when DTMF signaling is not provided or are not available from the Central Office and/or TIE Line.

Operating Procedure

Users dial the desired telephone numbers.

Service Conditions

1. PUSHBUTTON TO ROTARY CONVERSION is software controlled on a per-trunk route basis.
2. See UNIVERSAL SENDER [U-3] for reference.
3. When the following combination of data settings are assigned, the PB station cannot originate a call:

   ASDT - TEC = 3 (DP/PB) station data for the calling station

   ASPA - SSC = OGC/OGCA

   ARTD - CDN1: OSGS = 2 (second dial tone)

   CDN2: ONSG = 2 (PB, 60 msec. Interruption or CCIS No. 7)

Interactions

1. Each 8RST circuit card contains four register and four sender circuits. Each register circuit can accept either push-button or rotary dial pulses. The senders can outpulse push-button or dial pulse signals and are used with the ATTENDANT CONSOLE [A-3], LEAST-COST ROUTING-3/6 DIGIT [L-5], SPEED CALLING-SYSTEM, STATION, GROUP [S-3, 21, 23], OUTGOING TRUNK QUEUING [O-2], OFF-HOOK QUEUING [O-7], and PUSHBUTTON-TO-ROTARY CONVERSION.
2. Register circuits are located on the first four levels (0-3), and sender circuits are located on the last four levels (4-7) of the 8RST circuit card.
3. Each register may be assigned as either an outgoing or an incoming register. Incoming calls have priority over outgoing calls. Thus, a register programmed as outgoing may serve as an incoming register when none are available. However, an incoming register will never serve as an outgoing register.

Programming

STEP 1: **ASYD** - System Data 2, Index 2, Bit 0. Sender signal for station is DP/PB? 0/1: DP/PB. Always assign as data "0". Assign on a per-tenant basis. This Bit takes priority when ARTD, CDN 2:ONSG is assigned as data "3", DP/PB.

STEP 2: **ASDT** - Assign single-line stations a Telephone Equipment Class (TEC) of Push-button (PB) TEC = 2 or dial pulse/push-button (DP/PB), TEC = 3.

STEP 3: **ATRK** - Assign Originating Register Trunks (ORT) to the system in a quantity calculated from expected traffic. Registers are located on levels 0-3 of any 8RST circuit card.

Also, senders must be assigned to the system in a quantity calculated from expected traffic. Senders are located on levels 4-7 of any 8RST circuit card.

RT: Route Number

Trunk Route Number

Intra-office Route Number (901-931)

901-ATT

Programming (cont'd)

902-ORT	913-TCFT for ATT
903-IRT	915- Night ATT
905-Sender	916-MFCR
909-DCFT	917-MFCS
	919 to 926-Modem

TK: Trunk Number

TN: Tenant Number

RSC: Route Restriction Class

SFC: Service Feature Class

STEP 4:   **ARTD** - Outgoing routes must be assigned as DP or DP/PB. Flag CDN 2:ONSG as data "1", DP or data "3", DP/PB.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ARTDN** - Outgoing routes must be assigned as DP or DP/PB. Flag CDN 2:ONSG as data "1", DP or data "3", DP/PB.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

P-7   Peg Count

General Description

This service feature permits traffic studies and traffic analysis information to be accessed from the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18] and printed out.

Operating Procedure

Refer to the NEAX2400 IMX System Operations and Maintenance Manual.

Service Conditions

1. All information required for this feature is registered at the MAT.
2. The following information is available:
    STATION PEG COUNT:
    *   Number of call originations attempted
    *   Number of station-to-station or station-to-Attendant calls attempted
    *   Number of station-to-trunk calls attempted
    *   Number of call originations abandoned
    *   Number of station-to-station calls terminated
    *   Number of trunk-to-station calls terminated
    *   Number of total calls terminated to station
    *   Number of calls unanswered within a predetermined time
    *   Number of calls answered
    *   Number of calls unanswered
    *   Number of calls hearing busy tone and forwarded to the ATTENDANT CONSOLE [A-3]
    ATTENDANT PEG COUNT:
    *   Number of incoming calls per INCOMING CALL IDENTIFICATION [I-2] lamp
    *   Number of calls answered per INCOMING CALL IDENTIFICATION [I-2] busy
    ROUTE PEG COUNT:
    *   Number of times trunk route seizure attempted
    *   Number of times all trunks busy reached
    *   Number of times trunk seized
    *   Number of calls terminated to trunk route
    *   Number of incoming calls that seized register
    *   Number of incoming calls directed to ATTENDANT CONSOLE [A-3]
    *   Number of incoming calls directed to station
    *   Number of incoming calls directed to tandem connection
    *   Number of incoming calls abandoned
3. The above information may be registered and cancelled as required.
4. The measurement information printout cycle can be any period of time ranging from 30 minutes to 120 minutes (in 10-minute increments), as required.

Service Conditions (cont'd)

5. Traffic measurement duration time is designated for more than one hour. If the traffic measurement duration time is not designated, the measurement is performed indefinitely until a stop command is entered on the MAT [M-18].

Peg Count	NEAX2400 IMX
Station Peg Count	TN = 1-255
Route Peg Count	RT = 1-255
ATT Peg Count - Incoming	TN = 1-255
ATT Peg Count - Answer	ATT = 1-16

Interactions

If the system is reset, traffic measurement requests are no longer in service.

Programming

To Order PEG COUNTS:

> **ASYD** - System Data 1, Index 47, bit 7 = 1.
>
> **ASTD** - STM:7, STS:0, ST:1.
>
> **ATRF** - Assignment of Traffic Measurement Order
>
> TYPE: Type of Traffic Measurement
>
> INTERVAL: Output Interval must be assigned in units of 10 minutes. Available range is from 30-120 minutes or "0" must be assigned.
>
> FROM-TO-: Measurement to be designated.
>
> TIME: Output Time
>
> TYPE:
>
> > 1:   Terminal Traffic Measurement
> > 2:   Route Traffic Measurement
> > 3:   Station Peg Count
> > 4:   Attendant Console Peg Count
> > 5:   Route Peg Count
> > 6:   Service Peg Count
> > 8:   UCD Route Peg Count
> > 9:   UCD Group Peg Count
> > 10:   UCD Station Peg Count
> > 11:   CCIS Traffic Count

To Display PEG COUNT Information:

STEP 1:   **DTF1** - Display of Traffic Data 1

> TYPE: Type of Traffic Measurement
>
> > 1:   Terminal Traffic
> > 2:   Route Traffic
> > 3:   Station Peg Count
> > 4:   ATT Peg Count
> > 5:   Route Peg Count

Programming (cont'd)

STEP 2: **DTF2** - Display of Traffic Data 2
          TYPE: Type of Traffic Measurement
            6:      Service Peg Count
STEP 3: **DTF3** - Display of Traffic Data 3
          TYPE: Type of Traffic Measurement
            8:      UCD Route Peg Count
            9:      UCD Group Peg Count
           10:    UCD Station Peg Count
STEP 4: **DTF4** - Display of Traffic Data 4
           11:    CCIS Traffic Count

FCCS Programming

No unique programming is required for the FCCS network.

P-9 Priority Call

General Description

This feature allows the ATTENDANT CONSOLE [A-3] to answer various types of calls in the order of their priority. A special type of call can be handled prior to a regular call, at the Attendant's discretion.

Operating Procedure

1. Lift the handset and receive dial tone.
2. Dial the PRIORITY CALL number, then wait for the Attendant to answer.

Note: *PRIORITY CALL will terminate on a designated key on the ATTENDANT CONSOLE [A-3].*

Service Conditions

1. The PRIORITY CALL must be answered via a designated key in order to gain a priority capability. The keys must be assigned by the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
2. A PRIORITY CALL will not be picked up first, by pressing the ANSWER key, if other calls are waiting.
3. A PRIORITY CALL cannot be initiated while in CONSULTATION HOLD - ALL CALLS [C-17] or CALL HOLD [C-6].
4. In the night mode, a PRIORITY CALL will terminate at the predetermined station.
5. The calling station obtains this feature via CLASS OF SERVICE - INDIVIDUAL [C-15].
6. A station, instead of the ATTENDANT CONSOLE [A-3], can be the destination of a PRIORITY CALL in the day mode.
7. If the PRIORITY CALL encounters the destination station busy, the call will wait for the station to become idle. Ringback tone will be heard while the caller is waiting.
8. Three levels of PRIORITY CALLs can be assigned.
9. When the destination is a station, the originating stations should be assigned as a member of a PRIORITY CALL group. The maximum number of PRIORITY CALL groups is 7 per TENANT [T-12]. The terminating station must be assigned to each PRIORITY CALL group.
10. The terminating station of each group can be a member of a HUNTING GROUP [S-7, 8, 9].
11. The terminating station can set CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY LINE [C-2].
12. The terminating station for ATTENDANT NIGHT TRANSFER [A-19] and/or OFF-HOOK ALARM [O-6] can be assigned as the terminating station of a PRIORITY CALL.
13. If the destination D^{term} is busy (and not the pilot number of a UCD group), when a Priority Call is placed, ringback tone is returned to the calling party rather than busy tone, and the calling party is placed in queue.
14. When a UCD [U-1] station is assigned as the destination of PRIORITY CALL, queuing function of UCD is not available when all the stations within the UCD group are busy.
15. The Fusion Point Code (FPC) of the node which accommodates the called Attendant Console must be assigned after System Data assignment.

Interactions

1. If the destination D^{term} is busy when a Priority Call is placed, ringback tone is returned to the calling party rather than a busy tone, and the calling party is placed in queue.
2. A Warning Tone is not provided at the called D^{term} while a Priority Call is in progress.

Interactions (cont'd)

3. If the destination of a Priority Call is the Attendant Console, the Priority Call does not transfer to the ATTENDANT NIGHT TRANSFER [A-19] station when the system goes into Night mode.

4. A PRIORITY CALL will not be forwarded to outside.

Programming

STEP 1: **ASYD** - System Data 1, Index 168, Bit 6. Where will Priority Call terminate? 0/1: Attendant Console/ Station. If Attendant Console (0), go to Step 2, AAKP command.

System Data 2, Indexes 8 & 9. If the call will terminate to the Attendant Console, assign if the call will be pegged for CALL WAITING LAMP [C-13].

STEP 2: **AAKP** - Assignment of Attendant Console Key Pattern. The ATN: Attendant Number (TRK No. for RTE 901); KYN = 1-6, and FUNC = 3, Priority Call 1; FUNC = 4, Priority Call 2; FUNC = 5, Priority Call 3. This command is not required if the Priority Call terminates at a station.

STEP 3: **ANPD** - Reserve a Numbering Plan level for feature access. Assign Connection Indexes (CI), CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with the predetermined numbering plan.

STEP 4: **ASPA** - For SRV = SSC (Service Code) SID = 37, Priority Call 1; SID = 38, Priority Call 2; SID = 39, Priority Call 3; assign the access code. Assign for CI of Normal (N).

STEP 5: **ASID** - This command defines the purpose of this Special Incoming Group and is used in conjunction with the ASGD command. Assign the following:

TN: Tenant Number
F: Function Number (0-7)
4: Priority Call 1
5: Priority Call 2
6: Priority Call 3
GN: Group Number (1-7),
S/A: Special Incoming Equipment
S: Station
A: Attendant Console
SSTN: Special Station Number

STEP 6: **ASGD** - This command defines the stations belonging to the Special Incoming Group. When the point of termination is a station, assign the following:

TN: Tenant Number
STN: Station Number
F: Function Number (0-7)
4: Priority Call 1
5: Priority Call 2
6: Priority Call 3
GN: Group Number (1-7)

STEP 7: **ASFC** - Service Feature Index (SFI) 54-Priority Call 1. SFI 55-Priority Call 2. SFI 56-Priority Call 3. Assign a Service Feature Class to stations that allow one or all of the SFIs above, depending on system configuration.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASPAL** - This data must be set to the node calling the attendant.

Assign the FPC of the node which accommodates the called attendant console. This must be assigned after designating SID = 37, 38, 39.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

P-10   Paging Transfer

General Description

This feature allows a user to transfer a paged call to a party that has been placed on hold.

Operating Procedure

While a user is engaged in a call:
1.   Switch hook flash or press TRANSFER key (on D^{term} phone); receive special dial tone.
2.   Dial the Paging Access Code; receive continuous ringback tone for approximately one second.
3.   Page the desired party.

There are three paging options:
1.   NON-DELAY SYSTEM: The party paged is immediately connected to the paging station when the paged party dials the Paging Answer Access Code.
2.   DELAY SYSTEM: The paging user replaces the handset after the page; the paged party dials the Paging Answer access code. The paging station rings, and the paged station receives ringback tone. After the paging user lifts the handset, the paging and paged stations are connected.
3.   PAGING TRANSFER SUPERVISION: The paging user replaces the handset after the page. By dialing the Paging Answer access code, the paged party is directly connected to the party on hold.

For Non-Delay and Delay systems:
1.   When a paging station replaces the handset after talking with the paged party, the held party is directly connected to the paged party.

Service Conditions

1.   PAGING TRANSFER service can be selected according to System Data assignment:

   a.) Non-Delay system
   b.) Delay and Non-Delay system
   c.) PAGING TRANSFER Supervision

2.   Paging trunks can be provided for a maximum of six routes.

3.   When a paging route has been accessed and is not answered within a predetermined time, the paging activation is automatically cleared.

4.   Both the COT card and the TLT card can be used as the paging trunk.

5.   Loop signaling is the recommended signaling type.

6.   When the Attendant Console activates the service, the conditions are as follows:

   a.) An Attendant Console user can connect the paged party with the calling party the same way as PAGING TRANSFER SUPERVISION only (see Operating Procedure).
   b.) If the paged party answers the page before the Attendant Console releases the loop, the Attendant Console is called from the paged party as an operator call. In this case, the Attendant Console can connect the paged party with the held party (calling party) in the procedure below:
   •   Press the CANCEL key to release the loop to be used for the page.
   •   Answer the operator call and press the HOLD key to hold the loop.
   •   Press the loop key holding the calling party to be back to the original connection and perform the normal operation for Attendant Console Loop-to-Loop Connection (see MEET-ME PAGING [M-1] for details) to connect the two parties.

7.   When using this feature via the FCCS network, PAGING ACCESS [P-1], PAGING TRANSFER [P-10] and RADIO PAGING [R-16] are provided to the paging station and the paged station in FCCS nodes.

Service Conditions (cont'd)

8. When using this feature via the FCCS network, when PAGING ACCESS [P-1]/PAGING TRANSFER [P-10]/RADIO PAGING [R-16] service is set to a station in the remote node or the PAGING ACCESS [P-1]/PAGING TRANSFER [P-10]/RADIO PAGING [R-16] call is answered from the remote node via FCCS link:

    a.) the logical route number should be applied to each physical route that is provided the service.

    b.) the restriction of route-to-route connection between FCCS nodes should be released.

9. When using this feature via the FCCS network, the same paging route cannot be used by another station while the paged station does not answer the page activated using the route. However, the paging activation is automatically cleared when the call is not answered within a predetermined time.

10. When using this feature via the FCCS network, a user can page one station at a time.

Interactions

1. PAGING TRANSFER (MEET-ME PAGING) and PAGING ACCESS [P-1] can be provided simultaneously in the same system. Separate access codes for each service is required. A MEET-ME PAGING answer code is required for each MEET-ME PAGING zone.

2. Paging is limited to stations and Attendant Consoles. Other parties (CO and TIE trunk calls) must have the Attendant Console or user perform the paging operation.

3. The Attendant cannot dial the MEET-ME PAGING answer codes.

4. BUSY VERIFICATION [B-3], EXECUTIVE OVERRIDE [E-1]: These features will be denied to Paging routes assigned in CDN 6:TCL as data "8", Page with ringback tone.

5. PAGING TRANSFER OPERATION: Station A is connected to Party B. Station A momentarily presses the switch hook or presses the TRANSFER key (if D^{term} phone) and then dials the PAGING TRANSFER (MEET-ME PAGE) route access code. When connected to the page, Station A requests Station C to dial the MEET-ME PAGE answer code. Station A hangs up. When station C dials the answer code, Party B is connected to Station C. Station A is removed from the connection.

6. If Station C does not call the MEET-ME PAGE answer code after 30 seconds, Party B rings back to Station A. This timer can be changed by ASYD System Data 1 Index 74 b0~b3.

7. Stations allowed Priority Page, SFI = 57, will barge into the paging route, except when the Attendant Console is paging.

8. To answer PAGING TRANSFER while connected to another party, CALL HOLD [C-6] must be used. THREE-WAY CALLING [T-2] may not be established.

9. A station must be assigned a Route Restriction Class that allows access to the routes involved in the PAGING TRANSFER.

Programming

STEP 1: **ASYD** - System Data 1, Index 73, Bits 0 & 1:

For MEET-ME PAGE, Non-Delay service, Bit 0 = 1, Bit 1 = 0.

For MEET-ME PAGE, Delay service, Bit 0 = 0, Bit 1 = 1.

For MEET-ME PAGE, Delay service with Call Transfer, Bit 0 = 1, Bit 1 = 1.

System Data 1, Index 73, Bit 3. Are PAGE cancel codes provided for each route? 0/1: Per route/ Common to all routes.

System Data 1, Index 74, Bits 0 & 3. Assign the cancel timer for unanswered page. Assign data 00H for 30 seconds.

(0-F + 1) x 30 = Cancel Timer.

Programming (cont'd)

System Data 2, Index 1, Bits 0 & 1. Consultation Hold allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed; Tandem Call Denied; 11: All calls allowed.

STEP 2: **ARTD** - Assign the paging route as shown below:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 5-TF | :1 | 6-TCL | :8 | 7-L/T | :1 |
| 8-RLP | :2 | 15-LSG | :1 | | | | | | |

STEP 3: **ATRK** - Assign the LENs, Paging Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the Paging trunks.

STEP 5: **ANPD** - Reserve levels for trunk access and for PAGE answer and cancel codes. Assign the trunk access level for a Connection Index (CI) of Normal (N) and Hooking (H) service. Number of Necessary Digits is usually 1 or 2 (maximum 3 digits). Busy Lamp Field is not activated.

If the PAGE answer and cancel codes reside in a level reserved for features, then assign according to a predetermined numbering plan. If the PAGE answer and cancel codes reside in a separate level, then assign for a CI of Normal (N) only. The number of Necessary Digits is usually two, and the Busy Lamp Field is off.

STEP 6: **ASPA** - Assign Paging Route access code. Type of Service, SRV = OGC (Outgoing Call). Assign the proper route number that is associated with this Paging trunk access code. Assign for CI = Normal (N) and Hooking (H).

Assign the PAGE answer and cancel access code. Type of Service, SRV = PAGA (Paging Answer) and SRV = PAGC (Paging Cancel). Assign the proper route number that is associated with this access code. Assign for CI = Normal (N).

STEP 7: **ARSC** - Allow RRI: 2 & 3 access to this route for the RSCs assigned to stations given access to the paging routes. Allow RRI: 0 & 1 on the incoming route to be transferred to the RSCs given access to the page answer.

STEP 8: **ASFC** - Assign station to receive PAGING TRANSFER a Service Feature Class that allows SFI = 38. This allows a station to dial PAGE answer codes.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ALRTN** - This data must be assigned to the NCN. Assign the logical route number to the physical route.

STEP 2: **ANPDN** - This data must be assigned to the NCN. Reserve a number level for service feature access and cancel.

STEP 3: **ASPAN** - This data must be assigned to the NCN. Assign the access code for Paging Transfer.

STEP 4: **ARSCN** - This data must be assigned to the NCN. Release the restriction between the announcement trunk and the station.

STEP 5: **ARRCN** - This data must be assigned to the NCN. Release the restriction between the terminating trunk and the announcement trunk.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current command data shown is set to all nodes using the service: ASTD, ARTD, ATRK, ASFC*

P-11   Periodic Time Indication Tone

General Description

This feature provides a tone every 180 seconds, if required, to the user who has made an outgoing call.

Operating Procedure

No manual operation is required.

Service Conditions

1. This feature is programmed on a per-trunk route basis using the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
2. The PERIODIC TIME INDICATION TONE is 80 ms in duration and is sent every 180 seconds. See VARIABLE TIMING PARAMETERS [V-1] for other programming time periods.
3. This feature is only available for users who have placed outgoing calls to a Central Office line or to a TIE Line.
4. Incoming calls or outgoing calls initiated by the Attendant will not have this feature.
5. When the user activates SPECIAL DIAL TONE after the outgoing call mode, this feature will be cancelled automatically.
6. When the user activates the following service features after the outgoing calls to a Central Office line or to a TIE Line, this feature will be cancelled automatically:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL HOLD	[C-6, C-6D]
CALL TRANSFER	[C-10, C-11, C-11D]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS	[C-17, C-17D]
DATA PRIVACY ON DEMAND	[D-17]
EXCLUSIVE HOLD - D^{term}	[E-4D]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OFF-HOOK QUEUING	[O-7]
OUTGOING TRUNK QUEUING	[O-2, O-2D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2, T-2D]
VOICE CALL - D^{term}	[V-2D]

Interactions

1. The timers set in System Data 1, Indexes 137 and 138 are approximate. Expect errors of $\pm$ 40 seconds. Keeping track of time for this service is a very low priority for the CPU.
2. PERIODIC TIME INDICATION TONE is used for outgoing connections only.

Programming

STEP 1: **ASYD** - System Data 1, Index 137. This timer sets the interval when the first tone will be sent to the station. Assign 00H for 3 minutes.

System Data 1, Index 138. This timer sets the period between the first and second tones and all other subsequent tones. Assign 00H for 3 minutes.

STEP 2: **ARTD** - Assign CDN 29:TELP. Flag the routes with which the tone will operate.

STEP 3: **ASFC** - Assign to stations that receive PERIODIC TIME INDICATION TONE a Service Feature Class that allows SFI 11 and SFI 33.

P-13D   Prime Line Pickup - D^term

General Description

This feature allows a D^term user to originate or answer a call from the line designated as the Primary Line by going off-hook. It is unnecessary to press the associated line key.

Operating Procedure

Lift the handset or press the SPEAKER key; receive dial tone.

Service Conditions

1. One Prime Line per station is allowed.
2. Unless otherwise programmed, the MY Line is also the Prime Line.

Interactions

1. If no data is assigned via AKYD, the MY Line will serve as the default Prime Line. If any data is assigned in AKYD, a Prime Line must be assigned, even if the MY Line and Prime Line will be the same telephone number.
2. The Prime Line may be different than the MY Line. When they are different, the following features will not operate for the Prime Line: CALL BACK [C-1], CALL PARK [C-29], DO NOT DISTURB [D-21D], and OUTGOING TRUNK QUEUING [O-2D]. CALL FORWARDING [C-2, 3, 5, 28] features may be set by the Attendant.
3. CLASS OF SERVICE-INDIVIDUAL [C-15]. The Prime Line will operate according to the CLASS OF SERVICE-INDIVIDUAL of the MY Line.
4. STATION MESSAGE DETAIL RECORDING [S-10]. All calls originated by the Prime Line will be recorded against the MY Line.
5. TOLL RESTRICTION-3/6 DIGIT [T-7]. The Prime Line will operate according to the restrictions of the MY Line.

Programming

STEP 1:   **AKYD** - Assign the station according to the following parameters:

      TN: 1

      STN: Station Number

      TP: Type of D^term 0/1:

      PL ST, STN: Prime Line Tenant and Station

      RING:

           0:   No Ringing

           1:   Ringing All Lines

           2:   Ringing on Prime Line Only

           3:   Flexible Ring Assignment, enables RG parameter.

      KYN: Key Number (1-40)

      KYI: Service Index

           0:   Key Not Used

           1:   Feature Key

Programming (cont'd)

        2: Multi-line Key

KD: 0

TN: Tenant

STN: Station Number

RG: Ringing Assignment per multi-line appearance

        0: No Ringing.

        1: Ringing in Day Mode Only.

        2: Ringing in Night Mode Only.

        3: Ringing in Day and Night Mode.

P-14D   Privacy - D^{term}

General Description

This feature allows a D^{term} to establish privacy so that no station can interrupt a call via EXECUTIVE RIGHT-OF-WAY [E-1].

Operating Procedure

1. Go off-hook; receive dial tone. Press the DO NOT DISTURB (DND) key. The associated LED will flash. The LCD displays:

    > **PRIVACY SET**
    > **(Time Display)**

2. Dial the desired number.
3. When the call is completed, Privacy is cancelled by going on-hook.

Service Conditions

1. Privacy remains in effect while the D^{term} is in use with the feature activated. Override to either party is denied.
2. If the DND key is pressed before the conversation is concluded, PRIVACY - D^{term} is released. The LCD displays:

    > **PRIVACY CANCEL**
    > **(Time Display)**

3. If the DND key is pressed with the station on-hook, the DND - D^{term} [D-21D] feature has been activated. Calls can be made with DND [D-21D] activated. DND [D-21D] will not deny EXECUTIVE RIGHT- OF-WAY [E-1].
4. The PRIVACY - D^{term} feature may be activated or deactivated in any conversation as often as desired.
5. PRIVACY - D^{term} denies the following features:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-5D]
BUSY VERIFICATION	[B-3]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-1D]

Programming

STEP 1: **AKYD** - The D^{term}s are not equipped with a DND key. If required, assign the station according to the following parameters.

   TN: 1
   STN: Station Number
   TP: Type of D^{term} (0/1)

Programming (cont'd)

   KYN: Key Number (1-40)

   KYI: Service Index

      0: Key Not Used

      1: Feature Key

      2: Multi-line Key

   KD: Not assigned for Feature Key

   FKY: Feature Key Number

   FKY = 50, DO NOT DISTURB

STEP 2: **ADSL** - Assign DND key; SN=1, 2, 3, 4, 5, 6, 7, 15 and FKY=50 (Do Not Disturb).

     This command is required for assigning a function to each soft key.

P-15D   Privacy On All Lines - D^{term}

General Description

This feature restricts D^{term} users from pressing a busy line button and entering a conversation, which can occur with 1A2 key telephones without exclusion circuits.

Operating Procedure

No manual operation is required.

Service Conditions

1. A D^{term} user cannot seize the Prime Line if it is busy.
2. LINE PRESELECTION [L-9D] is denied if the selected line is busy.
3. PRIVACY RELEASE [P-18] overrides this feature.

Programming

No programming is required.

P-18 Privacy Release

General Description

This feature allows multiple stations (maximum 6) accommodated in the same multi-line group to override a D^{term} already engaged in communication. Also, by key operation of the D^{term} already engaged in communication (maximum of 8-party communication), overriding from other stations in the same multi-line group can be restricted.

Operating Procedure

To establish a 4-party call from a D^{term} to D^{term}s that are in THREE-WAY CALLING [T-2]:

1. Station B and C are engaged in THREE-WAY CALLING [T-2] with a station/trunk. Station A presses the line appearance for Stations B or C. The LCD of Station A's D^{term} displays (for 10 seconds):

    Telephone number of the station/trunk engaged in communication with Stations B and C

    ```
                                       XXXX
             (Time Display)
    ```
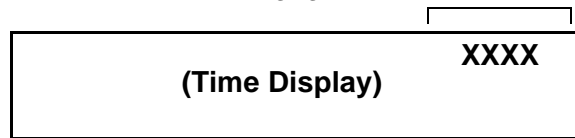
2. Station A lifts handset or presses THE SPEAKER key; receives ringback tone and the LCD displays:

    ```
    CONF WAIT
             (Time Display)
    ```

3. A 4-party call is established. The LCDs of the associated D^{term}s display:

    ```
    CONF
             (Time Display)
    ```

    The line appearance will flash, indicating I-USE [I-8].

To establish a 4-party call when the PRIVACY key is pressed by a D^{term} engaged in THREE-WAY CALLING [T-2]:

1. While engaged in THREE-WAY CALLING [T-2] with Station B and a station/trunk, Station C presses PRIVACY key. The PRIVACY key will light, and the line appearance will flash, indicating I-USE [I-8]. The LCD displays:

    ```
    PRIVACY SET
             (Time Display)
    ```

2. Station A presses the line appearance for Stations B and C; the LCD of Station A's D^{term} displays (for 10 seconds):

    Telephone number of the station/trunk engaged in communication with Stations B and C

    ```
                                       XXXX
             (Time Display)
    ```
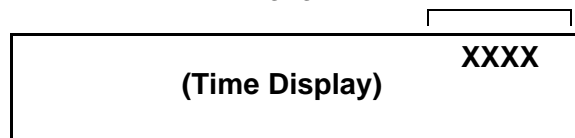
Operating Procedure (cont'd)

3. Station A lifts handset or presses SPEAKER key. The LCD displays:

> **CONF REST**
> **(Time Display)**

4. Station C presses PRIVACY key again.
5. Station A receives ringback tone, and the LCD displays:

> **CONF WAIT**
> **(Time Display)**

6. A 4-party call is established. The line appearance will flash, indicating I-USE [I-8], and the LED of PRIVACY key will be turned off. The LCDs of the associated D^term^s display:

> **CONF**
> **(Time Display)**

By following the operations described above, a maximum 8-party call can be established.

To restrict a station from overriding an 8-party call:

1. Station A presses line appearance of Station B, which is engaged in an 8-party call. The LCD of Station A displays (for 10 seconds):

> **CONF REST**
> **(Time Display)**

Service Conditions

1. PRIVACY RELEASE is available for a D^term^ connected to a station or trunk.
2. PRIVACY RELEASE is not available when one of the stations in communication is a single line.
3. Single line stations cannot bridge into the busy connection.
4. This feature is available when the PRIVACY key is pressed to establish PRIVACY RELEASE.
5. A station has to be in one of the following states to set PRIVACY by pressing PRIVACY key or the P-RLS key:
    a.) Connected to station or trunk,
    b.) Engaged in a maximum 7-party call.
   PRIVACY cannot be set when the overriding party has already received ringback tone.
6. PRIVACY RELEASE is available anytime by pressing PRIVACY key or re-pressing P-RLS key. Also, PRIVACY will be released automatically when the station that has set PRIVACY is released from the call.
7. PRIVACY RELEASE can be established even if the D^term^ has activated the DO NOT DISTURB [D-21D] or DATA PRIVACY ON DEMAND [D-17] feature.
8. When the party (station or trunk) engaged in a call with the overridden party in PRIVACY RELEASE is released, and when multiple stations are connected to the same line, PRIVACY RELEASE cannot be activated to any other stations.
9. When a multiple-party call is established by an 8-party conference trunk (PA-CFTB circuit card), the first overridden party can set/cancel Privacy to the conference trunk by key operation.

Service Conditions (cont'd)

10.   When a station tries to bridge into a call and presses the line appearance, and when PRIVACY RELEASE is not available because of the lack of an 8-party conference trunk, the LCD displays as follows, indicating that PRIVACY RELEASE is not available:

> **CONF REST**
> **(Time Display)**

11.   PRIVACY RELEASE is not available when another station is in the process of entering a multiple-party call (when receiving ringback tone). The station will not receive any tone, and the LCD displays:

> **CONF REST**
> **(Time Display)**

12.   When the station engaged in communication with the overridden party is released in the process of entering a multiple-party call, the other stations engaged in a call on the same line will not be released. In this case, the last overriding station will be connected to an 8-party conference trunk, but after that, EXECUTIVE RIGHT-OF-WAY [E-1] will not be available.

13.   The overriding party's LCD display after pressing the line appearance of a busy station is shown below:

Overriding party's terminal status	Overriding party's line status		
	Privacy Release available	Privacy Release not available	
		Conference Trunk Blocked	Not Engaged In Two-party Call
Idle		-	CONF REST
Call Waiting status	CONF	-	CONF RST
Busy	CONF	After disconnecting the busy station, CONF REST is displayed and the status will be Call Waiting	CONF REST

Note: *The called telephone number is displayed even when Privacy is set.*

14.   PRIVACY RELEASE is available after any of the following operations is performed by the overriding station:

a.) The user presses the line appearance of a busy station, goes off-hook or presses the SPEAKER key.

b.) While connected to a station/Attendant/OG trunk/IC trunk, the user presses the line appearance of a busy station. (The call in progress will be disconnected.)

c.) While engaged in THREE-WAY CALLING [T-2], the user presses the line appearance of a busy station. The stations, except the one that has pressed the line appearance, will be in a 2-party connection.

d.) The user presses the line appearance of a busy station while hearing dial tone, ringback tone, busy tone, or reorder tone.

e.) While answering a VOICE CALL [V-2D], the user presses the line appearance of a busy station. The call in progress will be disconnected.

Service Conditions (cont'd)

  f.) While engaged in a multiple-party call, the user presses the line appearance of a busy station.

  g.) While engaged in calling a station by INTERCOM [I-9] call or Intercom Bridge call, the station presses the line appearance of busy station.

  h.) After placing a call on CONSULTATION HOLD [H-17], the station originates a call to a station or trunk and then presses the line appearance of a busy station.

15. The following features cannot be activated by any station in a multiple-party call:

CALL TRANSFER-ALL CALLS	[C-11]
CALL HOLD	[C-6, C-6D]
CONSULTATION HOLD-ALL CALLS	[C-17]
DATA PRIVACY ON DEMAND	[D-17]
NON-EXCLUSIVE HOLD	[N-7D]
EXCLUSIVE HOLD	[E-4D]

16. The following features are restricted to all stations in a multiple-party call:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE-D^{term}	[B-5D]
CALL WAITING-ORIGINATING	[C-31]
CALL WAITING-TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1]
MESSAGE REMINDER-D^{term}	[M-19D]

  Designated trunk seizure by Attendant

17. Eight-party conference trunk (PA-CFTB circuit card) assignments are as follows:

  a.) For all ports of the 8-party conference trunk, any telephone number of up to 16 digits can be assigned. Also, a phantom number can be assigned to Port 0 (L = 0).

  b.) Ports 1 through 7 (L = 1-7) in the same conference trunk must be grouped in the same Circular Hunting Group.

  c.) When only one 8-party conference trunk is available for a Tenant, the telephone number or phantom number of Port 0 (L = 0) should be assigned to System Data as the trunk seizure number. When several trunks (maximum of 20) are available, the telephone number or phantom number of Port 0 (L = 0) in one of the trunks should be assigned as the trunk seizure number.

18. Eight-party conference trunk seizure:

  a.) When only one trunk is available for a Tenant, the trunk cannot be seized unless all of the eight ports of the trunk (where trunk seizure number corresponding to the Tenant is assigned) are in idle status.

  b.) When multiple trunks are available for a Tenant, the trunk in which all of the eight ports in the Hunting Group (pilot telephone number = trunk seizure number corresponding to the Tenant) are in an idle state, is hunted and seized.

  c.) If an 8-party conference trunk seizure number corresponding to the Tenant is not assigned, the following method of trunk seizure is also available:

   i.) The trunk that contains Port 0, whose telephone number or phantom number is AB (A = number determined by System Data, B = the last number of the overridden telephone number), and all of the eight ports in an idle state are seized.

   ii.) If a Hunting Group (pilot telephone number = AB) is assigned among the first Ports of multiple trunks, the trunk in the Group where all of the eight ports are in an idle state is hunted and seized.

Programming

STEP 1: **ASYD** - System Data 1, Index 17, BIT 2. Is PRIVACY RELEASE service to be enabled? 0/1: No/Yes. Assign data 1.

System Data 1, Index 17, BIT 3. Is an Interrupt tone for PRIVACY RELEASE to be enabled? 0/1: No/Yes.

System Data 1, Index 17, BIT 6. Is Line Privacy Expansion service to be enabled? 0/1: No/Yes. Assign data 1.

System Data 1, Index 17, BIT 7, Bridge Call 0/1: Privacy/Non-Privacy Operation.

System Data 2, Index 7, BITs 4-7. Assign the first digit of the phantom station number that will be used in creating a STATION HUNTING-CIRCULAR [S-7] group. The phantom station number is assigned to the first port of the PA-CFTB 8-Party Conference card. (This first digit must also be designated as a level used for stations in ANPD and ASPA.)

System Data 1, Index 241, bit 5 = 1 for single line terminals.

STEP 2: **ANPD** - Reserve two number levels for station access. One of these number levels will be for regular station numbers and the other will be for the Phantom stations. This is the same number as assigned previously in System Data 2, Index 7, BITs 4-7.

STEP 3: **ASPA** - For the desired station number, assign SRV = STN (Station). Assign Connection Indexes (CI) of Normal (N) and Hooking (H).

STEP 4: **ASDT** - Assign station data to each port of the PA-CFTB circuit card.

STEP 5: **AKYD** - Assign FKI = 1, Feature Key and an FKY = 48, PRIVACY RELEASE to a programmable Line/Feature key.

STEP 6: **ADSL** - Assign P-RLS key; Assign SN=4 (Communication in Progress) and FKY=48 (Privacy Release).

This command is used for assigning a function to each soft key.

STEP 7: **APHN** - Assign station numbers to the PA-CFTB Port 0 station numbers. A maximum of five phantom numbers can be assigned to a Port station number.

STEP 8: **ASHC** - Assign the stations of the PA-CFTB that are located on levels 1-7 to a STATION HUNTING-CIRCULAR [S-7] group. Assign the stations associated with the two PA-CFTB cards, located on level 0, to a STATION HUNTING-CIRCULAR [S-7] group. (When it is necessary to proceed to Step 8 and farther, this data setting is not necessary.)

STEP 9: **ALPE** - Assign the station number or phantom number that is assigned to Port 0 of the PA-CFTB circuit card. When two or more PA-CFTB circuit cards are used in the same tenant, assign the station number or phantom number that is assigned to Port 0 of any PC-CFTB circuit cards.

STEP 10: **ASHP** or **ASHU** - When two or more PA-CFTB circuit cards are used in the same one tenant, assign the station number or the phantom number that has been assigned to Port 0 of PA-CFTB card as STATION HUNTING-PILOT [S-9] group or UCD [U-1] group. In this case, the station number assigned by ALPE is used as the pilot number.

P-30 Priority Paging

General Description

This feature allows a station or an ATTENDANT CONSOLE [A-3] to make a PRIORITY PAGING [P-30] access when a paging call cannot normally be originated because another paging call is in progress or is waiting for an answer.

Operating Procedure

Paging Access from a station:
1. The Paging station goes off-hook; hears dial tone.
2. The station dials the PRIORITY PAGING [P-30] access code; hears dial tone once again.
3. The station dials the paging access code; hears continuous ringback tone for several seconds.
4. The station performs paging.

Paging Access from the ATTENDANT CONSOLE [A-3]:
1. The Attendant presses the loop key for an available loop.
2. The Attendant dials the PRIORITY PAGING [P-30] access code.
3. The Attendant dials the paging access code; hears continuous ringback tone for several seconds.
4. The Attendant performs paging.

Service Conditions

1. A PRIORITY PAGING [P-30] access is allowed from a station or from the ATTENDANT CONSOLE [A-3].
2. This feature is not priority radio paging for use with a Radio Paging Access service.
3. A PRIORITY PAGING access cannot be made from a station or the ATTENDANT CONSOLE [A-3] which is waiting for an answer to another paging call.
4. PRIORITY PAGING access code + ALL ZONE PAGING [A-53] access code dialing is possible. However, even if this dialing method is used, the PRIORITY PAGING [P-30] function is not activated when the line is busy. It operates in the same way as ALL ZONE PAGING [A-53] access code dialing.
5. While a paging trunk forced release or Paging Memory clearing is being processed, the caller (station operator) who activated the PRIORITY PAGING [P-30] access hears continuous ringback tone (for about 5 - 19 seconds).
6. If all Paging Trunks are busy, the Paging Trunk forcibly released is Trunk No. 1.
7. If Paging Trunk No. 1 is not equipped or the package is in Make Busy state, the caller (station or operator) hears reorder tone. If Soft MB or circuit MB is active, Paging Trunk No. 1 is seized.
8. If all Paging Trunks are busy and Paging Trunk No. 1 is being used at the ATTENDANT CONSOLE [A-3], Paging Trunk No. 1 is not forcibly released. In this case, the caller (station or operator) hears reorder tone.
9. Multiple priority paging to the same route is possible.
10. If all Paging Memory being used by PRIORITY PAGING is in use, a PRIORITY PAGING call to a different route is not forcibly cleared.
11. If all Paging Memory being used by PRIORITY PAGING calls to a different route, the Paging Memory is not forcibly cleared. In this case, the caller (station or Attendant) hears reorder tone.

Service Conditions (cont'd)

12. Forced release of a Paging Trunk is processed so that the station connected with that specific Paging Trunk is regarded as having released. Therefore, after the forced release of the paging trunk, the state of the station is as follows:

    a.) if there is a call on hold: Dial Tone Connection
    b.) if there is no call on hold: Recall (Calling Only)
                                        (Answering - Non-Delay)
                                        Dial Tone Connection (Answering - Delay basis)
                                        (Paging Transfer)

13. Going on-hook by the station after dial tone connection will result in Recall. As the Paging Memory becomes free after this Recall, a PRIORITY PAGING call can be originated.

14. Forced clearance of the Paging Memory is processed as a time-out of a paging call awaiting answer. Therefore, after the forced Paging Memory clearance, the state of the station is as follows:

    a.) if there is no call on hold: Same as before clearance
    b.) if there is a call on hold: Recall **(Note)**

Note: *If a Recall cannot be made because of a busy line, etc., the Paging Memory is not cleared until the line is released and Recall is possible.*

15. Both the COT card and the TLT card can be used as the paging trunk.

16. Loop signaling is the recommended signaling type.

Programming

STEP 1: **ASYD** - System Data 1, Index 73, bits 0 & 1. For PAGING function only, assign data "00".

STEP 2: **ARTD** - Assign the Paging route as shown below:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 4-INSG | :3 | 5-TF | :1 | 6-TCL | :8 |
| 7-L/T | :1 | 8-RLP | :2 | 15-LSG | :0/1 | 44-PRV | :1 | | |

STEP 3: **ATRK** - Assign the LEN, Paging Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the Paging trunks.

STEP 5: **ANPD** - Assign a level for trunk access. Assign Connection Indexes, CI = N, H; Normal (N), and Hooking (H). Assign the Number of Necessary Digits according to a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 6: **ASPA** - Assign the PAGE ACCESS code. Type of Service, SRV = OGC (Outgoing Call). Assign the proper route number associated with this access code. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H).

STEP 7: **ARSC** - Assign to the station that is allowed access to paging trunks a Route Restriction Class (RSC) that is allowed these routes in Route Restriction Indexes (RRI) 2 & 3.

STEP 8: **ASFC** - Allow SFI = 57, Priority Page, to the Service Feature Class of stations allowed this feature.

STEP 9: **ASPA** - Assign an access code for SRV = SSC (Service Code), SID = 40 (Priority Page).

P-57 Pad Lock

General Description

This feature temporarily restricts telephones from making unauthorized calls by dialing a special access code when users are away from their seats.

Operating Procedure

To set PAD LOCK from the station:
1. Lift the handset and receive dial tone.
2. Dial PAD LOCK access code and receive special dial tone.
3. Dial Authorization Code and receive service set tone.
4. Restore the handset.

To cancel PAD LOCK from the station:
1. Lift the handset and receive dial tone.
2. Dial PAD LOCK cancel code and receive special dial tone.
3. Dial Authorization Code and receive service set tone.
4. Restore the handset.

Service Conditions

1. This feature restricts telephones from making C.O. outgoing calls and/or terminating calls from C.O. trunks, stations, and attendant consoles. Stations in Pad Lock status are able to place station-to-station calls and outgoing calls using attendant assisted calling.
2. If the station under Pad Lock status dials a C.O. line access code, the station is rerouted to reorder tone or the Attendant Console.
3. Calls to stations in PAD LOCK status will receive reorder tone or, on a tenant basis, can be assigned to transfer to the Attendant Console.
4. PAD LOCK status will continue unless it is cancelled.
5. Stations are assigned this feature via Class of Service.
6. This feature is set/cancelled from the station only. The Attendant Console cannot set or cancel this feature.
7. If a D^{term} is in PAD LOCK status, the My Line and Sub Line are restricted.
8. When the station in PAD LOCK status attempts to set PAD LOCK again, it is connected to reorder tone (RST/REST is displayed on the D^{term}).

Programming

STEP 1: **ASYD** - Assign the data associated with Authorization Code service. System Data 1, Index 43, Bit 2. Send SST after dialing the access code for PAD LOCK. 0/1=Out/In Service.

STEP 2: **ASPA** - For SRV=SSC (Service Code) SID=42, assign the access code for Dial Access to lock. For SRV=SSCA (Service Code Appendix) SIDA=85, assign the access code for Dial Access to unlock.

STEP 3: **ASFC** - For stations allowed Authorization Code (PAD LOCK), assign a Class of Service that allows SFI27 (Authorization Code), and assign a Class of Service that allows SFI125 (PAD LOCK).

STEP 4: **AMND** - For Tenant 0, assign the Destination Code (DC) as the first digit of Authorization Code and Maximum Necessary Digits (MND) of Authorization Code.

STEP 5: **AATC** - Assign the TN, Digit Code (DC), the Authorization Code Restriction (ACR) as data "1", and Service Feature Class (SFC) and Route Restriction Class (RSC).

P-59   Personal Ringer

General Description

This feature provides another ringer pattern for the call terminating to the personal number and allows the user to distinguish the called number upon hearing ringing.

Ringing patterns are as follows:

• Ringing Pattern A: used for an incoming call from Central Office to the individual number.

```
        0.4 sec.      0.4 sec.  |------------ 2 sec. ------------|
                  0.2 sec.
```
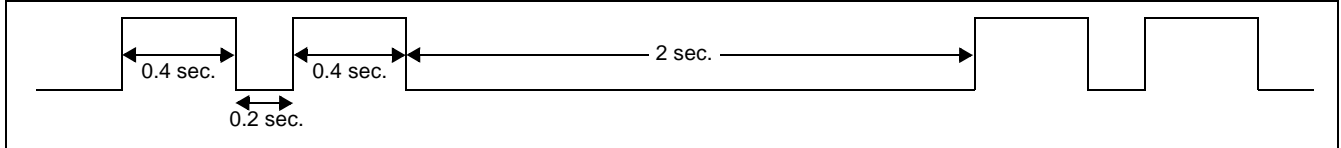
• Ringer pattern B: used for an incoming call from a station or TIE Line trunk to the pilot number.

```
        |------ 1 sec. ------|  |------ 2 sec. ------|
```
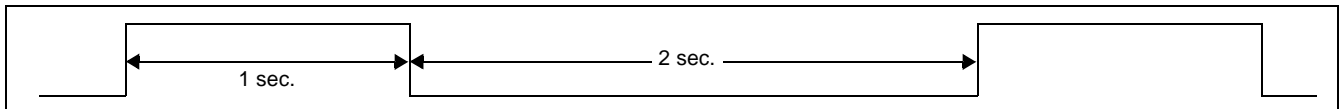
• Ringer pattern C: used for an incoming call from a station or TIE Line trunk to the personal number.

```
                                           1 sec.
     0.4 sec.      0.8 sec.      0.4 sec.
           0.2 sec.        0.2 sec.
```
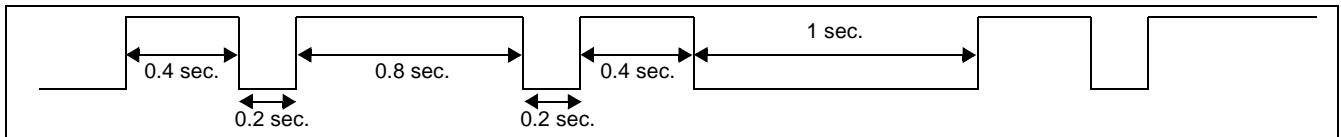
Ringer pattern A, B and C correspond to ringer pattern 0, 1 and 5 in System Data respectively.

Operating Procedure

No manual operation is required.

Service Conditions

1. When a station/tie line incoming call is forwarded with an operator/station assistance, ringer pattern is determined according to Service Feature Class of the forwarded station.
2. When a My Line of another D^{term} station is assigned to a Sub Line, Ringer Pattern 5 is used for station/tie line incoming calls to the Sub Line. Accordingly, ringer of the Sub Line must be set to OFF.
3. This feature is available for the D^{term} stations (i.e. not available for an analog station or virtual line).
4. Ringer Pattern 0 is used for C.O. line incoming call regardless of this feature.

Interactions

Even if a station/tie line incoming call is forwarded by Station Hunting-Terminal [S-9]/Circular [S-7] or Uniform Call Distribution [U-1], ringer pattern is determined according to Service Feature Class of the forwarded station.

Programming

STEP 1: **ASYD** - System Data 1, Index 417, Bit 0: Recall Ringer Pattern for CALL BACK [C-1], CALL WAITING - ORIGINATING [C-31], and OUTGOING TRUNK QUEUING [O-2]. 0/1 = Ringer Pattern 5/Ringer Pattern 1.

System Data 3, Index 0. Timer Value for Ringer used for Ringer Pattern 0.

System Data 3, Index 1. Timer Value for Ringer used for Ringer Pattern 1.

System Data 3, Index 3.

Bit 0: 2 Burst (0.4 sec.-ON, 0.2 sec.-OFF, 0.4 sec.-ON) on the ON Time for Ringer Pattern 0. 0/1 = Not Required/Required.

Bit 1: 2 Burst (0.4 sec.-ON, 0.2 sec.-OFF, 0.4 sec.-ON) on the ON Time for Ringer Pattern 1. 0/1 = Not Required/Required.

Bit 5: 3 Burst (0.4 sec.-ON, 0.2 sec.-OFF, 0.8 sec.-ON, 0.2 sec.-ON, 0.4 sec.-OFF) on the ON Time for Ringer Pattern 5. 0/1 = Not Required/Required.

System Data 3, Index 7. Timer Value for Ringer used for Ringer Pattern 5.

When the system data listed above is changed, circuit card (ELC) initialization is required.

STEP 2: **ASDT** - Assign station data of the D^{term} using this service.

STEP 3: **ASFC** - Assign Service Feature Class (SFC) that allows SFI = 148 (Personal Ringer) to the D^{term} stations using this service.

R-2   Remote Access to System

General Description

This feature allows a user outside the NEAX2400 IMX to access the system via an exchange network connection without Attendant or station assistance. The outside user may originate calls over any or all of the PBX facilities, such as WATS, FX, TIE Line or CCSA.

When a wrong code is received from a station/trunk, detailed information on the unauthorized user is output as System Message [26-M] Toll Fraud Report.

Operating Procedure

To operate using AUTHORIZATION CODE [A-20]/FORCED ACCOUNT CODE [F-7]:
1. Lift the handset; receive dial tone.
2. Dial the Remote Access number to connect to the NEAX2400 IMX; receive ringback tone through public network.
3. If there is an announcement service, an announcement will be heard; receive dial tone.
4. Dial the AUTHORIZATION CODE/FORCED ACCOUNT CODE; receive PBX dial tone.
5. Dial the desired telephone number; hear ringback tone.
6. The called party answers.

To operate without using AUTHORIZATION CODE [A-20] / FORCED ACCOUNT CODE [F-7]:
1. Lift the handset; receive dial tone.
2. Dial the Remote Access number to connect to the NEAX2400 IMX; receive ringback tone through the public network.
3. Receive PBX dial tone.
4. Dial the desired telephone number; hear ringback tone.
5. The called party answers.

Service Conditions

1. When a call terminates from a TIE Line, this feature is available by dialing a specific telephone number.
2. After a call terminates to AUTOMATED ATTENDANT [A-82], AUTHORIZATION CODE [A-20] and FORCED ACCOUNT CODE [F-7] services are available.
3. AUTHORIZATION CODE [A-20] is predetermined on a system basis. Refer to AUTHORIZATION CODE [A-20] for more information.
4. Announcement service is not provided when AUTHORIZATION CODE [A-20] service is not available.
5. Until the call is connected to an announcement trunk, ringback tone is heard.
6. Announcement trunks are to be used for single connections only. Announcement service is not available when the announcement trunks are all busy or are not provided. (The caller receives PBX dial tone.)
7. When a call terminates to the called station, the following services are available:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
UCD	[U-1]
CALL WAITING	

8. The second announcement is not provided to the ISDN trunk.
9. The announcement is provided for a maximum of 30 seconds. Therefore, the message recording should be completed within 30 seconds.

Interactions

1. The Authorization Code used in conjunction with REMOTE ACCESS TO SYSTEM will not be recorded in SMDR. System Data 2, Index 3, bit 5 is the only difference between Forced Account Code and Authorization code. This Bit determines where the dialed code will appear in SMDR. When assigned as Authorization code, those digits will not appear in SMDR.

2. The additional step of the ARAC command, for DID trunks does not eliminate the need for Forced Account Code assignments. In addition, Remote Access to System [R-2] via DID requires the use of Forced Account Codes [F-7].

3. The PBX recognizes a momentary pressing of the switch hook as a disconnect by the remote party. Therefore, all features activated via a Connection Index of Hooking (H) are not available to the REMOTE ACCESS TO SYSTEM feature user. A remote access user may participate in a feature that requires a switch hook flash generated by an internal station.

4. STATION MESSAGE DETAIL RECORDING [S-10]-REMOTE ACCESS TO SYSTEM outgoing calls are recorded in SMDR. The field in the SMDR report that lists the calling station will list the route and trunk number.

5. SPEED CALLING SYSTEM [S-3] and SPEED CALLING-STATION/INDIVIDUAL [S-21, 23] may not be accessed via REMOTE ACCESS TO SYSTEM [R-2].

6. If the REMOTE ACCESS TO SYSTEM feature is used to call stations internal to the system, allow in ARSC the Incoming Remote Access route to the RSCs of the station that may be called.

7. See AUTHORIZATION CODES [A-20] for Check/Sum method assignments.

Programming

STEP 1: **ASYD** - System Data 1, Index 43, Bit 0. Is Authorization Code required with REMOTE ACCESS TO SYSTEM? 0/1: Yes/No. If this is assigned as data "1", then no assignment in AATC and AMND is required.

System Data 1, Index 243. Timer Counter of the forced release for a tandem connection to the trunk not providing Answer signal. (Data 00H = 64 sec.)

System Data 2, Index 3, Bit 5 must be assigned as data "1", FORCED ACCOUNT CODE [F-7].

System Data 1, Index 91, Bits 2 and 3 must be assigned as data "0" (all system messages are output).

STEP 2: **AATC** - Assign the Tenant (TN), Digit Code (DC, the CODE), and the Authorization Code. Restriction should be assigned as either 1 = Restricted, or 2 = Allowed, depending on application. If Code Restriction is assigned as 1, Restricted, then assign the SFC and RSC. The remote access line will be route restricted accordingly. The SFC parameter is not operational.

STEP 3: **ARTD** - Assign the Remote Access route as shown below:

C.O.TRUNK:

RT: 1

3-ISGS	:1	4-INSG	:2/3	5-TF	:2	6-TCL	:1	7-L/T	:1
8-RLP	:2	10-SMDR	:0/1	38-FA	:1				

DIRECT INWARD DIAL (WINK START):

RT: 1

3-ISGS	:7	4-INSG	:2/3	5-TF	:2	6-TCL	:1/4	7-L/T	:1
8-RLP	:2	10-SMDR	:0/1	15-LSG	:8	38-FA	:1		

STEP 4: **AMND** - For Tenant 0, assign the Destination Code (DC) as the first digit of all Forced Account Codes and the Maximum Necessary Digits (MND) of the Authorization Code. The MND value will include the digits added by the Check Sum method. (Only required if AATC is assigned.)

STEP 5: **ATRK** - Assign the LEN, Remote Access Trunk Route Number, Trunk Number, and Tenant Number.

Programming (cont'd)

STEP 6:   **MBTK** - Assign the Make Idle status to the REMOTE ACCESS TO SYSTEM trunks.

STEP 7:   **ACSI** - Assign Route Number, Trunk Number, and Connection Service Index (CSI) = 5, REMOTE ACCESS TO SYSTEM, Incoming DDD Ring down trunks are automatically connected as a Remote Access trunk. They do not use ARAC access codes.

STEP 8:   **ARAC** - This command is used when a TIE Line or DID line will serve as a Remote Access to the PBX line. A DID call will pulse into the system with digits that resemble a station number. That station number is assigned as the REMOTE ACCESS TO SYSTEM access code.

STEP 9:   **ARRC** - Allow trunk-to-trunk connection between the Remote Access route and to those outgoing routes this feature will access. Assign using ARI-D-RES, Direct Connection.

STEP 10: **ACFR** - Allow the types of incoming calls listed in the Call Class Index (CCI) LDN, CCSA, that will be connected to Remote Access. REMOTE ACCESS TO SYSTEM is Transfer Service Feature Index (TSFI) number 7.

STEP 11: **ASTD** - Assign the state translation data: STM=4, SYS=0, ST=1 (Remote Access to PBX In Service).

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ARTDN** - Assign the Remote Access route as shown below:

C.O.TRUNK:

RT: 1

3-ISGS	:1	4-INSG	:2/3	5-TF	:2	6-TCL	:1	7-L/T	:1
8-RLP	:2	10-SMDR	:0/1	38-FA	:1				

DIRECT INWARD DIAL (WINK START):

RT: 1

3-ISGS	:7	4-INSG	:2/3	5-TF	:2	6-TCL	:1/4	7-L/T	:1
8-RLP	:2	10-SMDR	:0/1	15-LSG	:8	38-FA	:1		

STEP 2:   **ARRCN** - Allow trunk-to-trunk connection between the Remote Access route and to those outgoing routes this feature will access. Assign using ARI-D-RES, Direct Connection.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

R-3 Reserve Power

General Description

This feature provides a system with a backup power supply, functioning from a battery source, in the event of a commercial power failure.

Operating Procedure

Power is automatically supplied to the NEAX2400 IMX in the event of a commercial power failure.

Service Conditions

1. Batteries should be installed separate from the NEAX2400 IMX.
2. Batteries and chargers are not NEC supplied.
3. No interruption of NEAX2400 IMX operation will occur during switch-over from commercial to battery power.
4. Duration of battery operation is a direct function of the capacity of batteries equipped.

Programming

No programming is required.

R-4 Restriction from Outgoing Calls

General Description

This feature automatically denies preselected station lines within the NEAX2400 IMX system the ability to place outgoing calls and/or certain miscellaneous trunk calls without Attendant assistance.

Operating Procedure

Operation is fully automatic that the restricted stations will receive reorder tone upon attempting to place a restricted call.

Service Conditions

1. This feature is programmable via System Data programming from the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

2. Non-restricted stations within the system can CALL TRANSFER - ALL CALLS [C-11] outgoing calls to the stations restricted by this feature.

3. Only the Attendant can permit the restricted stations to place outgoing calls via either of the following features:

   PASSING DIAL TONE   [P-2]
   NON-DELAY OPERATION   [N-3]

4. Refer to CLASS OF SERVICE - INDIVIDUAL [C-15] and DAY/NIGHT CLASS OF SERVICE [D-15] for further details.

5. Station line access to a given trunk group is controlled by assigning a Route Restriction Class (RSC) to each line. There can be a maximum of 15 different RSCs (RSC1 - 15) per system, each of which can be programmed to restrict an assigned station from none, one, or more than one trunk group.

6. Two outgoing trunk group restriction tables are provided per system. The Direct Dial Access table is indexed when a user dials the trunk group access code and the ATTENDANT CONSOLE [A-3] table is indexed on Attendant completed calls. The restriction options per RSC can differ per table, thus, allowing Attendant completion of outgoing calls for the restricted stations.

7. CALL TRANSFER - ALL CALLS [C-11]: If a restricted user calls another station, the called station cannot use the Call Transfer feature to connect the calling station to a trunk group to which the calling station is restricted from outgoing calls. If transfer is attempted, the controlling station is rung back.

8. TIE LINE ACCESS [T-3]: If the user accesses a TIE trunk to a distant PBX, access to the public exchange network can only be controlled by the distant PBX.

9. THREE-WAY CALLING [T-2]: If a restricted user calls another station, the called station cannot add-on an outside exchange party via a trunk group in which the calling station is restricted from outgoing calls. An attempt to add-on (SHF) will be ignored.

10. NIGHT SERVICE: Restrictions can be changed for a given station when the system is switched to the night mode of operation.

Interactions

1. Transferring restrictions may not be desired for a restricted station.

2. CALL TRANSFER-ALL CALLS [C-11]: Station A is allowed access to outgoing on Route 1. Station B is restricted access for outgoing on Route 1 via RRIs 2 & 3. The unrestricted Station A makes an outgoing call on route 1 and cannot use the CALL TRANSFER-ALL CALLS feature to connect Station B to Route 1. If CALL TRANSFER-ALL CALLS is attempted, Station A is immediately rung back.

Interactions (cont'd)

3. CONSULTATION HOLD [C-17]: Station A may consult with station B when Route 1 is on Soft Hold.

4. THREE-WAY CALLING [T-2]: Station A cannot include restricted Station B in a Tree-Way Calling connection with Route 1.

5. DAY/NIGHT CLASS OF SERVICE [D-15]: Restricted Station B may be allowed access to Route 1 when the system is placed in the NIGHT mode. See DAY/NIGHT CLASS OF SERVICE [D-15].

6. RESTRICTION FROM OUTGOING CALLS are constructed on a per-route restriction basis. Two Route Restriction Indexes are constructed: RRI 2, Outgoing Calls via the Attendant Console and RRI 3, Outgoing Calls via Direct Dial Access.

Programming

STEP 1: **ASYD** - System Data 1, Index 75. Should the following commands be developed for Day/Night? 0/1: No/Yes.

Bit 0- Develop ARSC command for Day/Night?

Bit 3- Develop ATDP command for Day/Night?

System Data 2, Index 1, Bits 4 & 5. Should a Toll-Restricted station be routed to the Attendant Console or receive reorder tone?

Reorder Tone: Bit 4 = "0", Bit 5 = "0".

Attendant Console: Bit 4 = "0", Bit 5 = "0".

Route Restriction Class

STEP 2: **ARSC** - Sixteen different Route Restriction Classes may be constructed to either allow, deny, or toll restrict access to the various routes of the system. Assign the RSC using Route Restriction Indexes 2 (outgoing via the Attendant Console) and 3 (Outgoing Direct).

STEP 3: **ASDT** - Assign Tenant No., Station No., LENs, and the Telephone Equipment Class (TEC) to the station. This is used in regular Business systems. The Service Feature Class (SFC) and Route Restriction Class (RSC) are also assigned to the telephone.

TN: Tenant Number

STN: Station Number

LEN: Line Equipment Number (6 digits)

TEC: Telephone Class (1-31)

1: DP (10pps)

2: PB

3: DP/PB

12: D^{term}

13: Data terminal Via D^{term}

14: Hot Line

15: CAS Line

16: Data Terminal Via Data Module

18: Virtual Circuit

23: ISDN Terminal

27: Eight Conference Equipment

RSC: Route Restriction Class (0-15) For assignment of RSC, ARSC command.

SFC: Service Feature Class (0-15) For assignment of SFC, ASFC command.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ARSCN** - Sixteen different Route Restriction Classes may be constructed to either allow, deny, or toll restrict access to the various routes of the system. Assign the RSC using Route Restriction Indexes 2 (outgoing via the Attendant Console) and 3 (Outgoing Direct).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

R-5 Rotary Dial Calling

General Description

This feature permits users to originate calls over rotary or push-button lines using Rotary Dial telephones.

Operating Procedure

Users dial rotary telephones in the normal fashion.

Service Conditions

1. Rotary dial telephones installed should be industry standard 10pps instruments.
2. Pushbutton instruments may be used in conjunction with ROTARY DIAL CALLING.
3. It is possible to provide only the ATTENDANT CONSOLE [A-3] with push-button calling, while all other stations are assigned ROTARY DIAL CALLING. Refer to PUSHBUTTON CALLING - ATTENDANT ONLY [P-5] for further details.
4. If ROTARY DIAL CALLING is assigned to a line, only Rotary Dial sets can be used on that line.
5. POWER FAILURE TRANSFER [P-3]: Rotary dial telephones must be used as POWER FAILURE TRANSFER [P-3] stations if the serving central office facility is not arranged for pushbutton calling. A ground start button on the station set is required if the central office facility uses ground start signaling.

Interactions

1. Rotary-to-Pushbutton conversion may be accomplished by assigning data "2" for CDN 2:ONSG in ARTD; or assigning data "1" in ASYD, System Data 2, Index 1, Bit 0, and assigning CDN 2:ONSG as data "3", DP/PB.
2. See UNIVERSAL SENDER [U-3] for sender programming
3. ROTARY DIAL CALLING may be accomplished via an extension of PUSH-BUTTON CALLING [P-4] if a Telephone Equipment Class of 3 has been programmed.
4. The * or # symbols cannot be used as feature activation codes with ROTARY DIAL CALLING.
5. The PBX Originating Registers Trunks (Route 902) can accept both rotary and push-button signals (a separate register group is not required).

Programming

STEP 1: **ASYD** - System Data 2, Index 2, Bit 0. Sender signal for station is DP only/PB? 0/1: DP only/PB only. This Bit is operative only when ARTD CDN 2:ONSG is assigned as data "3", DP/PB. Assign data "0".

STEP 2: **ASDT** - Assign single-line stations a Telephone Equipment Class (TEC) as rotary (DP) TEC = 1; or dial pulse/push-button (DP/PB), TEC = 3. D^{term} sets are always push-button.

STEP 3: **ATRK** - Assign Originating Register Trunks (ORT) to the system in a quantity calculated from expected traffic. Registers are located on levels 0-3 of any 8RST circuit card.

Also, senders must be assigned to the system in a quantity calculated from expected traffic. Senders are located on levels 4-7 of any 8RST circuit card.

RT: Route Number

Trunk Route Number

Intra-office Route Number (901-931)

901 - ATT   912 - ORT for ATT

Programming (cont'd)

902 - ORT	913 - TCFT for ATT
903 - IRT	915 - Night ATT
905 - Sender	916 - MFCR
909 - DCFT	917 - MFCS
	919 to 926 - Modem

TK: Trunk Number

TN: Tenant number

RSC: Route Restriction Class

SFC: Service Feature Class

STEP 4: **ARTD** - Routes must be assigned as either PB, DP, or DP/PB. Flag CDN 2:ONSG as data "1", DP, or data "3", DP/PB.

R-6   Route Advance

General Description

This feature automatically routes outgoing calls over alternate facilities when the first-choice trunk group is busy. User selects the first-choice route by dialing the corresponding access code, and the equipment then advances through alternate trunk groups only if the first choice is busy.

Operating Procedure

No manual operation is required.

Service Conditions

1. No indication is provided to a user as to whether the call is routed over first-choice or subsequent choice facilities.
2. STATION MESSAGE DETAIL RECORDING SYSTEM [S-10] may be used in conjunction with this feature.
3. Only trunks of the same type may be programmed for ROUTE ADVANCE.
4. Careful consideration should be given to the use of FX trunks as an alternate facility. These lines require outpulsing of digits for long distance which the user may not dial, because he will not know he is connected to such a facility.
5. The maximum number of routes to be included in a single ROUTE ADVANCE group is 15.
6. The total number of routes that can be contained in all ROUTE ADVANCE groups is 31.
7. The same route can be included in two or more alternative groups.
8. The maximum number of trunks to be included in a route is 255.
9. No code conversion capability is provided with ROUTE ADVANCE; therefore, the exact digits (after the access code) the user dials will be sent over the selected trunk, regardless of the trunk group used. The user will not know what trunk group is selected; therefore, only those trunk groups that accept the same dialing format may be assigned to a given ROUTE ADVANCE group.
10. ROUTE ADVANCE occurs only when the dialed code accesses the first-choice trunk group in the ROUTE ADVANCE list.
11. In most cases, FX trunk groups to a Foreign Numbering Plan Area do not require the dialing of the FNPA area code. Therefore, these FX trunks may not be used in the same ROUTE ADVANCE list with local exchange or WATS trunks.
12. TIE Lines cannot be assigned to a ROUTE ADVANCE list that includes CO, FX, or WATS trunk groups.
13. The dialing party may be either a station line, ATTENDANT CONSOLE [A-3], or a TIE trunk line.
14. When using the FCCS network, the outgoing call using a trunk in the remote node is available. Therefore, Route Restriction class data must be identical in the FCCS network. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

Interactions

1. When OUTGOING TRUNK QUEUING [O-2] is assigned with the ROUTE ADVANCE feature, if all trunk groups in one ROUTE ADVANCE list are busy, the call queues on the first-choice trunk group. Each time the system checks for an available trunk, only the first-choice trunk group is scanned; if a trunk is not available, the call remains in queue.

Interactions (cont'd)

2. TOLL RESTRICTION - 3/6 DIGIT [T-6] may be used in conjunction with ROUTE ADVANCE. Only routes of the same type may be used in ROUTE ADVANCE. Two differently labeled C.O. trunks, such as, DDD and WATS may be in the same group.

3. There is no digit translation available for this feature. The dialed digits must be usable by whatever route is available.

4. This feature is available for a station activating CONSULTATION HOLD [C-17]. However, in the following cases, ROUTE ADVANCE is not activated, and the user receives reorder tone:

   a.) when either the first-choice trunk group or alternate trunk group is restricted by TOLL DENIAL [T-6].

   b.) when both the first-choice trunk group and alternate trunk group are busy or restricted by TOLL DENIAL [T-6].

5. ROUTE ADVANCE is not activated on PAGING TRANSFER [P-10] or RADIO PAGING [R-16] routes. Therefore, the caller receives reorder tone when the first trunk group is busy or restricted by TOLL DENIAL [T-6].

Programming

STEP 1: **ASYD** - System Data 1, Index 65, Assign the number of routes that will be used in the system.

STEP 2: **ANPD** - Reserve a number level for trunk access. Assign for Normal (N) and Hooking (H) service. The Number of Necessary Digits should be 1 or 2, depending on numbering plan. BLF should be Off.

STEP 3: **ASPA** - Assign the Service SRV = OGCA (Outgoing Call Advance), Outgoing Call Route Advance. Assign the access code to the lead route number to be seized. In the desired order, program the routes to be selected when the first choice route is busy. Count = the total number of routes in the route advance group, including the first-choice route.

STEP 4: **ARSC** - Prepare a Route Restriction Class (RSC) that will allow access to all of the desired routes in the Route Advance group for RRI 2 and RRI 3. Assign the RSC to the stations that are allowed to access the Route Advance group.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDL** - SYS 1, INDEX800. Assign the tenant table development.

STEP 2: **ANPDL** - Reserve a number level for trunk access.

STEP 3: **ASPAL** - Assign SRV=OGCA and the access code to the lead logical route number to be seized.

STEP 4: **ARSCN** - Assign the RSC to the stations that are allowed to access the Route Advance group.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.*

R-7 Remote Maintenance

General Description

This feature allows office data changes or reassignments to be performed without a site visit by service personnel, and can be used to detect fault tendencies before they affect service. One REMOTE MAINTENANCE center can service an unlimited amount of systems, thus reducing the amount of personnel needed to maintain each site.

Operating Procedure

The operation of this feature involves the use of the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

Service Conditions

1. The following additional equipment is required for this feature:
   a.) a modem at the maintenance center, and one at each remote site,
   b.) a dedicated or non-dedicated telephone line for each remote site.
2. The following operations can be executed from the REMOTE MAINTENANCE location:
   a.) list of all system data (line, trunk, etc.)
   b.) retrieval of fault data
   c.) retrieval of traffic management information
   d.) testing of system operation
   e.) deletion or addition of system data (line, trunk, etc.) using a pre-programmed security password
3. The following three facility methods are available to interface with a remote test location:
   a.) dedicated connection
   b.) dial-up connection - TIE Line
   c.) dial-up connection - CO Line
4. Maintenance testing can be performed at a remote central facility, using the MAT [M-18] to evaluate a trouble report, prior to the dispatching of a repair person to the customer location.
5. Two MATs can access a system simultaneously, provided they are not using the same command at the same time.
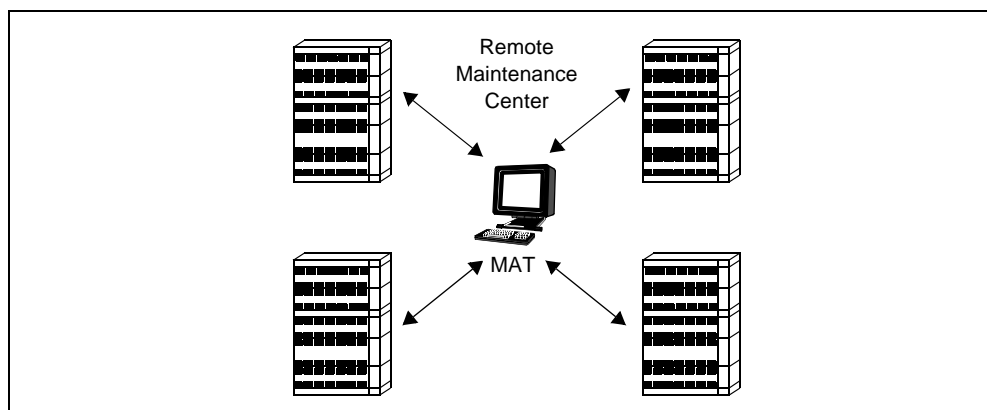
Interactions

APSW must be assigned before allowing the password function in the ASYD command. If password is allowed in ASYD before APSW is assigned, Error Message 0550 "Password not yet assigned", will be displayed.

Programming

STEP 1:   Initialization of the system will automatically provide for Maintenance Administration Terminal capabilities in System Data 1, Index 116 for Port 0.

STEP 2:   **AIOC** - Assign the function and attribute data of each I/O port to be used.

STEP 3:   Assign Terminal Configuration data (Serial Settings/TCPIP Settings) in the PBX Administration menu.

STEP 4:   **APSW** - This command must be assigned to allow password protection. Assign the following:

    TYPE: Data Type

                1-Password Code Data

                2-Grade 2 Command Data

    GRD-1: Grade 1 Password

    CDN: 1-15, against the Grade 1 Password, 15 Grade 2 Passwords may be assigned.

    GRD-2: Assign the Grade 2 Passwords.

    TYPE: 2-Grade 2 Command Data.

    CDN: 1-16, Against each Grade 2 Passwords allow access to 16 commands.

    CMND: List the 16 commands.

FCCS Programming

No unique programming is required for the FCCS network.

R-16 Radio Paging

General Description

This feature allows users dialing access to customer-owned RADIO PAGING equipment and to selectively tone or voice/tone alert individuals carrying pocket RADIO PAGING receivers. The paged party may be connected to the paging party by going to the nearest telephone and dialing a unique answer-back code.

Operating Procedure

To page:
1. Paging user dials the RADIO PAGING access code; receives an acknowledgment tone from the radio equipment.
2. Paging user dials the radio number of desired party; receives ringback tone from the radio equipment.
3. Paging user hangs up and waits for an answer signal.

To answer:
- Using OGC access code, a paging station accesses Radio Paging equipment whether or not the automatic answer function is provided. (System Data 1, Index 73, b4 = 1 or 0.)
1. Paged party dials the RADIO PAGING answer code.
2. Paged party receives special dial tone.
3. Paged party dials his own individual radio (beeper) number.
4. Paged station is rung; the paged party receives ringback tone.

Note: *This operation is not available when assigning System Data 1, Index 73, b4 = 1. Only Non-Delay operation is available.*

5. Paging station is connected to the paged party.
- Using LCR/LCRS access code, a paging station accesses Radio Paging equipment providing the automatic answer function. (System Data 1, Index 73, b4 = 1.)
1. Paged party dials the paging station number/individual attendant number which is displayed on the radio pager (beeper).
2. Paging station/attendant is rung; paged party receives ringback tone.
3. Paging station/attendant is connected to paged party.

Service Conditions

1. RADIO PAGING equipment is customer provided; refer to the manufacturer's description for the following specifications:
   - a.) types of tones
   - b.) capability of receiving individual radio numbers
   - c.) capability to call the addressed radio terminal
   - d.) maximum number of stations that can be assigned individual radio access numbers.
2. A maximum of three digits can be assigned as access and answer codes.
3. The maximum number of digits assigned as individual radio numbers is three.
4. ATTENDANT CONSOLE [A-3] Attendants can activate this feature.
5. A station that has the CALL HOLD [C-6] feature activated cannot use RADIO PAGING.
6. The maximum number of RADIO PAGING answer zones is six.
7. The maximum number of routes that can be assigned RADIO PAGING is six.

Service Conditions (cont'd)

8. If the paging user has failed to hang up within a predetermined, programmable time interval (after activation), the paging connection is forcibly released.

9. If the paged party does not answer within 30 seconds, the NEAX2400 IMX will automatically page that party again. If the paged party does not answer the second page within 30 seconds, the paging request will be cancelled from memory. (See VARIABLE TIMING PARAMETERS [V-1]).

10. Both the COT card and the TLT card can be used as the paging trunk.

11. Loop signaling is the recommended signaling type.

12. PAGING ACCESS [P-1], PAGING TRANSFER [P-10] and RADIO PAGING [R-16] are provided to the paging station and the paged station in FCCS nodes.

13. When PAGING ACCESS [P-1]/PAGING TRANSFER [P-10]/RADIO PAGING [R-16] service is set to a station in the remote node or the PAGING ACCESS [P-1]/PAGING TRANSFER [P-10]/RADIO PAGING [R-16] call is answered from the remote node via FCCS link:

    a.) the logical route number should be applied to each physical route that is provided the service.
    b.) the restriction of route-to-route connection between FCCS nodes should be released.

14. The same paging route cannot be used by another station while the paged station does not answer the page activated using the route. However, the paging activation is automatically cleared when the call is not answered within a predetermined time.

15. A user can page one station at a time.

Interactions

1. If the range of the radio page transmitter exceeds the physical limits of the PBX, an incoming C.O. call acting as a response to a Radio Page cannot be connected in loop-to-loop procedures. The paging party must disconnect, and the Attendant must extend the paged party's C. O. call.

2. RADIO PAGING and PAGING ACCESS [P-1] can be provided simultaneously in the same system. Separate access codes for each feature are required. A RADIO PAGING answer code is required for each Radio Paging zone.

3. RADIO PAGING is limited to stations and Attendant Consoles. Other parties (C.O./TIE trunk calls) must have the Attendant or user perform the paging operation.

4. The Attendant cannot dial the RADIO PAGING answer codes.

5. BUSY VERIFICATION [B-3], EXECUTIVE OVERRIDE [E-1]: These features will be denied when connected to the Radio Paging route.

6. Radio Page Answer will not follow any hunting on forwarding that the paging station has set.

Programming

STEP 1:   **ASYD** - System Data 1, Index 73, Bit 2. Is the beeper number transmitted via the RADIO PAGING equipment a two or three-digit number? 0/1: two digits/three digits.

System Data 1, Index 73, bit 4. Radio Paging - Station Number/Individual ATT Number is automatically sent? 0/1: No/Yes.

System Data 1, Index 73, Bit 5. If the paged party doesn't respond, should the system resend the beeper number? 0/1: Yes/No. This also doubles the effective timing in System Data 1, Index 74, Bits 4-7.

System Data 1, Index 74, Bits 4-7. Recall timer for radio page. If the paged party does not respond by the first time out, the paged party is called again and the time out is repeated.

(N + 1) x 30 = Time Out

N = a hexadecimal value set in Bits 4-7.

Programming (cont'd)

If the paged party doesn't respond by the same period of time after the second page, the page is cancelled.

System Data 1, Index 244, bit 0. Answer by Radio Paging answer code. 0/1: Out/In Service. Note that this bit is valid when System Data 1, Index 73, bit 4 is 1 (Station Number/Individual ATT Number is automatically sent).

STEP 2: **ARTD** - Assign the Radio Paging route as shown below:

RT: 1

1-OSGS	: 2	2-ONSG	: 3	5-TF	: 1	6-TCL	: 12	7-L/T	: 1
8-RLP	: 2	9-TQ	: 1	15-LSG	: 0/1				

STEP 3: **ATRK** - Assign the LENs, Paging Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4: **MBTK** - Assign the Make Idle status to the Paging Trunks.

STEP 5: **ANPD** - Reserve a level for trunk access. Assign for Normal (N) and Hooking (H) services. Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated. Reserve a level for RADIO PAGE answer and cancel codes. Assign for Normal (N) service. Number of Necessary Digits is usually 2. Busy Lamp Field is not activated.

STEP 6: **ASPA** - Assign the RADIO PAGE access code. Type of Service, SRV = OGC (Outgoing Call) or SRV=LCR (Least Cost Route Selection) / LCRS (Register Sender LCR) (available only when ASYD, System Data 1, Index 73, bit 4 is "1"). Assign the proper route number that is associated with this access code. Assign for Normal (N) and Hooking (H).

Assign the access code in the level reserved in ANPD above. Type of Service, SRV = PAGA (Paging Answer) and SRV = PAGC (Paging Cancel). Assign the proper route number that is associated with this route. Assign for a Connection Index of Normal (N).

STEP 7: **ARSC** - Allow RRI: 2 & 3 access to this route for the RSCs assigned to the stations that will be given access to the paging routes.

STEP 8: **ASFC** - Assign a Service Feature Class that allows SFI 37 to stations that will have RADIO PAGING answer capability.

STEP 9: **ASAT** - Assign the Individual Attendant Number, if necessary.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ALRTN** - This data must be assigned to the NCN. Assign the logical route number to the physical route.

STEP 2: **ANPDN** - This data must be assigned to the NCN. Reserve a number level for service feature access and cancel.

STEP 3: **ASPAN** - This data must be assigned to the NCN. Assign the access code for Paging Transfer.

STEP 4: **ARSCN** - This data must be assigned to the NCN. Release the restriction between the announcement trunk and the station.

STEP 5: **ARRCN** - This data must be assigned to the NCN. Release the restriction between the terminating trunk and the announcement trunk.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *The current command data shown is set to all nodes using the service: ASTD, ARTD, ATRK, ASFC*

R-27   Route Restriction - Announcement

General Description

This feature permits a station-originated call, dialed to a restricted outgoing number, to be automatically routed to a recorded announcement informing the caller that the dialed number is restricted. (TOLL RESTRICTION [T-7])

Operating Procedure

No manual operation is required after this feature has been programmed in System Data.

Service Conditions

1. This service feature is available when a station-originated call encounters a restriction.
2. Access to the announcement of this service feature is restricted by MISCELLANEOUS TRUNK RESTRICTION [M-3].
3. The announcement machine can be provided on a per-tenant basis.
4. The availability of this service cannot be determined for each originating route.
5. TOLL DIVERSION [T-6] takes precedence over this feature.
6. Digital Announcement Trunk (DAT) and the calling station must be accommodated in the same node within the FCCS network.

Programming

STEP 1:   **ASYD** - System Data 2, Index 1, Bit 4, 5. Toll Restriction (disposition of Restricted Call) Assign Bits 4 and 5 as "0".

STEP 2:   **AAED** - Equipment type 7 = Outgoing Route Restriction Announcement

Also see ANNOUNCEMENT SERVICE [A-59] for programming of announcement and MISCELLANEOUS TRUNK RESTRICTION [M-3] for trunk restriction programming.

R-37 RS-464A PAD

General Description

This service is for changing the current PAD control system for the lines and external trunks to a PAD control system which conforms to the RS-464A specification.

The following table outlines the comparison between the current PAD control and the RS-464A PAD control.

Calling Terminal	Called Terminal	RS-464A PAD Control	The Current PAD Control
ONS	ONS	6dB PAD ON	5dB PAD ON
ONS	OPS	3dB PAD ON	PAD OFF (0dB)
OPS	ONS	3dB PAD ON	PAD OFF (0dB)
OPS	OPS	PAD OFF (0dB)	PAD OFF (0dB)
ONS	ATT	6dB PAD ON	PAD OFF (0dB)
OPS	ATT	3dB PAD ON	PAD OFF (0dB)
ONS	Trunk	Data assigned to ARTD, PAD	Data assigned to ARTD, PAD
OPS	Trunk	Data assigned to ARTD, PAD2	Data assigned to ARTD, PAD
ATT	Trunk	Data assigned to ARTD, PAD	Data assigned to ARTD, PAD

Note: *ONS: Line interface to On-Premises Line (General Telephone)*
OPS: Line interface to Off-Premises Line (Log Line Telephone)

When using the 24DTR/24CCT/24PRT, APAD and ARTD, PAD 2 are ignored when switch settings are set to ARTD fixed, and PAD patterns 1 and 2 are selectable by switch settings.

Note: *In the following tables, -db indicates a decrease in volume level; +db indicates an increase in volume.*

PAD PATTERN 1			PAD PATTERN 1			PAD PATTERN 1		
24 DTR with SFI 50 = 0			24 DTR with SFI 50 = 1			24 DTR with APAD Setting		
ARTD PAD Setting	Transmit PAD	Receive PAD	ARTD PAD 2 Setting	Transmit PAD	Receive PAD	APAD Setting	Transmit PAD	Receive PAD
0	-8db	-8db	0	ARTD, PAD	ARTD, PAD	1	-2db	-2db
1	-2db	-2db	1	-2db	-2db	2	-4db	-4db
2	-4db	-4db	2	-4db	-4db	3	-6db	-6db
3	-6db	-6db	3	-6db	-6db	4	-8db	-8db
4	-8db	-8db	4	-8db	-8db	5	Unused	Unused
5	0db	0db	5	0db	0db	15	Pad Off	Pad Off
6	Unused	Unused	6	Unused	Unused			
7	0db	0db	7	0db	0db			

General Description (cont'd)

PAD PATTERN 2				PAD PATTERN 2				PAD PATTERN 2		
24 DTR with SFI 50 = 0				**24 DTR with SFI 50 = 1**				**24DTR with APAD Setting**		
ARTD PAD Setting	**Transmit PAD**	**Receive PAD**		**ARTD PAD 2**	**Transmit PAD**	**Receive PAD**		**APAD Setting**	**Transmit PAD**	**Receive PAD**
0	-9db	-3db		0	ARTD, PAD	ARTD, PAD		1	-3db	+3db
1	-3db	+3db		1	-3db	+3db		2	-3db	-3db
2	-3db	-3db		2	-3db	-3db		3	-6db	0db
3	-6db	0db		3	-6db	0db		4	-9db	-3db
4	-9db	-3db		4	-9db	-3db		5	Unused	Unused
5	0db	0db		5	0db	0db		15	Pad Off	Pad Off
6	Unused	Unused		6	Unused	Unused				
7	0db	0db		7	0db	0db				

16 COTBE with SFI 50 = 0				**16 COTBE with SFI 50 = 1**				**16 COTBE with APAD Setting**		
ARTD PAD	**Transmit PAD**	**Receive PAD**		**ARTD PAD 2**	**Transmit PAD**	**Receive PAD**		**APAD Setting**	**Transmit PAD**	**Receive PAD**
0	0db	0db		0	ARTD	PAD		1	0db	0db
1	0db	0db		1	0db	0db		2	-3db	-3db
2	-3db	-3db		2	-3db	-3db		3	-6db	-6db
3	-6db	-6db		3	-6db	-6db		4	0db	+6db
4	0db	+6db		4	0db	+6db		5	Unused	Unused
5	0db	0db		5	0db	0db		15	Pad Off	Pad Off
6	Unused	Unused		6	Unused	Unused				
7	0db	0db		7	0db	0db				

8TLTR (DID) with SFI 50 = 0				**8TLTR (DID) with SFI 50 = 1**				**8TLTR (DID) with APAD Setting**		
ARTD PAD	**Transmit PAD**	**Receive PAD**		**ARTD PAD 2**	**Transmit PAD**	**Receive PAD**		**APAD Setting**	**Transmit PAD**	**Receive PAD**
0	0db	0db		0	ARTD	PAD		1	-3db	-3db
1	-3db	-3db		1	-3db	-3db		2	-6db	-6db
2	-6db	-6db		2	-6db	-6db		3	-6db	+6db
3	-6db	+6db		3	-6db	+6db		4	0db	+6db
4	0db	+6db		4	0db	+6db		5	Unused	Unused
5	0db	0db		5	0db	0db		15	Pad Off	Pad Off
6	Unused	Unused		6	Unused	Unused				
7	0db	0db		7	0db	0db				

General Description (cont'd)

In 4 Wire E+M Mode, the 8TLTR can set PAD values using switch settings and ARTD and APAD values.

In the following table, P0 and P1 are assigned by setting ARTD to a value of 0, CDN 30:PAD and setting values by using Switch 1 (P0) and Switch 2 (P1). P2 and P3 are assigned by setting ARTD/APAD to a value of 5, and PAD values are set by using Switch 3 positions 1, 2, 3 and 4 (P2) and positions 5, 6, 7 and 8 (P3).

8TLTR (2W E+M) with SFI 50 = 0			8TLTR (2W E+M) with SFI 50 = 1			8TLTR (2W E+M) with APAD Setting		
ARTD PAD	Transmit PAD	Receive PAD	ARTD PAD 2	Transmit PAD	Receive PAD	APAD Setting	Transmit PAD	Receive PAD
0	0db	0db	0	ARTD	PAD	1	-3db	-3db
1	-3db	-3db	1	-3db	-3db	2	-6db	-6db
2	-6db	-6db	2	-6db	-6db	3	-6db	+6db
3	-6db	+6db	3	-6db	+6db	4	0db	+6db
4	0db	+6db	4	0db	+6db	5	Unused	Unused
5	0db	0db	5	0db	0db	15	Pad Off	Pad Off
6	Unused	Unused	6	Unused	Unused			
7	0db	0db	7	0db	0db			

8TLTR (4W E+M) with SFI 50 = 0			8TLTR (4W E+M) with SFI 50 = 1			8TLTR (4W E+M) with APAD Setting		
ARTD PAD	Transmit PAD	Receive PAD	ARTD PAD 2	Transmit PAD	Receive PAD	APAD Setting	Transmit PAD	Receive PAD
0	P0	P1	0	ARTD	PAD	1	-3db	-3db
1	-3db	-3db	1	-3db	-3db	2	-6db	-6db
2	-6db	-6db	2	-6db	-6db	3	-12db	-11db
3	-12db	-11db	3	-12db	-11db	4	-16db	-11db
4	-16db	-11db	4	-16db	-11db	5	P2	P3
5	P2	P3	5	P2	P3	15	Pad Off	Pad Off
6	Unused	Unused	6	Unused	Unused			
7	0db	0db	7	0db	0db			

Operating Procedure

The following connections are performed:
> STATION-TO-STATION CONNECTION
> STATION-TO-ATT CONNECTION
> CONNECTION VIA ATT
> OUTGOING C.O. LINE CONNECTION FROM STATION
> OUTGOING C.O. LINE CONNECTION FROM ATT

Service Conditions

1. RS-464A PAD control is performed for lines and external trunks.
2. ONS (general telephone) and OPS (long line telephone) are identified by the SFC of the station concerned.

Service Conditions (cont'd)

3. An Attendant Console is regarded as an ONS. The Attendant Console will follow the PAD values assigned in ARTD.

4. If PAD data is assigned by APAD command, this data overrides other PAD data assigned by ARTD, except when switch settings on the 24DTR are set to ARTD fixed.

5. PAD settings for the 8TLTR can be set using ARTD/APAD or a combination of switch settings and ARTD/APAD.

6. This service is used for each of the following connections:

   STATION-TO-STATION CONNECTION
   STATION-TO-ATT CONNECTION
   CONNECTION VIA ATT
   OUTGOING C.O. LINE CONNECTION FROM STATION
   OUTGOING C.O. LINE CONNECTION FROM ATT

7. If the impedance of the trunk does not match the impedance setting on the trunk, the PAD values will not match the values in the previous tables.

Programming

Assignment of Telephone:

STEP 1: **ASDT** - Assign the station data.

STEP 2: **ASFC** - Assign either ONS or OPS to the SFC of the station.

     SFI = 50, RES: 0/1 = ONS (General Telephone) /OPS (Long Line Telephone)

     Stations that have SFI 50 in ASFC set to a 0, will follow the PAD setting in PAD 2 of ARTD.

     Stations that have SFI 50 in ASFC set to a 1 will follow the PAD set in PAD 2. PAD 2 settings override the values set in PAD.

STEP 3: **ASYD** - System 1, Index 4, Bit 6 affects Station-to-Station calls only. (0=6dB, 1=0dB)

Assignment of External Trunk:

STEP 1: **ARTD** - Assign route class data for the route number of the external trunk.

     When assigning route class data, assign PAD control data between ONS and external trunk to CDN 30:PAD or CDN 32:PAD2.

     Assign expansion route class data for the route number of the external trunk.

     When assigning expansion route class data, assign PAD control data between OPS and external trunk to PAD2 (CDN 32).

     When PAD 2 is not assigned, the value assigned in PAD will be used.

STEP 2: **ATRK** - Assign trunk data of external trunk.

STEP 3: **MBTK** - Cancel the make-busy of the external trunk assigning by ATRK.

STEP 4: **APAD** - Assign the PAD control data for tandem connection, station-to-trunk connections, and outgoing/incoming connection. When assigning APAD for station-to-station connections, the OGPAD parameter has no effect when assigned (only the ICPAD parameter is used).

R-49 Ringer Mute

General Description

This feature allows a user to stop ringing by pressing the associated feature key on the D^{term}.

Operating Procedure

1. The D^{term} user presses the RINGER MUTE key; the ringing is muted and the LED of the key lights. RING OFF is displayed for three seconds.
2. The D^{term} user presses the RINGER MUTE key again; the ringing is recovered and the LED of the key is turned off. RING ON is displayed for three seconds.

Service Conditions

1. The feature key for Ringer Mute must be assigned to the D^{term}.
2. Ringer Mute which has been set becomes ineffective upon system initialization, individual initialization of LP or initialization of PM.
3. While this service is activated, ringing for Call Back is not provided as well.
4. This service has no effect on the status of DO NOT DISTURB [D-11] service. For example:
    a.) When Do Not Disturb is set, the station is in the Do Not Disturb status.
    b.) When Ringer Mute is set, the station is in the Do Not Disturb and Ringer Mute status.
    c.) When Do Not Disturb is reset, the station is in the Ringer Mute status.
5. When this service is activated, ringing for any call is muted.
6. If a user presses the RINGER MUTE key while a call is terminating, ringer for this call will be muted.

Programming

STEP 1: **AKYD** - For D^{term} sets, RINGER MUTE may be assigned to a programmable line/feature key. Assign Type:Function:RING MUTE [117].

STEP 2: **ADSL** - Assign SN = 0 (Idle) and FKY = 117 (Ringer Mute: RG-OF).

This command is used for assigning the function to each soft key.

R-51 Route Name Display

General Description

This feature allows a user to assign a desired trunk type for a route by the system data. The assigned trunk type (maximum of 4 or 8 digits) is displayed on the upper line of D^{term} LCD.

- 4-digit display

TK No.

DDD	**1**
(Note)	

AT&T	**1**
(Note)	

- 8-digit display

NEWYORK
(Note)
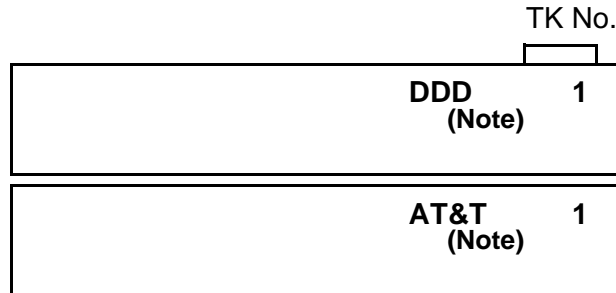
Note: *Trunk type, which can be changed by system data.*

Operating Procedure

No manual operation is required.

Service Conditions

1. Trunk types are assigned a maximum of 4 or 8 digits (depending on system data) using ASCII characters.
2. The trunk type assigned by this feature is not displayed when a call terminates from the ISDN trunk or when a station is connected to the call from/to the ISDN trunk.
3. The trunk type assigned by this feature is displayed only when a call terminates to a station or when a station is connected to the call. In case of the call through a CCIS line, the assigned trunk type is not displayed. If a station is connected to the trunk user through the CCIS, ROM data corresponding to the Trunk Class of the route is displayed. If a station is connected to a station belonging to a different office within the CCIS network, the telephone number of the opposite station is displayed.
4. The trunk type assigned by this feature cannot be displayed at the I-terminal and PCS.
5. This feature is not applicable to the Attendant Console.
6. The current Caller ID services and Calling Party Number - Name Assignment and Display [C-157] service have priority over this feature.
7. When a call terminates from the trunk which has been assigned the C.O. line number, the LCD display is as shown below:
   - 4-digit display

ABCD: trunk type assigned by this feature.
123: trunk number preassigned.

ABCD 123

Service Conditions (cont'd)

- 8-digit display

ABCDEFGH: trunk type assigned
by this feature.

ABCDEFGH

8. This feature is available when the D^{term} user presses the call terminating sub line. This feature is also available when the user presses the held sub line after holding a call using the HOLD key.

9. For data assignment to each of NDM (Network Data Memory) and LDM (Local Data Memory), different commands can be used. However, the data in NDM has a priority. The logical route must be assigned to NDM, and the physical route must be assigned to LDM.

Programming / FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDL** - System Data 1, Index 512, FPC of the self-node. **(Note 2)**

System Data 1, Index 513, LDM usage. **(Note 2)**

System Data 1, Index 514, NDM usage. **(Note 2)**

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *This data is required for the FCCS network.*

STEP 2: **ADRTN/ADRTL** - Assign the Route Name data on a route basis. **(Note 3)**

LGRT/RT: Logical Route or Physical Route Number

TYPE: A maximum digit for the Route Name data

1/2 = 4 digits / 8 digits

DISP: Displayed Data

Note 3: *When the system is used within an FCCS network, assign the Logical Route Number via LGRT, ADRTN. When the system is not used within an FCCS network, assign the Physical Route Number via RT, ADRTN. ADRTN command data has priority over the ADRTL command data. Route Name data programmed by ADRTN is displayed at all FCCS nodes in the network.*

S-1 Single-Digit Station Calling

General Description

This feature allows the assignment of single digits for station numbers.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the Single-digit (preprogrammed) telephone number.
3. The desired service station will be rung.

Service Conditions

1. The single-digit number must be different from the first digit of trunk access codes, service feature access codes and other telephone numbers.
2. Timing start is not available with this feature.

Interactions

For each station with single-digit access, an entire number level is eliminated. Do not plan to have more than one or two such phones in a system.

Programming

STEP 1: **ASYD** - System Data 1, Index 16, Bit 0. Assign this Bit as data "1" enabling single-digit station numbers.

STEP 2: **ANPD** - Reserve a number level for station access. Assign an NND = 1, and BLF is on.

STEP 3: **ASPA** - For the desired station number assign SRV = STN (Station). NND is not required. Assign Connection Indexes (CI) of Normal (N) and Hooking (H).

STEP 4: **ASDT** - Assign the station number to a specific station within the system.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDN** - Reserve a number level for station access. Assign an NND = 1, and BLF is on.

STEP 2: **ASPAN** - For the desired station number assign SRV = TELN (Telephone Number). NND is not required. Assign Connection Indexes (CI) of Normal (N) and Hooking (H).

STEP 3: **ALGSN** - Assign Type = 2 / UGN1

TELN = Station Number/Telephone Number

FPC = "x"

Tenant and Station assigned by ASDT

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-2 Special Dial Tone

General Description

This feature provides a distinctive dial tone to a user after the switch hook has been pressed, enabling the user to activate a specific service feature.

Operating Procedure

1. While connected with the first party, user presses the switch hook; receives SPECIAL DIAL TONE.
2. User may activate a service feature, such as:

   CALL HOLD   [C-6]
   CALL TRANSFER-ALL CALLS   [C-11]

Service Conditions

1. SPECIAL DIAL TONE rating is 350/440 Hz at 240 IPM.
2. If dialing is not initiated within 12 seconds after receiving SPECIAL DIAL TONE, reorder tone will be sent to the station. If the station has not gone back on hook or initiated dialing after 30 seconds of reorder tone, the station will be placed in the LINE LOCKOUT [L-3] mode.
3. If a user attempts CALL FORWARDING - ALL CALLS [C-5], - BUSY LINE [C-2] - DON'T ANSWER [C-3], etc., SPECIAL DIAL TONE will be sent to that station after access code dialing.

Interactions

1. No other programming is required. This tone is generated for all momentary pressing of the Hooking feature applications.
2. LINE LOCKOUT [L-3]: SPECIAL DIAL TONE is sent for 12 seconds, reorder tone for 30 seconds, followed by Line Lockout.

Programming

ASYD - System Data 1, Index 42, Bit 7. Is SPECIAL DIAL TONE continuous or a burst? 0/1: Continuous/Burst. Leave as Data 0. System Data 2, Index 1, Bit 0 & 1. Assign as data "1" for both Bits to provide CONSULTATION HOLD capability on a per-tenant basis.

System Data 3, Index 2. Assign data 91H for Normal (N) and Hooking (H) values.

S-3   Speed Calling - System

General Description

This feature allows a user or ATTENDANT CONSOLE [A-3] to call frequently dialed numbers using fewer digits (abbreviated call codes) than would normally be required.

Operating Procedure

1. Lift handset; receive dial tone,
2. Dial SPEED CALLING - SYSTEM access code (maximum three digits), or press D^{term} Speed Calling key.
3. Dial abbreviated call code (maximum four digits).
4. Call is completed.

Service Conditions

1. SPEED CALLING - SYSTEM codes programmed into System Data are accessible by all stations with a CLASS OF SERVICE - INDIVIDUAL [C-15] permitting SPEED CALLING - SYSTEM.
2. Each abbreviated call code can store a maximum of 24 digits, including access codes and pauses.
3. SPEED CALLING - SYSTEM numbers are programmed via System Data entry from the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
4. Stations may be denied access to SPEED CALLING - SYSTEM via CLASS OF SERVICE [C-15] assignment in System Data. SPEED CALLING may also be allowed or denied on either a station or tenant-wide basis.
5. TOLL DENIAL/TOLL DIVERSION [T-6] and TOLL RESTRICTION-3/6-DIGIT [T-7] may or may not be applied to SPEED CALLING - SYSTEM, as desired.
6. LEAST-COST ROUTING-3/6-DIGIT [L-5] may be provided via SPEED CALLING - SYSTEM access.
7. If the station is restricted from dialing outside via programming, the station can still access SPEED CALLING - SYSTEM.
8. A maximum of 1,000 codes can be assigned per NEAX2400 IMX system.
9. The outgoing call using a trunk in the remote node is applied to this feature.

Interactions

1. FORCED ACCOUNT CODES [F-7] and AUTHORIZATION CODES [A-20] cannot be programmed for use via the SPEED CALLING-SYSTEM.
2. Pauses are programmable from the MAT using the "P" key of the keyboard. Pauses consume one digit of the available 24 digits. A pause lasts for 2.8 seconds. A pause cannot be added directly after an LCR access code.
3. TOLL DIVERSION/TOLL DENIAL [T-6] and TOLL RESTRICTION 3/6 DIGIT [T-7] will interact with this feature if SPEED CALLING-SYSTEM is toll restricted.
4. Special dial tone may be returned after dialing SPEED CALLING-SYSTEM if AUTHORIZATION CODES [A-20] are operational in the system and Toll Restriction applies to SPEED CALLING-SYSTEM.
5. See SPEED CALLING OVERRIDE-SYSTEM [S-61].

Programming

STEP 1: **ASYD** - System Data 2, Index 1, bit 7. Does TOLL RESTRICTION [T-7] apply to SPEED CALLING-SYSTEM? 0/1: No/Yes.

STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assigning an access code to SPEED CALLING-SYSTEM, assign SRV = SSC (Service Code), SID = 15. Program for Normal (N). NND = Access code plus Abbreviated Digit Code (ADC). See ASPD.

Example: 6 + 010 1 digit + 3 digits = NND = 4.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 12 to stations that will have SPEED CALLING-SYSTEM.

STEP 5: **ASPD** - Assign the Tenant Number, ADC, and CD-telephone number to be sent. Include the access code of the route in the CD.

STEP 6: **AKYD** - Assign SPEED CALLING to D^{term} key. Assign FKY15 to the D^{term} key.

STEP 7: **ADSL** - Assign S-SPD key; Assign SN=1 (Originating; DT Connection) and FKY=15 (Speed Calling - System).

This command is used for assigning a function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign Connection Indexes of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assigning an access code to SPEED CALLING-SYSTEM, assign SRV = SSC (Service Code), SID = 15. Program for Normal (N). NND = Access code plus Abbreviated Digit Code (ADC). See ASPD.

Example: 6 + 010 1 digit + 3 digits = NND = 4.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-3D   Speed Calling - System - D^{term}

General Description

This feature allows a D^{term} user to call frequently dialed numbers using fewer digits (abbreviated call codes) than would normally be required.

Operating Procedure

Originating a call from a D^{term}:
1. Press the SPEED CALLING-SYSTEM (SPEED-SYS) key.
2. Dial the abbreviated call code (maximum of four digits). The LCD displays:

```
                                      XXX
            (Time Display)
```
Abbreviated Call Code

3. The call is completed.
4. If the D^{term} does not have the SPEED-SYS key, dial the SPEED CALLING-SYSTEM access code, then the abbreviated call code.

To operate from a SPEED CALLING-ONE TOUCH key:
1. Press a FEATURE key, then a One Touch-Speed Calling key. The LCD displays previously stored digits.
2. Dial the SPEED CALLING-SYSTEM access code and the abbreviated call code.
3. Press the FEATURE key. The LCD displays:

```
   SPEED SET
            (Time Display)
```

4. To access, press the SPEED CALLING-ONE TOUCH D^{term} [S-26D] key.

Service Conditions

1. SPEED CALLING-SYSTEM [S-3] codes programmed into System Data are accessible to all stations with a CLASS OF SERVICE-INDIVIDUAL [C-15] permitting speed calling.
2. Each abbreviated call code can store a maximum of 24 digits, including access codes and pauses.
3. The standard number of speed calling numbers stored in the NEAX2400 IMX is 1,000.
4. Speed calling numbers are programmed via System Data from the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
5. Stations may be denied access to SPEED CALLING-SYSTEM-D^{term} via CLASS OF SERVICE-INDIVIDUAL [C-15] assignment in System Data. SPEED CALLING SYSTEM [S-3] may be allowed or denied on either a station or tenant-wide basis.
6. TOLL DENIAL/TOLL DIVERSION [T-6] and TOLL RESTRICTION-3/6-DIGIT [T-7] may or may not be applied to SPEED CALLING-SYSTEM-D^{term}, depending on preference.
7. LEAST-COST ROUTING-3/6-DIGIT [L-5] may be provided via SPEED CALLING-SYSTEM access.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, bit 7. Does TOLL RESTRICTION [T-7] apply to SPEED CALLING-SYSTEM? 0/1: No/Yes.

STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assigning an access code to SPEED CALLING-SYSTEM, assign SRV = SSC (Service Code), SID = 15. Program for Normal (N). NND = Access code plus Abbreviated Digit Code (ADC). See ASPD.

Example: 6 + 010 1 digit + 3 digits = NND = 4.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 12 to stations that will have SPEED CALLING-SYSTEM.

STEP 5: **ASPD** - Assign the Tenant Number, ADC, and CD-telephone number to be sent. Include the access code of the route in the CD.

STEP 6: **AKYD** - Assign SPEED CALLING to D^{term} key. Assign FKY15 to the D^{term} key.

STEP 7: **ADSL** - Assign S-SPD key; Assign SN=1 (Originating; DT Connection) and FKY=15 (Speed Calling - System).

This command is used for assigning a function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign Connection Indexes of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assigning an access code to SPEED CALLING-SYSTEM, assign SRV = SSC (Service Code), SID = 15. Program for Normal (N). NND = Access code plus Abbreviated Digit Code (ADC). See ASPD.

Example: 6 + 010 1 digit + 3 digits = NND = 4.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-4   Splitting

General Description

This feature allows the ATTENDANT CONSOLE [A-3] to speak privately with one party on an Attendant-handled connection without the other party overhearing.

Operating Procedure

To speak with the called party only:
1. Dial the desired telephone number.
2. Station class/telephone number is displayed.
3. Wait for the party to answer.

To speak with the calling party only:
1. Press the SRC key.
2. Trunk group/number is displayed.
3. Proceed with the conversation.

To return to the called party:
1. Press the DEST key.
2. Station class/number displayed.

To speak with both parties:
1. Press the TALK key.

To release from the ATTENDANT CONSOLE [A-3]:
1. Press the RELEASE key.

To disconnect all parties involved in a THREE-WAY CONFERENCE [T-2]:
1. Press the DEST key.
2. Press the CANCEL key twice.

Service Conditions

1. The ATTENDANT CONSOLE [A-3] may alternate between the called and calling parties, and THREE-WAY CONFERENCE [T-2], as desired.
2. If SERIAL CALL [S-15] is provided, the call is automatically split when the ATTENDANT presses the loop key to answer a recall initiated by a user.
3. The SPLITTING feature is a standard Attendant feature.
4. SPLITTING is automatic when the Attendant begins call completion or answers a recall.
5. SPLITTING is manual when the SRC, DEST, or TALK key is pressed on the ATTENDANT CONSOLE.
6. If a station is in a SERIAL CALL [S-15] with an outside party and LOCKOUT is not provided (optional), pressing the associated loop key will bridge on the existing connection, and SPLITTING is not provided.

Interactions

1. The ATTENDANT CONSOLE [A-3] must first be provided.
2. If conference calling is required, THREE-WAY CALLING [T-2] must first be provided.

Programming

No programming is required.

S-4D   Splitting - D^{term}

General Description

This feature allows a D^{term} user to alternately converse between two separate parties while one party is connected and one party remains on hold. The user uses the TRANSFER button to alternate conversations between the two parties.

Operating Procedure

While a conversation is in progress:
1. Press the TRANSFER key; hear special dial tone.
2. Dial the new number; the first party is held, the second party answers.
3. Press the TRANSFER key; return to the first party; the second party is held.
4. Repeat as often as needed.

Service Conditions

THREE-WAY CALLING [T-2D] may be established at any time by pressing the CONF key.

Interactions

1. SPLITTING is inherent to the system and is operated by using the TRANSFER key.
2. The conference trunk is only required when a three-way connection is desired.

Programming

STEP 1: **ASYD** - System Data-2, Index 1, bits 0 & 1. Consultation Hold allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call Denied; 11: All calls allowed. Assign data "11".

System Data 2, Index 6, bit 2. Leave as data "0" to enable the CALL TRANSFER-ALL CALLS [C-11] feature.

STEP 2: **ATRK** - Assign these LENs as Route 909, Digital Conference Trunk. A LEN consists of the following:

XX	X	XX	X
Module Group	Unit	Group	Level

Group and Level numbers for the Digital Conference Trunk are 210, 213, 216, 221, 224, 227, 232, and 235.

STEP 3: **MBTK** - Make idle the Digital Conference Trunk.

S-6 Station-Controlled Conference

General Description

This feature allows any NEAX2400 IMX station to establish a conference. The conference may be any combination of stations and/or trunks (inside and outside parties).

Operating Procedure

Procedure 1 (MEET-ME CONFERENCE):
1. User wishing to establish the conference (conference leader) calls each party desired and advises them of the conference.
2. All stations then call the conference telephone number, and the conference leader calls the special conference number for the leader.
3. Conference connection is automatic.
4. The conference leader may dial "0" to lock out additional parties.
5. If the conference leader connected to the conference circuit dials digit "#", all conferees will be disconnected. Otherwise, the conference is terminated only after all parties have hung up.
6. To release from a conference circuit individually, a user hangs up. The remaining conferees may continue without interruption.

Procedure 2:
1. Conference leader dials the conference telephone number on the conference; conference circuit automatically answers.
2. The conference leader makes a Switch Hook Flash (SHF).
3. The conference leader dials the telephone number of conferee; receive ringback tone.
4. The conferee answers.
5. The conference leader hangs up; the conferee is connected to the conference circuit (port 1).
6. The conference leader sequentially calls all desired parties (up to 7 parties) and connects them to the other conference circuits (port 2 to 7).
7. The conference leader may dial "0" to lock out additional parties.
8. If the conference leader connected to the conference circuit dials digit "#", all conferees will be disconnected. Otherwise, the conference is terminated only after all parties have hung up.
9. To release from a conference circuit individually, a user hangs up. The remaining conferees may continue without interruption.

Service Conditions

1. The station connected to port 0 of the PA-CFTB becomes the conference leader.
2. While the conference unit provides for amplification, the condition of Central Office connections will affect conference transmission.
3. Each conference unit provides up to an 8-party conference.
4. Conference unit extension numbers should be placed in a STATION HUNTING [S-7, 8, 9] group with only the pilot numbers published.
5. Override services, such as, BUSY VERIFICATION [B-3], ATTENDANT OVERRIDE [A-7], or EXECUTIVE RIGHT-OF-WAY [E-1] are denied on a conference call.

Programming

STEP 1: **ANPD** - A number level must be reserved for station numbering plan. In an existing system, a station level will already be established. If a vacant level does exist, it may be used to create 2 or 3-digit station numbering. For example:

TN: 1   DC: 3   CI: N, H, BNND: 1   BLF: 1-On

STEP 2: **ASPA** - For the desired station numbering assign SRV = STN (Station). For example:

ACC: 3   CI: N, H, B   SRV = STN (Station)

STEP 3: **ASDT** - Assign all ports of the PA-CFTB as DP/PB stations; TEC = 3. Based on the example data assignments in ANPD, the station numbers will reside in level 3.

Example data assignments. (PA-CFTB located in PIM 1, Group = 03):

PA-CFTB Port	LEN	Station Number	TEC	SFC	RSC	Remarks
0	001030	3200	3	1	1	Conference Leader
1	001031	3201	3	1	1	Conference Participant Ports
2	001032	3202	3	1	1	
3	001033	3203	3	1	1	
4	001034	3204	3	1	1	
5	001035	3205	3	1	1	
6	001036	3206	3	1	1	
7	001037	3207	3	1	1	

STEP 4: **ASHP** - Assign to a STATION HUNTING-TERMINAL [S-9] group the pilot and stations of the PA-CFTB located on levels 1-7. For example:

TN: 1
STN: 3201
CNT: 7
STN: 3202, 3203, 3204, 3205, 3206, 3207

In this example, Ext. 3201 is the Pilot number of the Conference Bridge. Do not assign the Conference Leader to this group. Before or after all Conference participants are connected to the PA-CFTB, the Conference Leader directly calls the Conference Leader Port; for this example Ext. 3200.

S-7   Station Hunting - Circular

General Description

This feature permits a call to be processed automatically through a hunt group of busy extensions, in a programmed order.

Operating Procedure

No manual operation is required.

Service Conditions

1. This feature can be activated via FCCS.
2. When all stations within a Circular Hunt Group are busy:
    a.) If a call is terminated to a group does not have a Secretarial Station, the caller will receive a busy tone.
    b.) If a call is directed to a group that has a Secretarial Station, the call will be shifted to the Secretarial Station. However, the caller will receive a busy tone when the Secretarial Station is also busy.
3. Assignment of telephone numbers to a Circular Hunt Group may be in any order.
4. This feature will be activated whenever the hunt group is dialed by the Attendant or another station within the system.
5. Calls to the first programmed station in a Circular Hunt Group will proceed through all other programmed stations in the order they were programmed upon encountering a busy station, until reaching the last.
6. Calls directed to any other number in the Circular Hunt Group will proceed in the same manner as calls to the first programmed number.
7. If a HUNT group station has set CALL FORWARDING-ALL CALLS [C-5], hunting will bypass that station and continue in the order of hunting.
8. The maximum number of stations per group is 100.
9. Within the FCCS network, there is no limit for the number of Circular Hunt Groups.
10. If a Phantom Number is assigned to the pilot number, hunting may or may not occur when the Phantom Number is dialed, depending on System Data.
11. In a Circular Hunt Group, one station can be designated as a secretarial station, thereby always being the last station in the hunting sequence.
12. CALL FORWARDING-BUSY LINE [C-2]/ALL CALLS [C-5] are activated first rather than STATION HUNTING-CIRCULAR, if the dialed station has set this feature.
13. The terminating sequence of service features to a station is as follows:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
STATION HUNTING	[S-7, 8, 9]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]

14. Recall from CALL BACK [C-1], OUTGOING TRUNK QUEUING [O-2] and PAGING TRANSFER [P-10] will not hunt.
15. A station can belong to only one hunt group (either Circular or Terminal).

Service Conditions (cont'd)

16. This feature will be activated whenever the hunt group is dialed or terminated under the following conditions:
    a.) dialed from a station
    b.) dialed from ATTENDANT CONSOLE [A-3]
    c.) dialed from DID [D-8]
    d.) dialed from TIE LINE [T-3]
    e.) terminated by DIT [D-7]
    f.) terminated by HOT LINE [H-1]
    g.) terminated by OFF-HOOK ALARM [O-6]
    h.) terminated by PRIORITY CALL [P-9]

17. A telephone number is allowable for the station assignment of this feature activated via FCCS link.

18. The station that has been assigned as the pilot station of a Hunt group-Terminal, a UCD controlling station, or a station of Circular Hunt Group cannot be assigned as a member of the other Circular Hunt Group.

19. All the calls terminated to a Circular Hunt station are hunted when encountering a busy station.

20. When using the FCH card:
    a.) Stations in four different nodes can be assigned to a Circular Hunt Group.
    b.) When stations belonging to different nodes are assigned to a Circular Hunt Group, the station hunt is not activated in assigned order if the stations are not assigned in continuous order within a node. First, the call is shifted to the station belonging to the node of the called station even though it is not in consecutive order (in the node, station hunting is activated in assigned order). After all the stations in the node are hunted, the station hunt is shifted to the next assigned station and the stations in the node are hunted in assigned order. The station hunt continues this way until the idle station is found. See the figure below.

Example:
- Station No. 1 is the called station. When the call encounters busy, the call is hunted in order of No. 3, No. 4 (hunted in the node of the called station) to No. 2, No. 6, No. 8 (hunted in the node C that accommodates the next station in assigned order) to No. 5, No. 7.

| Node A | Node B | Node C |

No.1   No.3   No.4   No.5   No.7   No.2   No.6   No.8
(Called station)

Note: *Numbers under the stations show the assigned order.*
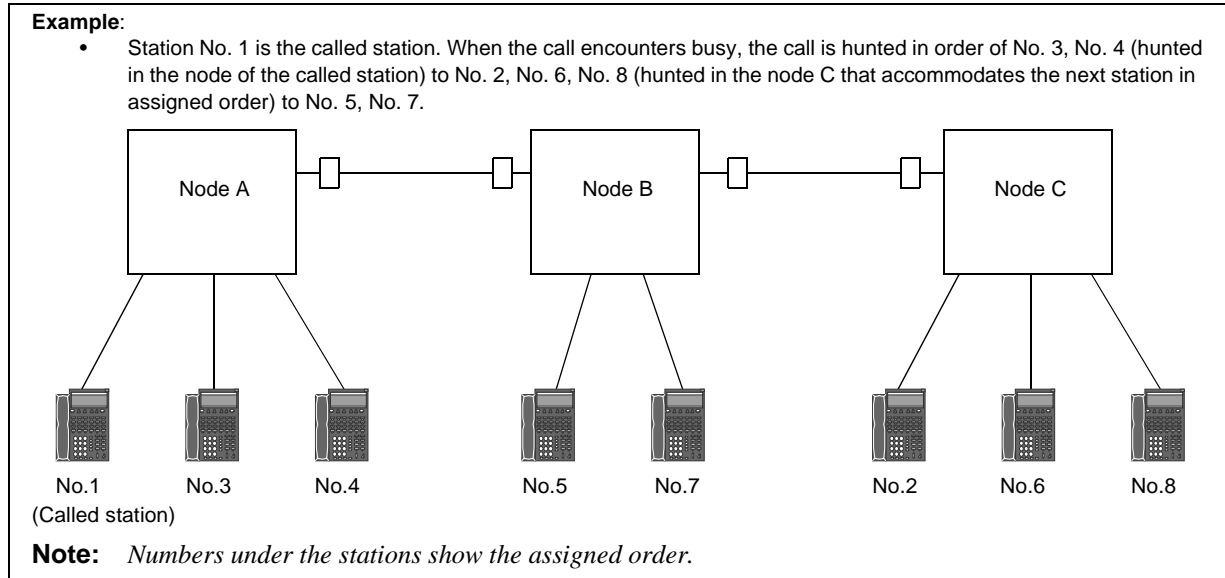
21. When all the stations in a Circular Hunt Group are busy:
    a.) If a call is terminated to a group that has no Secretarial Station, the caller will hear busy tone.
    b.) If a call is directed to a group that has a Secretarial Station, the call will be shifted to the Secretarial Station. However, the caller will hear busy tone when the Secretarial Station is also busy.

Service Conditions (cont'd)

22. The incoming call terminated through FCCS link to the Station Hunt group, which is programmed by the Physical Station Number, is not hunted.

23. When a Physical Station Number and telephone number assigned to a Circular Hunt station are identical, priority is attached to STATION HUNTING - CIRCULAR via FCCS.

24. When using this feature within an FCCS network, when CALL FORWARDING - ALL CALLS [C-5] has been set to a Circular Hunt station, a call directed to the station is forwarded to the designated station.

25. When using this feature within an FCCS network, when a call to a Circular Hunt station is forwarded by CALL FORWARDING - BUSY LINE [C-2] and the forwarded party (also a member of another hunting group) is also busy, the resultant hunt target can be designated from the forwarding side group or the forwarded side group. This can be specified by the ASYDN command.

26. When using this feature within an FCCS network, calling back for CALL BACK [C-1] or CALL HOLD [C-6] is not hunted.

27. When using this feature within an FCCS network, Hot Line station (calling party) cannot be assigned to a Circular Hunt station activated via FCCS link.

28. A Station Hunting - Circular group may accommodate members from four different Fusion Point Codes.

29. This feature can be programmed on a node basis even with the use of telephone numbers. In other words, the feature became available via the data written on the Local Data Memory (LDM), not only on the Data Memory (DM) or the Network Data Memory (NDM). If this is the case, conditions are as follows:

    a.) The feature is to be programmed by using the telephone number of each station.
    b.) A Circular Hunt group can contain a maximum of 100 stations.
    c.) There is no limitation to the number of Circular Hunt groups per node.
    d.) A station can belong to one hunting group only, it cannot belong to another group including that for STATION HUNTING - TERMINAL [S-9] or UNIFORM CALL DISTRIBUTION (UCD) [U-1].
    e.) Any station, if assigned as a Circular hunt group member, can be the pilot station by the telephone number.
    f.) When all stations to be hunted are busy, the incoming call is forwarded to the Secretarial Station. However, when the station is not assigned or is also busy, busy tone is provided to the caller.
    g.) Station Hunt groups via DM and groups via LDM cannot coexist in a system.
    h.) The "feature via LDM" cannot be used via FCCS, even though telephone numbers are used.
    i.) A Phantom Telephone Number assigned to the telephone number of a Circular Hunt station, can also be a pilot number via the APHNL command setting (see details in Interactions).

30. The Phantom Telephone Number can also be assigned to each telephone number (maximum of 16 Phantom Telephone Numbers per telephone number, telephone numbers + Phantom Telephone Numbers in total = 60,000 or less). The assigned Phantom Telephone Number may or may not be the pilot number by the APHNN command setting (see details in Interactions).

31. When using a Phantom Telephone Number for a Circular Hunt station via the FCCS, consider the following:

    a.) Whether to use the Phantom Telephone Number to start the station hunt or not can be selected by system data.
    b.) When the Phantom Telephone Number is assigned to be used: Station hunt starts by dialing either the Circular Hunt station number (telephone number) or its Phantom Telephone Number. Both numbers can be the pilot number.
    c.) When the Phantom Telephone Number is assigned not to be used: Station hunt starts by dialing the Circular Hunt station number (telephone number) only. The feature is not provided when the Phantom Telephone Number is dialed.

Service Conditions (cont'd)

32. The following are the conditions when STATION HUNTING - CIRCULAR is programmed on LDM.

   a.) When a call is directly placed to a Circular Hunt station, CALL FORWARDING - ALL CALLS [C-5] is normally activated (the call is forwarded to the designated station).

   b.) When a call to a Circular Hunt Station is forwarded by CALL FORWARDING - BUSY LINE [C-2] and the forwarded party (also a member of another hunting group) is also busy, the resultant hunt target can be designated from the forwarding side group or the forwarded side group. This can be specified by the ASYD command.

   c.) When the following occurs, a station not directly placed to an incoming call, is skipped from the hunting circulation process:
   - When the station is provided with CALL FORWARDING - ALL CALLS [C-5].
   - When the station is provided with CALL FORWARDING - BUSY LINE [C-2] and the station is busy.

   d.) CALL FORWARDING - DON'T ANSWER [C-3] will respond to any call to any Circular Hunt station (after a certain period of no answer, the call is forwarded to the designated station).

Interactions

1. Secretaries are not counted as one of the 100 allowed stations per group.

2. The stations in the hunt group must first be programmed in the ASDT command. Stations placed into a Station Hunting-Circular Group must have a corresponding LEN.

3. CALL FORWARDING-ALL CALLS [C-5]: If Station A is assigned to a hunt group, CALL FORWARDING-ALL CALLS [C-5] is activated to Station B:

   a.) Calls directly placed to Station A will be forwarded to Station B.

   b.) Calls placed to the Station Hunting-Circular Group will bypass Station A.

   c.) A call forwarding override call from Station B to Station A will hunt if Station A is busy.
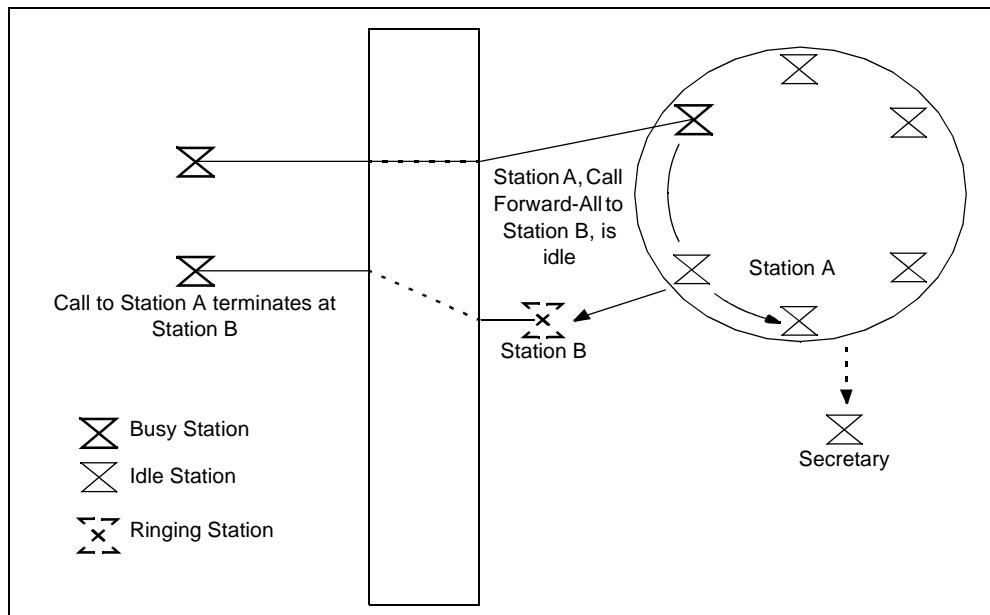
4. CALL FORWARDING-BUSY LINE/DON'T ANSWER [C-2, 3]: If Station A is in a Station Hunting-Circular Group and activates CALL FORWARDING-BUSY LINE/DON'T ANSWER to Station B:

   a.) Any call to Station A will respond to CALL FORWARDING-DON'T ANSWER [C-3].

Interactions (cont'd)

        b.) A direct call to Station A will respond to CALL FORWARDING-BUSY LINE [C-2].

        c.) A call to the Station Hunting-Circular group will bypass Station A, if that station is both busy and has set CALL FORWARDING-BUSY LINE [C-2]. The next station in the group will ring.

        d.) A call forwarding-override call from Station B to Station A will hunt if Station A is busy.
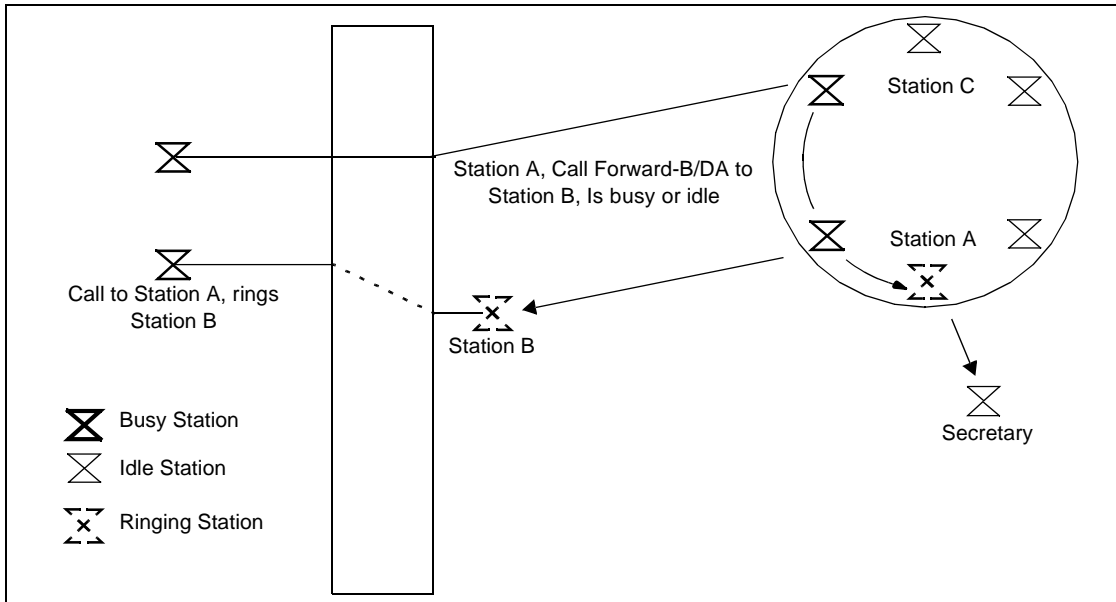
5.   STATION MESSAGE DETAIL RECORDING [S-10]: The number recorded is the telephone number where the call actually terminates.

6.   ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] and CALL WAITING-TERMINATING [C-12] features are superseded by STATION HUNTING-CIRCULAR.

7.   A station in a Station Hunting-Circular Group must have a Route Restriction Class that will allow incoming route connections. If the connection is not allowed, a busy tone is returned.

8.   When using a Phantom Number for a Circular Hunt station, consider the following:

    • Whether to use the Phantom Number to start the station hunt or not can be selected by the APHN command. When using the Phantom Number, assign "1" in the "PH" parameter. If not, assign "0".

    • When Phantom Number is assigned to be used ("PH = 1"): Station hunt starts by dialing either the Circular Hunt station number or its Phantom Number. Both numbers can be the pilot number.

    • When Phantom Number is assigned not to be used ("PH = 0"): Station hunt starts by dialing the Circular Hunt station number only. The feature is not provided when the Phantom Number is dialed.

9.   This feature is not available for a call in recall state by CALL BACK [C-1] or CALL HOLD [C-6].

10.   When using a Phantom Telephone Number for a Circular Hunt station, consider the following:

    • Whether to use the Phantom Telephone Number (PHTELN) to start the station hunt or not can be selected by the APHNL command. When using the PHTELN, assign "1" in the "PH" parameter. If not, assign "0".

    • When the Phantom Telephone Number is assigned to be used (when "PH = 1"): Station hunt starts by dialing either the Circular Hunt station number (telephone number) or its Phantom Telephone Number. Both numbers can be the pilot number.

    • When the Phantom Telephone Number is assigned not to be used (when "PH = 0"): Station hunt starts by dialing the Circular Hunt station number (telephone number) only. The feature is not provided when the Phantom Telephone Number is dialed.

Programming

STEP 1: **ASHC** - Assign the required data for the STATION HUNTING-CIRCULAR Group.

TN: Tenant Number
STN: Station Number
SECRET: Indication of Secretary Station 0/1-/Assignment
SECRET STN: Station Number of the Secretary/Station
*STN: Station numbers of the stations included in the group.

STEP 2: **APHN** - Assign Phantom Number (PHSTN) to each Circular Hunt Station (as necessary)

TN: Tenant Number
REAL STN: Station Number of the Circular Hunt station
PH: Phantom Number mode
0 = Used individually
1 = Used as the pilot number (for station hunting)
CNT (PHSTN): Phantom Station Number

Note: ** indicates the order of a station in the group.*

When activating the "Feature via LDM":

STEP 1: **ASHCL** - Assign each Circular Hunt Group by using the Telephone Numbers.

UGN: User Group Number
TELN: Telephone Numbers of member stations
SECRETARY TELN: Telephone Number of a Secretary Station (If necessary)

STEP 2: **ASYD** - Assign System Data 1, Index 69, b5 (Resultant hunt when the forwarded party is also busy after CALL FORWARDING - Busy Line [C-2]).

0 = Hunt in the forwarding party group
1 = Hunt in the forwarded party group

STEP 3: **APHNL** - Assign Phantom Telephone Number (PHTELN) to each Circular Hunt Group.

UGN: User Group Number
TELN: Telephone Number of the Circular Hunt station
PH: Phantom Number mode
0 = Used Individually
1 = Used as the pilot number (for station hunting)
PHTELN: Phantom Telephone Number **(Note)**

Note: *Multiple PHTELNs (maximum of 16) can be assigned per TELN. Select whether to use each PHTELN for station hunt or not by the "PH" parameter.*

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDN** - This data must be assigned to the NCN.

System Data 1, Index69, b5: Hunting Group when transferred party is busy (Station Hunting after C.F.-Busy Line):

0 = Hunt in Transferring Party's Group
1 = Hunt in Transferred Party's Group

FCCS Programming (cont'd)

STEP 2: **ASHCN** - This data must be assigned to the NCN.

Assign the Circular Hunt Group using Telephone Number.

UGN: User Group Number

TELN: Telephone Number in the Circular Hunt Group

First TELN: First assigned Telephone Number

SECRETARY TELN:Secretary Telephone Number

STEP 3: **APHNN** - Assign Phantom Telephone Number (PHTELN) to each Circular Hunt Station

UGN: User Group Number

TELN: Telephone Number of the Circular Hunt Group

PH: Phantom Number mode

0 = Used individually

1 = Used as the pilot number (for station hunting)

PHTELN: Phantom Telephone Number **(Note 2)**

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *Multiple PHTELNs (maximum of 16) can be assigned per TELN. Select whether to use each PHTELN for station hunt or not by the "PH" parameter.*

S-8   Station Hunting - Secretarial

General Description

This feature allows calls to a Hunt group to forward to a secretarial station when all the stations in the group are busy.

Operating Procedure

No manual operation is required.

Service Conditions

1. When all stations within a Hunt group are busy, the incoming call is routed to the station programmed as the Secretarial Station.
2. If the Secretarial station is busy, the caller will hear a busy tone.
3. The maximum number of stations per Hunt group is 100.
4. A maximum of 255 Hunt groups can be overflowed to a Secretarial station.
5. There is no limit on the number of Hunt groups per system.
6. If a Hunt station has set CALL FORWARDING-ALL CALLS [C-5] or DO NOT DISTURB [D-21D], calls to the group will bypass the station.
7. Recalls from CALL BACK [C-1] and OUTGOING TRUNK QUEUING [O-2] will not hunt.
8. The terminating sequence of service features to a station is as follows:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
STATION HUNTING	[S-7, S-8, S-9]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]

9. This feature can be set on a node basis even in the use of telephone number. In other words, a Secretarial position can be assigned to a group for STATION HUNTING - TERMINAL [S-9] or STATION HUNTING - CIRCULAR [S-7], that is available on the Local Data Memory (LDM). If this is the case, the conditions are as follows:

   a.) A Secretarial Station for this feature must be assigned by the telephone number.
   b.) A Hunt Group (both Terminal or Circular) can have one Secretarial Station only (2 or more cannot be assigned per group).
   c.) Multiple Hunt Groups can share a common Secretarial Station.
   d.) A maximum of 4,096 Hunt Groups can have a Secretarial Station respectively per node.

10. The maximum number of Secretarial Stations in the FCCS network is 4,000.
11. Only the telephone number is allowable for the station assignment of this feature when activating via FCCS link.
12. A Hunt Group (Terminal, Circular) may have one Secretarial Station.
13. The Secretarial Station can be shared with the multiple Hunt Groups.
14. A maximum of 4,096 Hunt Groups have a secretarial station.

Interactions

1. Secretaries are not counted as one of the 100 allowed stations per group.
2. STATION MESSAGE DETAIL RECORDING [S-10]: The number recorded is the telephone number where the call actually terminates.

Programming

See STATION HUNTING-CIRCULAR [S-7] and STATION HUNTING-TERMINAL [S-9]. These two types of station hunting use secretaries.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDN** - These data must be assigned to the NCN.

System Data 1, Index69, b5:

Hunting Group when transferred party is busy (Station Hunting after C.F.-Busy Line):

0 = Hunt in Transferring Party's Group

1 = Hunt in Transferred Party's Group

STEP 2: **ASHPN** - These data must be assigned to the NCN.

Assign the Hunt Group using Telephone Number.

UGN: User Group Number

1st TELN: Telephone Number of the pilot station

TELN: Telephone Number in Hunting Group

SECRETARY TELN:Telephone Number of Secretary Station

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-9   Station Hunting - Terminal

General Description

This feature enables calls placed to busy stations, other than Pilot stations of a Hunt group, to receive a busy tone rather than proceed through the normal hunting process. However, if the call is placed to the busy Pilot station of a Hunt group, station hunting will proceed as usual.

Operating Procedure

No manual operation is required.

Service Conditions

1. If all lines in a Hunt group are busy, the caller will receive a busy tone.
2. The maximum number of stations per group is 100.
3. If a station within the Hunt group has set CALL FORWARDING ALL CALLS [C-5], the system will bypass that station and continue in hunt order.
4. There is no limit to the number of groups per system.
5. CALL FORWARDING - BUSY LINE [C-2] and ALL CALLS [C-5] are activated first, rather than STATION HUNTING, if the pilot station has this feature set.
6. The terminating sequence of service features to a station is as follows:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
STATION HUNTING	[S-7, S-8, S-9]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]

7. Only calls to the pilot number will cause the hunting sequence to operate. Calls to busy stations, other than the pilot number, will receive a busy tone.
8. If a phantom number is assigned to the pilot number, hunting may or may not occur by the System Data setting, when the phantom number is dialed.
9. Recall from CALL BACK [C-1] and OUTGOING TRUNK QUEUING [O-2] will not hunt.
10. This feature will be activated whenever the pilot number is dialed or terminated under the following conditions:

    a.) Dialed from a station,
    b.) Dialed from ATTENDANT CONSOLE [A-3],
    c.) Dialed from DID [D-8],
    d.) Dialed from TIE LINE [T-3],
    e.) Terminated by DIT [D-7],
    f.) Terminated by HOT LINE [H-1],
    g.) Terminated by OFF-HOOK ALARM [O-6],
    h.) Terminated by PRIORITY CALL [P-9].

11. This feature can be programmed on a node basis even in the use of telephone numbers. In other words, the feature became available via the data written on the Local Data Memory (LDM), not only on the Data Memory (DM) or the Network Data Memory (NDM). If this is the case, the conditions are as follows:

    a.) The feature is to be programmed by using the telephone number of each station.
    b.) A hunting group can be configured by a maximum of 100 stations.
    c.) There is no limitation to the number of Circular Hunt groups per node.

Service Conditions (cont'd)

> d.) A station can belong to one hunting group only; it cannot belong to another group including that for STATION HUNTING - CIRCULAR [S-7] or UNIFORM CALL DISTRIBUTION (UCD) [U-1].
>
> e.) When all stations to be hunted are busy, the incoming call is forwarded finally to the Secretarial Station. However, when the station is not assigned or is also busy, busy tone is provided to the caller.
>
> f.) A station, which has already been a member of an existing hunting group by the Physical Station Number (referred to below as the "feature via DM"), can also be a member of the additional hunting group by the telephone number (referred to below as the "feature via LDM").
>
> g.) Station Hunt groups via DM and groups via LDM can not coexist in a system.
>
> h.) The "feature via LDM" cannot be used via FCCS, even though telephone numbers are used.
>
> i.) A Phantom Telephone Number assigned the telephone number for a pilot station, can also be a pilot number via the APHNL command setting (see Interactions).

12. This feature may be activated via FCCS.

13. The maximum number of Secretarial Stations in the FCCS network is 4,096.

14. When activating this feature via FCCS, the maximum number of stations per group is 100.

15. When activating this feature via FCCS, only the telephone number is allowable for the station assignment of this feature.

16. When activating this feature via FCCS, the station which has already been assigned as the pilot station of a Hunt Group-Terminal, the UCD controlling station, or a station of Circular Hunt Group cannot be assigned to the other Hunt Group-Terminal.

17. When using the FCH card:

> a.) Stations in four different nodes can be assigned to a Hunt Group.
>
> b.) When stations belonging to different nodes are assigned to a Hunt group, the station hunt may not be activated in assigned order if the stations are not assigned in continuous order within a node. First, the call is shifted to the station within the node of the Pilot station even though it is not in consecutive order (in the node, station hunt is activated in assigned order). After all the stations in the node are hunted, the station hunt is shifted to the next assigned station and the stations in the node are hunted in assigned order. The station hunt continues in this way until the idle station is found. See the figure below.

Example:

• Station No. 1 is the pilot station. When the call encounters busy, the call is hunted in order of No. 3, No. 4 (hunted in the node of the pilot station) to No. 2, No. 6, No. 8 (hunted in the node C that accommodates the next station in assigned order) to No. 5, No. 7.

```
   ┌──────────┐        ┌──────────┐        ┌──────────┐
   │          │   □──□ │          │  □──□  │          │
   │  Node A  │        │  Node B  │        │  Node C  │
   │          │        │          │        │          │
   └──────────┘        └──────────┘        └──────────┘

   No.1   No.3   No.4       No.5   No.7       No.2   No.6   No.8
   Pilot Station
```

Note: *Numbers under the stations show the assigned order.*
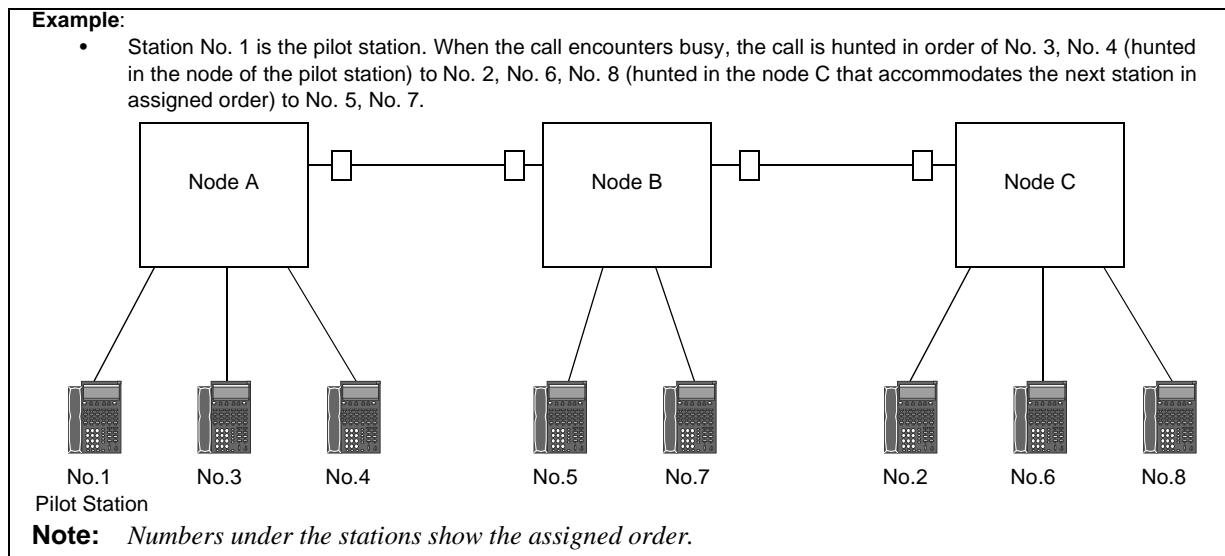
Service Conditions (cont'd)

18. The number of the Hunt Group is unlimited.

19. When all the stations in a Hunt Group are busy:

    a.) If a call is directed to a station belonging to a group that has no Secretarial Station, the caller will hear busy tone.

    b.) If a call is directed to a station belonging to a group that has a Secretarial Station, the call will be forwarded to the Secretarial Station. However, the caller will hear busy tone when the Secretarial Station is also busy.

20. When the telephone number and Physical Station Number assigned to a pilot station are identical, priority is attached to STATION HUNTING - TERMINAL via FCCS.

21. The incoming call terminated through FCCS link to the Station Hunt group, which is programmed by the Physical Station Number, is not hunted.

22. When CALL FORWARDING - ALL CALLS [C-5] has been set to the pilot station, a call directed to the pilot station is forwarded to the designated station.

23. When activating this feature via the FCCS network, when an incoming call to a pilot station is forwarded by CALL FORWARDING - BUSY LINE [C-2] and the forwarded party (also a member of another hunting group) is also busy, the resultant hunt target can be designated from the forwarding side group or the forwarded side group. This can be specified by the ASYDN command. Refer to Programming for further information.

24. Phantom telephone number (PHTELN) can also be assigned to each telephone number (a maximum of 16 PHTELNs per TELN, TELNs + PHTELNS in total equal 60,000 or less). The assigned PHTELN may or may not be the pilot number by the APHNN command setting. See details in Interactions.

25. STATION HUNTING - TERMINAL can be programmed on a node basis even in the use of telephone numbers. In other words, the feature became available via the data written on the Local Data Memory (LDM), not only on the Data Memory (DM) or the Network Data Memory (NDM). If this is the case, conditions are as follows:

    a.) The feature is to be programmed by using the telephone number (TELN) of each station.

    b.) A hunting group can be configured by a maximum of 100 stations.

    c.) There is no limitation to the number of hunting groups per node.

    d.) A station can belong to one hunting group only. A station cannot belong to another group including that for STATION HUNTING - CIRCULAR [S-7] or UNIFORM CALL DISTRIBUTION (UCD) [U-1].

    e.) When all stations to be hunted are busy, the incoming call is forwarded finally to the Secretarial Station. However, when the Station is not assigned or is also in the busy state, a busy tone is provided to the caller.

    f.) A station, already a member of an existing hunting group by Physical Station Number (referred to below as the "feature via DM"), can also be a member of the additional hunting group by telephone number (referred to below as the "feature via LDM").

    g.) The "feature via LDM", though using the telephone numbers, cannot be used together with that via FCCS.

    h.) When Physical Station Number and telephone number assigned to a pilot station are identical, the "feature via LDM" takes priority over the "feature via DM".

    i.) A Phantom telephone number, assigned to the telephone number for a pilot station, can also be a pilot number via the APHNL command setting. See details in Interactions.

26. When activating this feature via the FCCS network, when CALL FORWARDING - BUSY LINE [C-2] has been set to the pilot station, the service priority (CALL FORWARDING - BUSY LINE or Station Hunting) can be determined by the ASFC command.

Service Conditions (cont'd)

27. When activating this feature via the FCCS network, when CALL FORWARDING - BUSY LINE [C-2] or CALL FORWARDING - ALL CALLS [C-5] has been set to a member station and the station is busy, the station is skipped.

28. When activating this feature via the FCCS network, CALL FORWARDING - DON'T ANSWER [C-3], will respond to both pilot and non-pilot stations.

29. When activating this feature via the FCCS network, calling back for CALL BACK [C-1] or CALL HOLD [C-6] is not hunted.

30. Hot Line station can be assigned to a station of the Hunting Group activated via FCCS link.

31. A Station Hunting - Terminal group may accommodate members from four different Fusion Point Codes.

Interactions

1. 255 secretaries are allowed for the system. Each time a secretary is assigned to a group, one of the 255 secretarial positions is expended, regardless of whether or not it is one secretary for multiple groups or different secretaries for multiple groups.

2. Secretaries are not counted as one of the 100 allowed stations per group.

3. The stations in the Station Hunting group must first be programmed with the ASDT command.

4. CALL FORWARDING-ALL CALLS [C-5]: If Station A, assigned to a Hunt group and not the Pilot station, activates CALL FORWARDING-ALL CALLS to Station B:

   a.) A direct call to Station A is forwarded to Station B.

   b.) Calls placed to the STATION HUNTING-TERMINAL group will bypass Station A.

   c.) When hunting occurs, if Station A is the only idle station in the hunting pattern, a busy tone is returned to the calling party.

   d.) During a Call Forward-Override call from Station B to Station A, if station A is idle, Station A will ring. If Station A is busy, the call will not hunt.

   e.) If the Pilot sets CALL FORWARDING-ALL CALLS [C-5] to Station B: During a Call Forward-Override call from Station B to the Pilot, if the Pilot station is idle, the Pilot will ring. If the Pilot station is busy, the call will hunt.
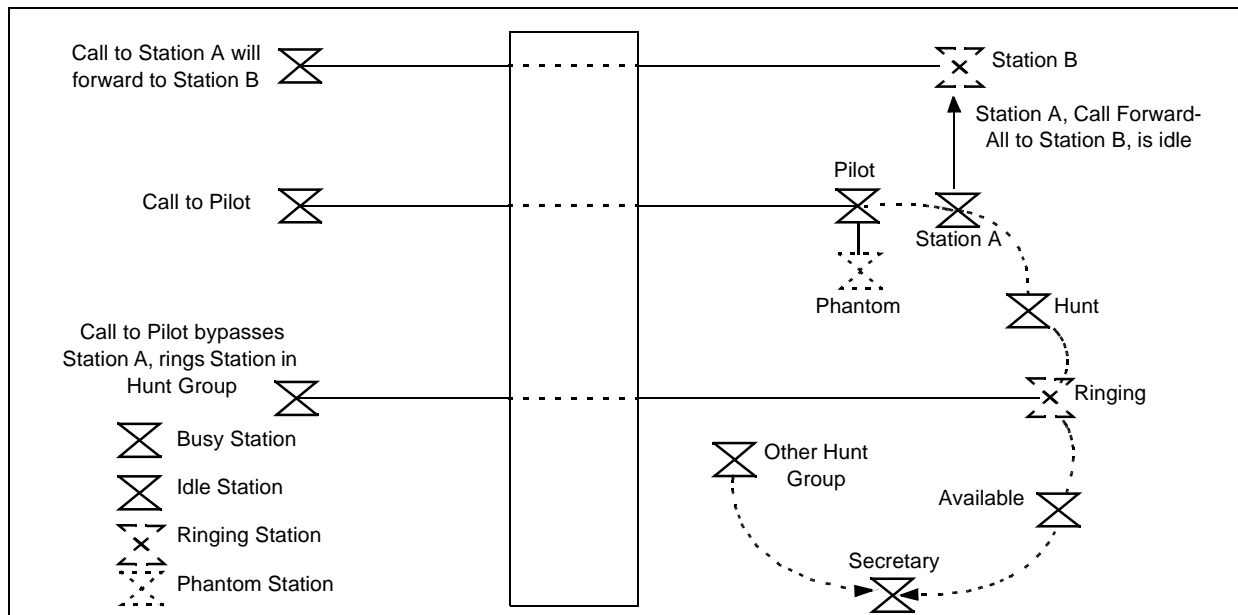
Interactions (cont'd)

5.   CALL FORWARDING-BUSY LINE/DON'T ANSWER [C-2, 3]: If Station A is in a STATION HUNTING-TERMINAL group and not the Pilot station, it will activate CALL FORWARDING-BUSY LINE/DON'T ANSWER to Station B:

   a.)   Any call to Station A will respond to CALL FORWARDING-DON'T ANSWER [C-3].

   b.)   A direct call to Station A will respond to CALL FORWARDING-BUSY LINE [C-2].

   c.)   A call to the STATION HUNTING-TERMINAL group will bypass Station A if that station is both busy and has set CALL FORWARDING-BUSY LINE [C-2]. The next station in the group will ring.

   d.)   A CALL FORWARDING-OVERRIDE call from Station B to Station A will not hunt if Station A is busy.

   e.)   If the Pilot sets CALL FORWARDING-BUSY LINE [C-2] to Station B: During a Call Forward-Override call from Station B to the Pilot, if the Pilot station is idle, the Pilot will ring. If the Pilot station is busy, the call will hunt.
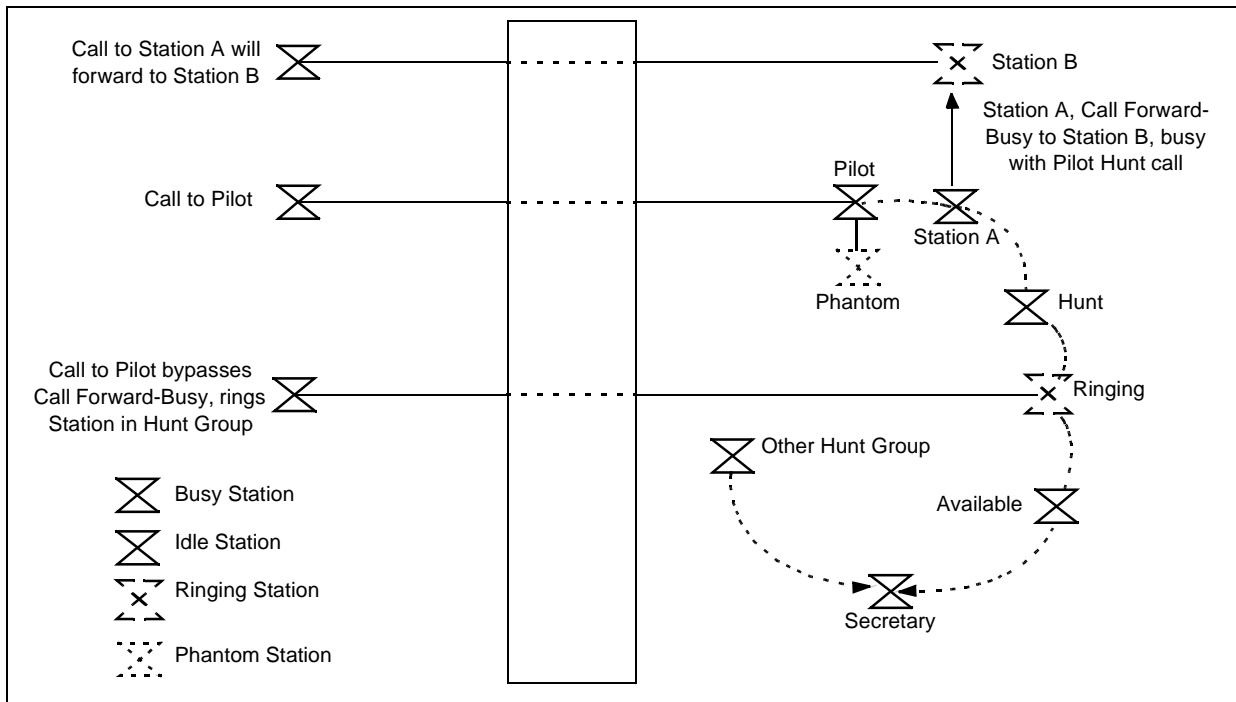
6.   STATION MESSAGE DETAIL RECORDING [S-10]: The number recorded is the telephone number where the call actually terminates.

7.   STATION HUNTING-CIRCULAR supersedes the ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] and CALL WAITING-TERMINATING [C-12] features.

8.   When using a Phantom Number for the pilot station, consider the following:

   a.)   Whether to use the Phantom Number to start the station hunt or not can be selected by the APHN command. When using the Phantom Number, assign "1" in the PH parameter. If not, assign "0".

   b.)   When PH = 1: Station hunt starts by dialing either the pilot station number or its Phantom Number. Both numbers can be the pilot number.

Interactions (cont'd)

c.) When PH = 0: Station hunt starts by dialing the pilot station number only. The feature is not provided when the Phantom Number is dialed.
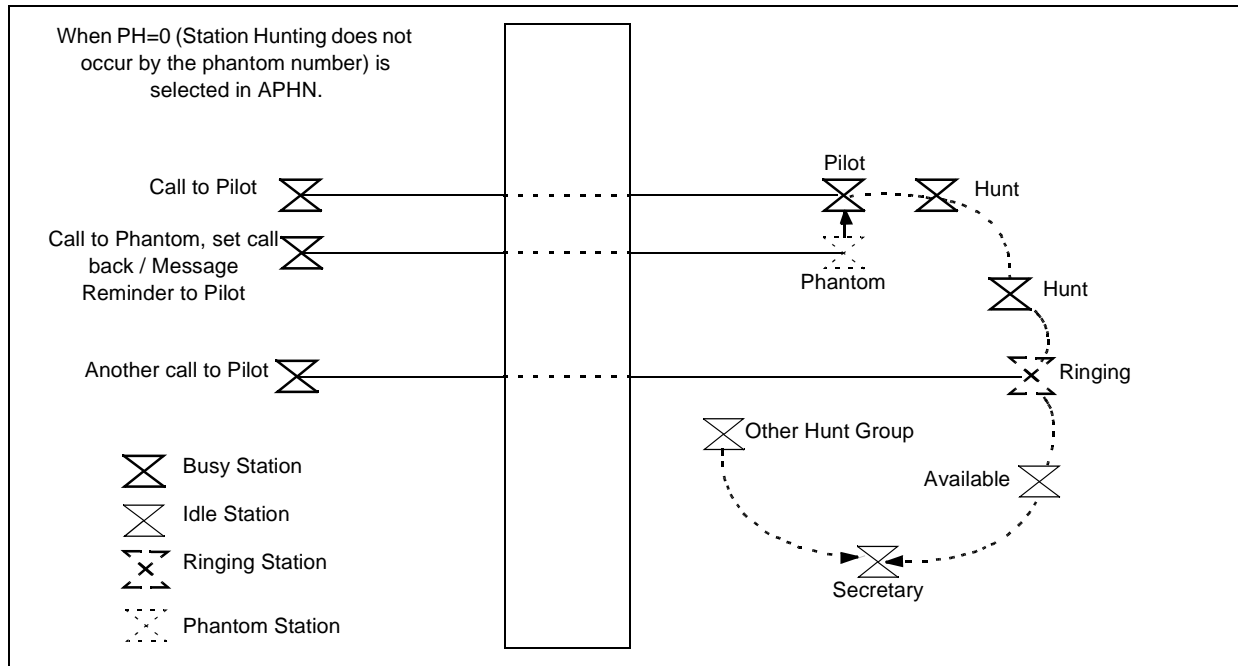
9. The lead station is the first station programmed in the ASHP command.

10. When Programmed on LDM:

a.) When activating this feature via FCCS, when CALL FORWARDING - ALL CALLS [C-5] is in service at a pilot station, a call directed to the station is forwarded to the designated station.

b.) When activating this feature via FCCS, when an incoming call to a pilot station is forwarded by CALL FORWARDING - BUSY LINE [C-2] and the forwarded party (also a member of another hunting group) is also busy, the resultant hunt target can be designated from the forwarding side group or the forwarded side group. This can be specified by the ASYD command. For further information, refer to Programming.

c.) When activating this feature via FCCS, if the following occurs, a non-pilot station is skipped in the hunting circulation process:
- When CALL FORWARDING - ALL CALLS [C-5] is set at the non-pilot station.
- When CALL FORWARDING - BUSY LINE [C-2] is set at the non-pilot station and the station is actually in the busy state.

d.) When activating this feature via FCCS, CALL FORWARDING - DON'T ANSWER [C-3] will respond to any call (both pilot and non-pilot stations). After a certain period of no answer, the call is forwarded to the designated station.

e.) When activating this feature via FCCS, this feature is not available for a call in recall state by CALL BACK [C-1] or CALL HOLD [C-6].

f.) When activating this feature via FCCS, a Hot Line station cannot be assigned as a member of the hunting group.

Interactions (cont'd)

g.) When using a Phantom Telephone Number (PHTELN) for the pilot station, consider the following:
- Whether to use the PHTELN to start the station hunt or not can be selected by the command APHNL. When using the PHTELN, assign "1" in the PH parameter. If not, assign "0".
- When PH = 1: Station hunt starts by dialing either the pilot station number (telephone number) or its Phantom Telephone Number. Both numbers can be the pilot number.
- When PH = 0: Station hunt starts by dialing the pilot station number (telephone number) only. The feature is not provided when the PHTELN is dialed.

Programming

STEP 1: **ASHP** - Assign the required data to the Assignment Pilot Hunting command:

TN: Tenant Number

STN: Station Number

SECRET: Secretary Station Number (if necessary)

*STN: Station numbers of the stations included in the Pilot group.

(* *Indicates the order of a station in the group*)

STEP 2: **APHN** - Assign Phantom Number (PHSTN) to the pilot station:

TN: Tenant Number

REAL STN: Station Number of the pilot station

PH: Phantom Number mode

0 = Used individually

1 = Used as the pilot number (for station hunting)

CNT (PHSTN): Phantom Station Number

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYDN** - This data must be assigned to the NCN. **(Note 2)**

System Data 1, Index69, b5:

Hunting Group when transferred party is busy (Station Hunting after C.F.-Busy Line):

0 = Hunt in Transferring Party's Group

1 = Hunt in Transferred Party's Group

STEP 2: **ASHPN** - This data must be assigned to the NCN. **(Note 2)**

Assign the Hunt Group using Telephone Number.

UGN: User Group Number

TELN: Telephone Number in Hunting Group

SECRETARY TELN:Telephone Number of Secretary Station (if necessary)

STEP 3: **APHNN** - Assign Phantom Telephone Number (PHTELN) to the pilot station. **(Note 3)**

UGN: User Group Number

TELN: Telephone Number of the pilot station

PH: Phantom Number Mode

FCCS Programming (cont'd)

        0 = Used individually

        1 = Used as the pilot number (for station hunting)

        PHTELN: Phantom Telephone Number **(Note 4)**

When using Release 7 software - Feature via LDM:

STEP 1:   **ASHPL** - Assign each hunting group by using the Telephone Numbers. **(Note 3)**

        UGN: User Group Number

        TELN: Telephone Numbers of member stations

        SECRETARY TELN:Telephone Number of a Secretary Station (if necessary)

STEP 2:   **ASYD** - Assign System Data 1, Index 69, b5 (Resultant hunt when the forwarded party is also busy after CALL FORWARDING - Busy Line [C-2]).

        0 = Hunt in the forwarding party group

        1 = Hunt in the forwarded party group

STEP 3:   **APHNL** - Assign Phantom Telephone Number (PHTELN) to the pilot station. **(Note 3)**

        UGN: User Group Number

        TELN: Telephone Number of the pilot station

        PH: Phantom Number mode

        0 = Used Individually

        1 = Used as the pilot number (for station hunting)

        PHTELN: Phantom Telephone Number **(Note 4)**

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *This data is valid when using Release 3 software or later.*

Note 3: *This data is valid when using Release 7 software or later.*

Note 4: *Multi PHTELNs (maximum of 16) can be assigned per TELN. Select whether to use each PHTELN for station hunt or not by the "PH" parameter.*

S-10   Station Message Detail Recording (SMDR)

General Description

This feature provides a call record for all outgoing station to trunk calls and incoming trunk to station calls. When the system is equipped with this feature, an RS232C output port or a SOCKET interface (LAN) is provided, permitting interface with a customer-owned computer system. All output is in the ASCII format, and includes the following:

- Calling telephone number
- Dialed number (24 digits maximum)
- Route number
- Start of call time
- Disconnect time
- Year, month and date
- Condition (Attendant handled, transfer, etc.)
- ACCOUNT CODE [A-18] (10 digits maximum)
- AUTHORIZATION CODE [A-28] (10 digits maximum)
- FORCED ACCOUNT CODE [F-7]

Additional FCCS Format

- Called Party Type (Attendant Console/station)
- Call Start/Call end time (millisecond)
- Call metering
- FPC/User Group/Telephone number (calling party)
- FPC/User Group/Telephone number (called party)
- FPC of the node providing the route for the call
- Logical Route Number
- FPC of the node providing the first-choice route
- First-choice Logical Route Number

Operating Procedure

No manual operation is required. Call record outputs are produced automatically.

Service Conditions

- RS232C Interface Conditions:
    1. SMDR information facilitates analysis of trunk traffic and can be readily applied for cost allocation or billing purposes.
    2. SMDR may be programmed to record either all outgoing calls or only toll calls, depending upon user requirements.
    3. Both incomplete and abandoned calls will be discarded by the SMDR.
    4. When ROUTE ADVANCE [R-6] or LEAST COST ROUTING (LCR) - 3/6-DIGIT [L-5] is provided with the system, SMDR will record the route number selected.
    5. The maximum number of digits dialed cannot exceed 24.
    6. When customer-owned computer equipment is connected via RS232C interface, SMDR information will be transmitted directly to the computer as each call record is completed.
    7. If the outgoing call is directed to a trunk that cannot give answer supervision from the Central Office, the start of call time is 18 seconds after the last digit is dialed. This timer value is set on the System Data.

Service Conditions (cont'd)

8. If the distance between the system and the processing computer exceeds 50 feet (15 meters), an asynchronous-type modem should be used.

9. RS232C Interface specifications:

	Synchronization	Asynchronous
	Data Speed	300, 600, 1200, 2400, 4800, 9600bps
	Code	ASCII 7-Bit + parity Bit
	Maximum Distance	50 ft. (15m) without modem

10. Supervision on the status of the external RS232C terminal is not performed.

11. FORCED ACCOUNT CODE [F-7] can be recorded on SMDR, for INWATS and CO incoming calls, when used in conjunction with the REMOTE ACCESS TO SYSTEM [R-2] service feature.

12. FORCED ACCOUNT CODE [F-7] cannot be registered on SMDR if the incoming REMOTE ACCESS TO SYSTEM [R-2] calls are terminated to stations via night service or DID [D-8].

13. For REMOTE ACCESS TO SYSTEM [R-2] tandem connections, the FORCED ACCOUNT CODE [F-7] is registered for outgoing trunks only.

14. The PBX can accommodate up to 7 active ports or 4 redundant ports. Additional hardware is required.

15. AUTHORIZATION CODE [A-20] can be recorded on SMDR.

16. The maximum number of simultaneous calls can be stored in the system memory (active calls) is 28,000. When a call is completed, the record is sent to the output device and is removed from memory.

17. If an overflow occurs, calls are allowed to complete and are not recorded.

18. ATTENDANT-CONTROLLED CONFERENCE [A-2]: If the Attendant adds a trunk to the conference, the Attendant conference line terminal is recorded.

19. LEAST COST ROUTING - 3/6-DIGIT [L-5]: The calling party can dial an ACCOUNT CODE [A-18] before the LCR access code. The called number is recorded (as modified for sending).

20. If an ACCOUNT CODE [A-18] is dialed, the maximum digits of the called number is 22.

21. CENTRALIZED ATTENDANT SERVICE (CAS) [C-20]: The SMDR record is provided for calls extended outward by a CAS Attendant.

22. DIRECT INWARD DIALING (DID) trunk calls [D-8]: If the call is to the Attendant, the Attendant can input an ACCOUNT CODE [A-18] before extending the call.

23. INDIVIDUAL TRUNK ACCESS [I-4]: The Attendant cannot dial in an SMDR account code before using direct trunk selection.

24. Incoming TIE trunk calls: If an incoming call to the Attendant is extended, the Attendant can input an ACCOUNT CODE [A-18].

25. SERIAL CALL [S-15]: The duration of the total call is recorded on the last station call.

26. STATION HUNTING [S-7, 8, 9]: The hunted-to station is recorded in the called number field.

27. TANDEM TIE TRUNK [T-1] Calls: The calling number is the incoming trunk route plus trunk number; the called number is the number dialed.

28. UNIFORM CALL DISTRIBUTION (UCD) [U-1]: The calling number is the incoming trunk route plus trunk number. If the call is to a station, the station answering the number is recorded as the dialed number.

29. On an incoming trunk call to the Attendant, the Attendant call record will start upon answering and complete when the Attendant releases. A station call record will start when the Attendant releases and complete when the station goes on-hook. If required, a station record will not be generated if the station does not answer.

30. A system option is available to allow or restrict call completion in the case where a failure occurs in transmitting SMDR data from the processor to the I/O port.

Service Conditions (cont'd)

31.　Additional hardware is required.
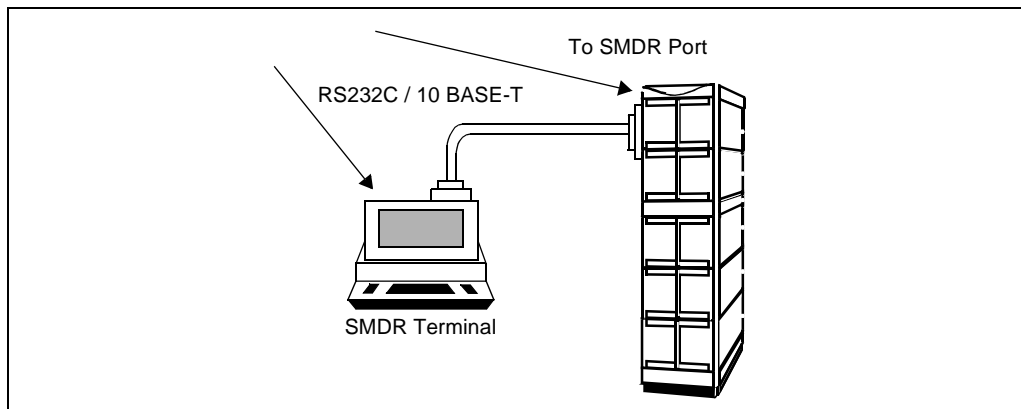
32.　Call Time specification for the FCCS network:
- The base for Call Start Time and Call End Time is the time in the calling party-side node.
- In case there is time difference between each node, related time difference data, based on the UCT (Universal Coordinated Time) standard, should be written in Network Data Memory (NDM) by using the ATDF command.
- Because billing information gathering is performed in the called party-side node, the Call Start Time in the originating node is determined in a way the deduction of time between calling and called party nodes is added or subtracted to/from the called party-side time. (If there is no time difference data in any [both] of the nodes, the Call Start Time is specified automatically by that in the called party-side node.)
- A counter, not the clock providing the current time, is used for Call End Time calculation. The calculation method is as follows:
  - a.)　Call Start Time (by using the clock) and the current counter value are registered to the Call Base Table, soon after a line connection is established.
  - b.)　Upon the call completion, the deduction between the counter value shown in a.) and that renewed during the call exchange is calculated.
  - c.)　The deduction is transformed to a time (hour, minute, second, milli-second) format.
  - d.)　The transformed time is added to the Call Start Time registered in a.)-End.
- The counter-based time is renewed in every 16.384 msec.
33.　Maximum number of active calls available for concurrent storage in the system memory is 28,000 per system. When a call is completed, the record is sent to the output device and is removed from the memory.
34.　If an overflow occurs, calls are allowed to complete but are not recorded.
35.　To output the FCCS-related billing data, the external SMDR terminal should be compatible also with the IMX text format patterns.
36.　When a station originates an outgoing trunk call using a trunk in the remote node (the station and the trunk belong to an FCCS network), the billing information for the station to trunk connection is not recorded.
37.　Because the FCCS service achieves a completely fused link between multiple distant nodes, intrastation connections and node-to-node connections are theoretically considered identical.
38.　When a line connection is established on the FCCS link, the billing data concerned is collected fully in the called station-side node, not in the calling station side. The collected data is then transmitted to the SMDR terminal as the call finishes.
39.　Multiple Center Nodes can be assigned on a FCCS network for centralized billing purposes.
40.　Transmission of call base table with 220 bytes.

Service Conditions (cont'd)

41. The figures on the following pages show the Service Conditions of Polling Method, focusing on when CCIS links are involved.

Example 1

- Node A (Fusion - Center Node) Collects the billing information of Nodes B and C via FCCS using the polling method.
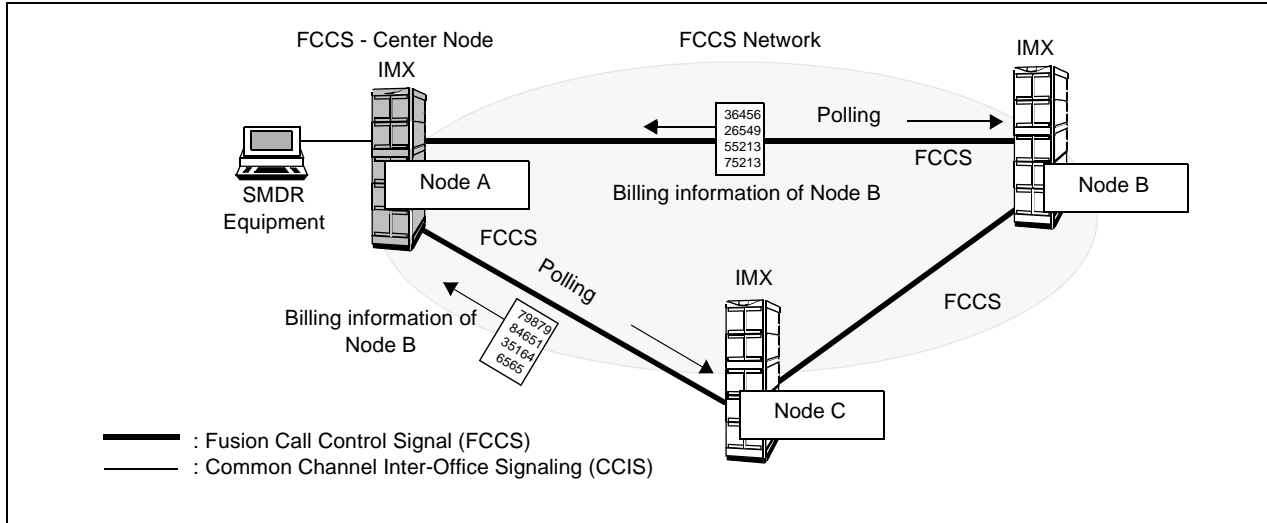
Example 2

- Node A tries to collect the billing information of Node B and Node C via FCCS, using the polling method (Node A cannot collect the billing information of Node C via FCCS).
- Node C sends the billing information via CCIS, ignoring polling from Node A.
- Node C deletes the Point Code (CCIS) of Node A for centralized billing data when required to send billing information for polling from Node A.
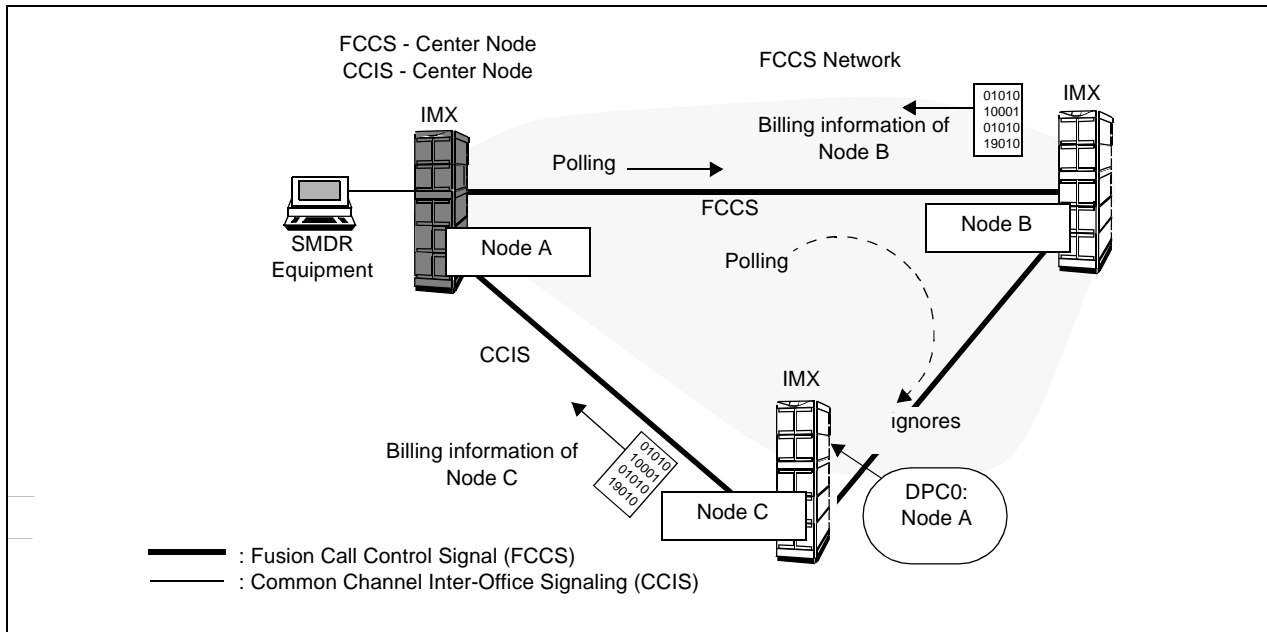
Service Conditions (cont'd)

Example 3

- Node A tries to collect the billing information of Node B via FCCS, using the polling method (Node A cannot collect the billing information of Node B via FCCS).
- Node B sends the billing information via CCIS, ignoring polling from Node A.
- Node B deletes the Point Code (CCIS) of Node C for centralized billing data when required to send billing information for polling from Node A.
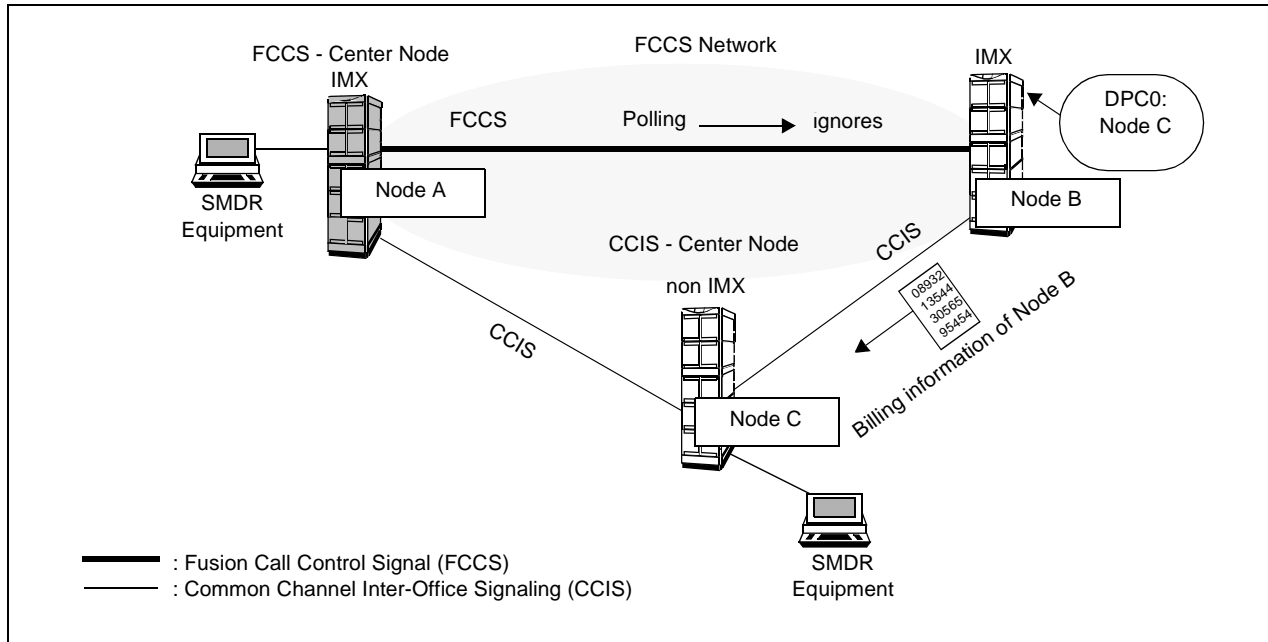
Service Conditions (cont'd)

Example 4

- Node A collects the billing information of Node B and Node C via FCCS, using the polling method.
- Node A sends the billing information of Node A, Node B and Node C.
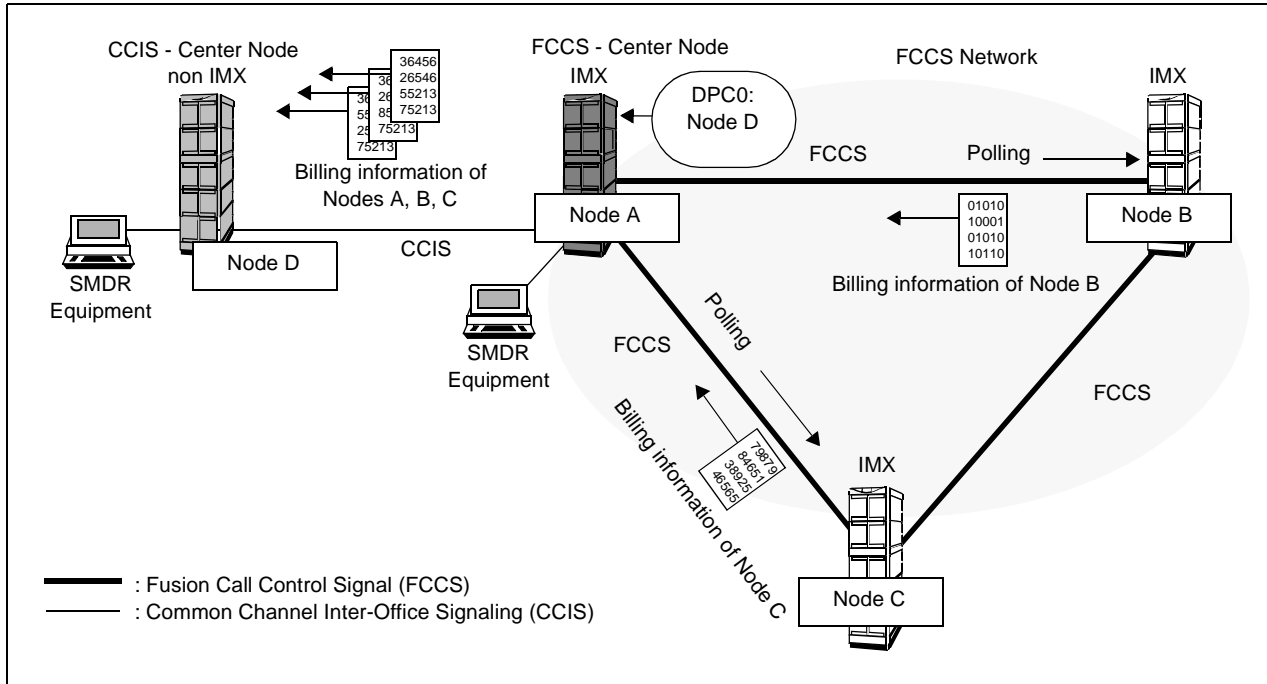
Service Conditions (cont'd)

Example 5

- • Node A collects the billing information of Node B and Node C via FCCS, using the polling method (Billing information of Node B cannot be collected).
- • Node B sends the billing information to Node D via CCIS, ignoring polling from Node A.
- • Node B deletes the Point Code (CCIS) for Node D when Node B wants to send billing information for polling from Node A.
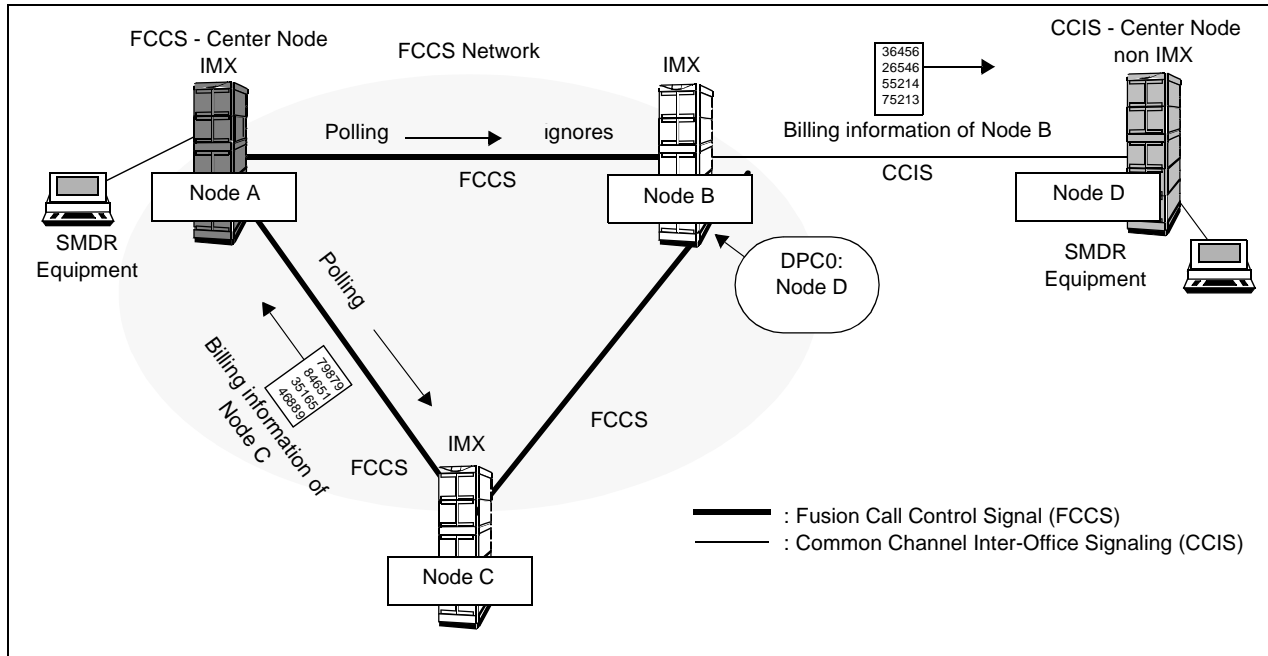
Service Conditions (cont'd)

Example 6

- Node A collects the billing information of Node B, Node C and Node D, which are stored in Node B by polling method.
- Node D sends the billing information to Node B.
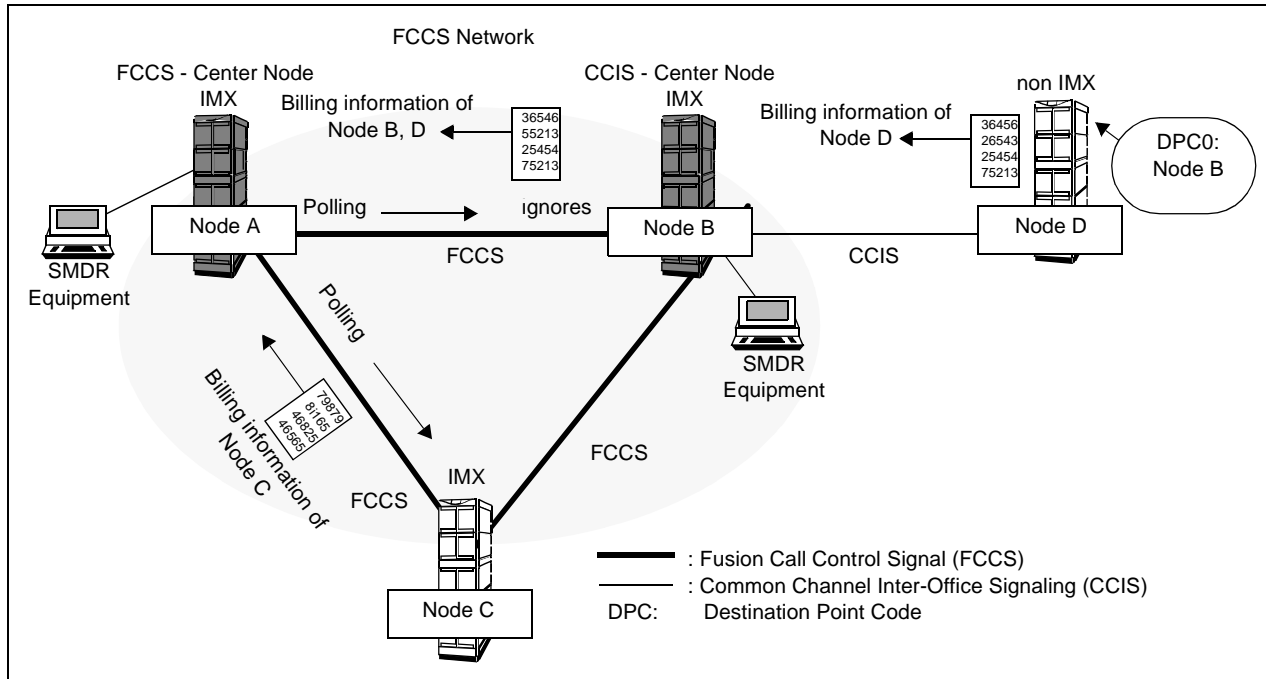
- SOCKET Interface (LAN Interface) Conditions:
    42. SMDR data can be output via LAN cable.
    43. A maximum of four SMDR apparatuses per node are available.
    44. When providing this feature with LAN interface, IMX text format must be designated by the ASYDL command (SYS 1, Index 578-581, b0).
    45. SMDR apparatus with LAN interface and SMDR apparatus with RS232C interface cannot be connected to the same node.

Interactions

1. If LCR(S) is provided, the LCR(S) access code is listed in ARNP. If an outgoing route is not used in LCR(S), then list the OGCA access code in ARNP.

2. To test SMDR output, it is recommended that a serial printer or breakout box be used to determine if the system is sending data.

3. CALL TRANSFER-ALL CALLS [C-11]: Either the first station, last station, or split billing is allowed with SMDR. Split billing provides a separate call record for both before and after a call transfer.

4. ATTENDANT CAMP-ON WITH TONE INDICATION [A-1]: The called station number is recorded for incoming C.O. calls via the Attendant Console (RRI 2 of ARSC). To record the time a destination station is on a call, split billing or last station billing is required. With split billing, the time the Attendant Console is on the call is separated from the time the destination station is on the call. For last station billing, the destination station is charged with the entire time of connection.

Interactions (cont'd)

5. LEAST-COST ROUTING-3/6-DIGIT [L-5]: SMDR will record the digits sent rather than the digits dialed.

6. The destination station is recorded on SMDR for the following features:
    CALL FORWARDING   [C-2, 3, 5]
    CALL PICKUP   [C-7, 30]

7. CALL FORWARDING-INTERCEPT [C-25]: An incoming trunk call responds to Call Forwarding-Intercept to the Attendant Console. SMDR records the call as if it is a direct call to the Attendant Console.

8. NIGHT CONNECTION-FIXED/FLEXIBLE: Calls terminated to these stations are recorded on SMDR.

9. OUTGOING TRUNK QUEUING [O-2]: SMDR records the outgoing call when the system recalls the user and the digits are sent, not when the trunk is queued.

10. REMOTE ACCESS TO SYSTEM [R-2]: The incoming route and trunk number is recorded as the calling party. If FORCED ACCOUNT CODE [F-7] is used, it will be recorded on SMDR. REMOTE ACCESS TO SYSTEM via a DID will not record FORCED ACCOUNT CODE on SMDR.

11. TRUNK-TO-TRUNK CONNECTION [T-10] and TIE LINE ACCESS [T-3]: SMDR records an incoming TIE Line that uses TRUNK-TO-TRUNK CONNECTION to make an outgoing call. The TIE Line route and trunk number is recorded as the calling party. The outgoing route is programmed for SMDR in ARTD, not the incoming TIE Line route.

12. CALL WAITING-TERMINATING [C-12]: SMDR will begin recording the call when the call is answered, not when a Call Waiting Tone is heard.

13. ADD ON CONFERENCE - 8 PARTY [A-121]: When output of the billing information for the C.O. call and station-to-station call is not restricted on either station or port for the calling/called party, the billing information for the station-to-station call is output to SMDR.

Programming

STEP 1:   **ASYD** - System Data 1, Index 20, Bit 7. Charging to a call transferred by CALL FORWARDING-OUTSIDE Service 0/1: Charging is made to the caller of the transferred call / charging is made to the station that has set CALL FORWARDING-OUTSIDE service. System Data 1, Index 32. Assign data 86H. Bit 7 enables SMDR service, Bit 2 will record the route taken, Bit 1 records tenant information.

Optional assignments may include Bit 5 and Bit 6.

System Data 1, Index 32, Bit 5. Is the Route Access code recorded? 0/1: No/Yes.

System Data 1, Index 32, Bit 6. Is the number sent or number dialed recorded in SMDR? 0/1: Number Sent/Number Dialed.

System Data 1, Index 33. Assign this index for Split Billing. If Split Billing is used, assign 00H. If Total Billing is used, Bits 3 & 4 represent the following: 00: Telephone called first. 01: Telephone called last. 10: Telephone receiving call from an Attendant Console.

Bit 5 must be assigned as data "1" to provide total billing for incoming calls.

Bit 6 must be assigned as data "1" to provide total billing for outgoing calls.

System Data 1, Index 34. Assign data 01H or 21H. Bit 0 enables RS-232C transmission.

System Data 1, Index 157. Outgoing Trunk, Soft Hold Timer. The point in time when the system will recognize an outgoing call as answered. Default is 18 seconds. Because of interaction with momentary pressing of the hook-switch, this data may be reassigned as 31H for 2 seconds. Take the SMDR aspect into consideration when reassigning this data.

System Data 1, Indexes 288-295

Designation of the attributes of the SMDR.

Programming (cont'd)

SMDR output port will be designated. For this designation, the attributes of the terminal that outputs the detail call information should have been designated by indexes 117-123. (Assigned by the AIOC command.)

Also for detecting a fault of the SMDR, set the SMDR fault detect timer.

Index 288 = Charging information port of SMDR A.

Bit 4: IOC Equipment Number (0/1=No.0/No.1)

Bit 5: Expanded SMDR Output (0/1=Out/In Service)

Index 289 = SMDR fault detect timer of SMDR A.

Index 290 = Charging information port of SMDR B.

Bit 4: IOC Equipment Number (0/1=No.0/No.1)

Bit 5: Expanded SMDR Output (0/1=Out/In Service)

Index 291 = SMDR fault detect timer of SMDR B.

Index 292 = Charging information port of SMDR C.

Bit 4: IOC Equipment Number (0/1=No.0/No.1)

Bit 5: Expanded SMDR Output (0/1=Out/In Service)

Index 293 = SMDR fault detect timer of SMDR C.

Index 294 = Charging information port of SMDR D.

Bit 4: IOC Equipment Number (0/1=No.0/No.1)

Bit 5: Expanded SMDR Output (0/1=Out/In Service)

Index 295 = SMDR fault detect timer of SMDR D.

System Data 2, Index 3. Bit 0 enables SMDR registration per tenant.

System Data 2, Index 3. Optional assignments for station-to-station connection. Bit 6, 0/1: Calling & Called output/Called output only. Bit 7, 0/1: -/SMDR Output (STN-STN) is in service.

STEP 2: **ASYDL -** System Data 1, Index 576

Bit 0. Centralized Billing-Fusion (Polling Method): 0/1 = Not/To be provided. Required both for Center Node and each Local Node.

Bit 1. SMDR for station to station connections in a self-node 0/1=output/not output (Note 1)

Bit 2. 0 = RS-232C interface is used.

System Data 1, Index 577.

Fusion Point Code (FPC) of Center Node.

Provided that "1" is flagging in Bit 0 of Index 576 (System Data 1), let every Local Node recognize its belonging Center Node for centralized billing-Fusion. Assign data on Center Node FPC at each Local Node. Given this data, the Local Nodes can acknowledge the SMDR polling only from the Center Node specified here (the polling from other parties will be ignored).

At the Center Node, assign 00H.

System Data 1, Index 578-581, Bit 0. Assign proper data (0/1) for regulation of output text format pattern for centralized billing-Fusion. Index 578 corresponds to SMDR A, 579 to SMDR B, 580 to SMDR C and 581 to SMDR D. The pattern to be adopted will be:

Bit 0 = 0: ICS text format.

Bit 0 = 1: IMX format.

Programming (cont'd)

System Data 1, Index 582, Bit 0-3. Assign the number of nodes to be polled at once.

0000 = 1	0001 = 1	0010 = 2	0011 = 3	0100 = 4	0101 = 5
0110 = 6	0111 = 7	1000 = 8			1111 = 8 **(Note 2)**

Note 1: *This data is valid when the data is assigned at SYS1, Index 512.*

Note 2: *For the numbers more than 8, assign the data value as 8.*

System Data 1, Index 583, Bit 0-2. The timing for Fusion billing data transmission from the node that accommodates the outgoing trunk or the node that accommodates the called station to the node that accommodates the calling party (Valid when SYS 1, INDEX583, b7 = 0 in ASYDN).

Bit 2 1 0	Bit 2 1 0
0 0 0 = 8 seconds	1 0 0 = 8 seconds
0 0 1 = 2 seconds	1 0 1 = 10 seconds
0 1 0 = 4 seconds	1 1 0 = 12 seconds
0 1 1 = 6 seconds	1 1 1 = 14 seconds

System Data 1, Index 608-639.

Fusion Point Code (FPC) of SMDR polling destination.

Programming (cont'd)

After the Center Node (multiple CN: possible on a network) is assigned for centralized billing-Fusion, let the Center Node recognize its polling destination (specified by the FPC), referring to the table below. In the table, each bit represents Fusion Point Code ranging from 1 to 253. When "1" is set, the FPC is specified as the polling destination.

Index	b7	b6	b5	b4	b3	b2	b1	b0
608	7	6	5	4	3	2	1	-
609	15	14	13	2	11	10	9	8
610	23	22	21	20	19	18	17	16
611	31	30	29	28	27	26	25	24
612	39	38	37	36	35	34	33	32
613	47	46	45	44	43	42	41	40
614	55	54	53	52	51	50	49	48
615	63	62	61	60	59	58	57	56
616	71	70	69	68	67	66	65	64
617	79	78	77	76	75	74	73	72
618	87	86	85	84	83	82	81	80
619	95	94	93	92	91	90	89	88
620	103	102	101	100	99	98	97	96
621	111	110	109	108	107	106	105	104
622	119	118	117	116	115	114	113	112
623	127	126	125	124	123	122	121	120
624	135	134	133	132	131	130	129	128
625	143	142	141	140	139	138	137	136
626	151	150	149	148	147	146	145	144
627	159	158	157	156	155	154	153	152
628	167	166	165	164	163	162	161	160
629	175	174	173	172	171	170	169	168
630	183	182	181	180	179	178	177	176
631	191	190	189	188	187	186	185	184
632	199	198	197	196	195	194	193	192
633	207	206	205	204	203	202	201	200
634	215	214	213	212	211	210	209	208
635	223	222	221	220	219	218	217	216
636	231	230	229	228	227	226	225	224
637	239	238	237	236	235	234	233	232
638	247	246	245	244	243	242	241	240
639	-	-	253	252	251	250	249	248

Programming (cont'd)

System Data 1, Index 641, Bit 0. Type of the station number for the ICS text format.

0/1=Physical Station Number/Telephone Number.

System Data 1, Index 641, Bit 3. Kind of the route number for the ICS text format.

0/1=Physical Route Number/Logical Route Number.

STEP 3: SOCKET Interface (Lan Interface) Programming

System Data 1, Index 529: Assign the methods of parity check

b0: 0/1=No parity check/Odd parity

b1: 0/1=No parity check/Even parity

Index 576, b2=1 (LAN interface is used)

Index 578-581, b4: Assign the usage of the SMDR.

Index 578, b4: 0/1=SMDR A is not used/used

Index 579, b4: 0/1=SMDR B is not used/used

Index 580, b4: 0/1=SMDR C is not used/used

Index 581, b4: 0/1=SMDR D is not used/used

STEP 4: **ASYDN** - This data should be set "0" for ASYDL, SIS 1, Index 583, b0-2. Index 583, bit 7.

The node for saving fusion billing data:

0 = The node accommodating the calling party

1 = The node accommodating the outgoing trunk or the called station

STEP 5: **AIOC** - Assign the function and attribute data of the IOC ports.

This data is not necessary when using LAN interface.

STEP 6: **ARTD** - CDN 10:SMDR. Enable outgoing routes to be included for SMDR registration. CDN 16:SMDR2. Determination, on a per-route basis, of what type of connection will be registered by SMDR. Also remember to flag the LCR (S) flag route. For outgoing only routes, assign data "0". For incoming routes, assign data "2". For bothway trunk routes, assign data "1" only. CDN 56:SMDR3. Detailed billing for outgoing (tandem). CDN 69. Detailed billing for incoming (tandem). With regard to CDN 56:SMDR3 and CDN 69:SMDR4, see below.
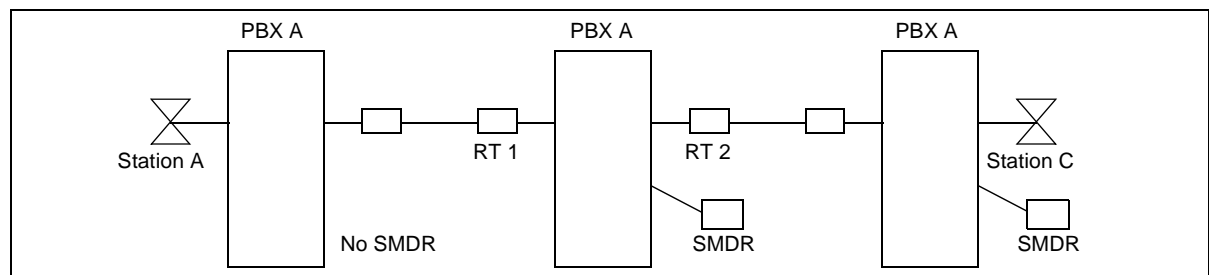
In the network shown above, PBX B functions as a tandem switch. In this example, parameters SMDR 3 and SMDR 4 for RT 1 of PBX B should be assigned as "1" for the following reasons:

- When Station C places a call to Station A:
- Since SMDR collects billing information on the outgoing trunk at PBX C, billing information on the outgoing trunk of RT 1 is not required at PBX B (SMDR 3 = 1).
- When Station A places a call to Station C:
- At PBX B, SMDR collects billing information on the outgoing trunk of RT 2, and therefore billing information on the incoming trunk of RT 1 is not required (SMDR 4 = 1).

Programming (cont'd)

STEP 7:   **ASFC** - Assign data "1" to SFI14 of a Service Feature Class, the traffic of which is to be registered on SMDR (Trunk Basis). Assign data "1" to SFI58 of a Service Feature Class the traffic of which is to be registered on SMDR (STN to STN Basis).

Note: *When SMDR for station-to-station calling is not used, both stations in communication must be restricted at the SFI58.*

STEP 8:   **ARNP** - For the routes flagged for SMDR in ARTD, list the route number and the Outgoing Trunk access code (OGC) or Outgoing Trunk Advance (OGCA) access code here. If LCR(S) is used, list the route numbers and the LCR(S) access code.

STEP 9:   **AMND** - Assign the number of digits the register is to receive for every dialing code. List the Toll Number ID Data code for the system to distinguish the Toll Dialing patterns for SMDR registration. The dialing code listings are identical for LCR(S). Refer to the AMND descriptions for LCR-3/6-DIGIT [L-5] and TOLL RESTRICTION-3/6-DIGIT [T-7].

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

ATDF - Assign time difference data if the time between the nodes and the UCT (Universal Coordinated Time) may not be identical on a FCCS network. The assigned data (time difference margin [Plus/Minus, Hour, Minute] between each FPC and the UCT) is to be written in Network Data Memory (NDM) of the Network Control Node (NCN).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-11 Station-to-Station Calling

General Description

This feature permits any user to directly dial another station within the NEAX2400 IMX system without operator assistance.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the desired telephone number.

Service Conditions

1. If the called station is off-hook, the originating station receives a busy tone. Otherwise, the called station will ring and the caller will hear a ringback tone.
2. If the called station remains unanswered for longer than a preset interval, the call will not be transferred to the ATTENDANT CONSOLE [A-3], unless CALL FORWARDING-DON'T ANSWER [C-3] is provided.
3. If the called station is busy, the call will not be transferred to the Attendant Console, unless CALL FORWARDING-BUSY LINE [C-2] is provided.
4. Station-to-station calling between TENANTs [T-12], will not be restricted, unless programming for such restriction is entered in System Data.
5. The maximum number of digits per telephone number is 16.
6. The same telephone numbers cannot be duplicated in different TENANT [T-12] groups.
7. Calling Party Release/Called Party Release/Both Party Release/First Party Release can be selected on a system basis.
8. The following features, if activated, may result in the calling user to be connected to a station other than the dialed station:

CALL FORWARDING - ALL CALLS/BUSY/DON'T ANSWER	[C-5, 2, 3]
CALL PICKUP	[C-7, 30]
STATION HUNTING	[S-7, S-8, S-9]
UCD	[U-1]

9. When HOT LINE [H-1] service is provided, the calling user automatically connects to a preset number by going off-hook. The preset number may be another station, an Attendant, or an outside party.
10. When the calling user dials an unassigned telephone number, the call will be routed to reorder tone or Announcement (option).
11. An option per station line is available to eliminate the STATION 5dB PAD [S-62].

Interactions

1. The ATNR command is required for all station-to-station calling.
2. The normal 5 dB PAD loss inserted for station-to-station calling may be eliminated on a per-station basis. For these stations, assign a Service Feature Class that allows SFI 50, Removal of 5dB pad for Off-Premises Extensions (OPX).

Programming

STEP 1: **ASYD** - System Data 1, Index 4, Bits 2 & 3. Assign data "10" for First-Party Release.

Programming (cont'd)

STEP 2: **ATNR** - Assign for Tenant Restriction Index (TRI) 0. This index allows for station-to-station calling between the same tenant and between different tenants.

DAY/NIGHT:	Day/Night Mode
	D: Day Mode
	N: Night Mode
OGTN:	Originating Tenant
TMTN:	Terminating Tenant
TRI:	Tenant Restriction Index (0-15)
RES:	Restriction Data
	0: Restricted
	1: Allowed
TRI:	Tenant Restriction Index

        0:     Allows Intra and Inter-tenant station calls. Allow call within tenant.

        1:     Allows CALL FORWARDING-ALL CALLS, -DON'T ANSWER, and -BUSY LINE on an Intra and Inter-tenant basis. Allow this feature within self-tenant.

        2:     Allows or restricts incoming calls via the Night Attendant Console from tenant to tenant. This allows the tenant, as assigned to a trunk, to be terminated to a tenant, as assigned to a station.

        3:     Allows the CALL FORWARDING-ALL CALLS, DON'T ANSWER, and BUSY LINE on an Intra and Inter-tenant basis, as when set by the Attendant Console.

        4:     Allows or restricts incoming calls to the Attendant Console on a per-tenant basis. Thus, an Attendant may handle calls only for a specific tenant.

        5:     Day/Night Mode Change Restriction.

        6:     Not used

        7:     Not used

FCCS Programming

No unique programming is required for the FCCS network.

S-12 Station-to-Station Calling - Operator Assistance

General Description

This feature allows a user to call another station within the PBX, with the assistance of the ATTENDANT CONSOLE [A-3] operator.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the operator access code (normally "0").
3. Relay the desired telephone number to the Attendant.
4. The Attendant dials the telephone number.
5. Calling and called parties are connected when the Attendant presses the RELEASE key.

Service Conditions

1. The Attendant may drop out of the connection before or after the called party has answered.
2. If the called station does not answer within 30 seconds, AUTOMATIC RECALL [A-8] will be activated. The Recall Timer length is set in System Data.
3. Using this feature, the Attendant may connect the calling party to a fully-restricted station.
4. STATION-TO-STATION CALLING-OPERATOR ASSISTANCE between TENANTs [T-2] will not be restricted, unless such a restriction is programmed in System Data.
5. The Fusion Point Code of the node which accommodates the called Attendant Console must be assigned after System Data assignment.

Interactions

1. The ATNR command is required for all station-to-station calling.
2. The normal 5 dB PAD loss inserted for station-to-station calling may be eliminated on a per-station basis. For these stations, assign a Service Feature Class that allows SFI 50, Removal of 5dB pad for Off-Premises Extensions (OPX).
3. The Attendant Console must first be provided.
4. ATTENDANT CAMP-ON WITH TONE INDICATION [A-1]: The Attendant cannot camp-on a station-to-station call.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, bits 2 & 3. Assign data "10" for First-Party Release.

STEP 2: **ATNR** - Assign for Tenant Restriction Index (TRI) 0. This index allows for STATION-TO-STATION CALLING between the same tenant and between different tenants. The tenant, in which the Attendant resides, must also be allowed STATION-TO-STATION CALLING to assist in placing the call.

DAY/NIGHT:	Day/Night Mode	
	D:	Day Mode
	N:	Night Mode
OGTN:	Originating Tenant	
TMTN:	Terminating Tenant	

Programming (cont'd)

TRI: Tenant Restriction Index (0-15)

RES: Restriction Data

    0:    Restricted

    1:    Allowed

FCCS Programming

No unique programming is required for the FCCS network.

S-13 Step Call

General Description

This feature allows the Attendant or user, upon calling a busy station, to call an idle station by dialing an additional digit. This feature will operate only if the number of the idle station is identical to that of the busy station in all respects, except the last digit.

Operating Procedure

1. The dialed station (220) is busy.
2. Dial "5" (or any digit between 0 and 9).
3. If Station 225 is idle, the call will be connected there.

Service Conditions

1. This feature can be provided for all stations and the Attendant Console(s).
2. STEP CALLING can be in any order, 0-9 or 9-0.
3. If the second selected station is also busy, STEP CALLING can continue until a station rings.
4. If a station is set for any type of CALL FORWARDING (ALL CALLS, BUSY LINE NO ANSWER [C-2, 3, 5]), the call forwarding will take effect.
5. CALL FORWARDING - ALL CALLS/BUSY LINE [C-2, 5]: The activation of a call forwarding feature by the called station can cause a STEP CALL to be completed to a station other than the dialed station.
6. CONSULTATION HOLD - ALL CALLS [C-17]: STEP CALL can be activated when a busy tone is returned on a Consultation Hold attempt.
7. The STEP CALL feature is not operational for trunk incoming calls to PBX stations.

Note: *STM:2 and STS:6 should be assigned as 1 by ASTD command, to restrict Step Call on DID.*

8. A STEP CALL to a station in LINE LOCKOUT [L-3] or maintenance busy state will result in a reorder tone.

Interactions

1. A STEP CALL can search through an entire group to find an idle station.
2. CALL FORWARDING [C-2, 3, 5]: STEP CALL will respond according to the numbering scheme of the dialed station. Station A (7526) call forwards his phone to Station B (7128). Station B is busy. The calling station dials 7526 and receives busy tone. The calling station then dials 2. The call terminates at 7522.
3. CONSULTATION HOLD-ALL CALLS [C-17]: STEP CALL can be used when encountering a busy station via CONSULTATION HOLD.
4. LINE LOCKOUT [L-3]: A STEP CALL to a station in LINE LOCKOUT [L-3] results in reorder tone. Another digit can be dialed to reach an idle station.
5. When STEP CALL [S-13] is used after LAST NUMBER CALL [L-6, 6D] service with the access code, the destination of STEP CALL is changed depending on the access code of the LAST NUMBER CALLED [L-6, 6D] service because the PBX recognizes the access code of LAST NUMBER CALLED as the telephone number. In other words, the target number for STEP CALL is not the telephone number dialed before LAST NUMBER CALLED, but the number dialed as the LAST NUMBER CALLED access code. For example:
   a.) Station A places a call to Station B (4000) by dialing "300", which is the access code of LAST NUMBER CALLED.

Interactions (cont'd)

    b.) Station A hears busy tone since Station B is busy.

    c.) Station A dials "1" using STEP CALL.

    d.) The PBX recognizes that "301" is dialed.

Programming

STEP 1:   **ASYD** - System Data 1, Index 59, Bit 2. DID Busy Condition 0/1: No Tone/Busy Tone (Assign 1)

STEP 2:   **ASTD** - STM 2, STS 6, ST 1 to restrict DID step call.

FCCS Programming

No unique programming is required for the FCCS network.

S-15   Serial Call

General Description

This feature allows the Attendant to arrange for a recall from a station before releasing a Central Office call to that station. When the station subsequently disconnects from the call, the Central Office party automatically rings back to the Attendant.

Operating Procedure

1. Answer the incoming Central Office call.
2. Extend the call to the desired station.
3. Press the SERIAL CALL (SC) key; the HOLD lamp corresponding to the loop will light.
4. The called station and incoming station are connected.
5. The called station hangs up; the HOLD lamp and the ATND lamp on the Attendant Console flash at 60 IPM. If the Attendant position is available, an audible indication will be provided.
6. Press the associated loop key to return to the incoming calling party.

Service Conditions

1. This service feature is effective only for incoming calls from external trunks.
2. If the Attendant enters a loop that is already set up for SERIAL CALL, the service is automatically cancelled.
3. SERIAL CALL (SC) is not provided for station-to-station calling.
4. SERIAL CALL can be provided on a per-tenant basis.
5. SERIAL CALLING is allowed when a station is involved in an ATTENDANT CONTROLLED CONFERENCE [A-2].
6. STATION MESSAGE DETAIL RECORDING (SMDR) [S-10]: The duration of the total call is recorded on the last station call.
7. When the ATTENDANT LOCKOUT [A-5] feature is provided, the Attendant cannot reenter the connection without being recalled.
8. This feature is not applicable for tandem connections.
9. In the Loop Release system, once this service is set, the attendant position enters the idle state, and the established call is released from the loop, enabling all hooking services at the extension side. ASYD, System Data 1, Index 186, bit 4 = 1.
10. The Attendant sets this service by pressing the SC key when the extension user answers.
11. It is not possible to release this service once it is set.
12. If the operator presses the SC key before the called extension answers (Non-Delay mode service setting), the external calling party receives a ringback tone, and the Attendant position enters the idle state.
13. In the Non-Delay mode service, setting the extension loop release does not occur until the called extension answers, even though the Loop Release system is specified by the System Data setting (System Data 2 INDEX 2 b5 = 1). The operator is allowed to reenter the connection before the extension answers, though the SERIAL CALL service remains set.
14. CALL PICKUP GROUP [C-7] feature can be used for answering a call handled by the operator in the Non-Delay service setting mode.
15. CALL FORWARDING-DON'T ANSWER [C-3] feature cannot be used if SERIAL CALL is set.

Service Conditions (cont'd)

16.   SERIAL CALL termination is indicated to the Attendant by means of the HOLD or SC/RC lamp and buzzer indication. ringback tone is sent to the external calling party up to the time the Attendant answers the indicated serial call.

17.   SC termination indication goes off if the external calling party is released before the Attendant answers the indicated serial call (in case of TIE Line connection).

18.   Either the SC/RC key or the ANSWER key is used to answer a serial call if ASYD System Data 1, Index 186, Bit 4 is "1".

19.   SERIAL CALL service is automatically released when the operator answers the indicated serial call.

20.   The Day-To-Night mode change does not interrupt the indication of serial call termination.

21.   Attendant supervision of a SERIAL CALL on the ATTENDANT CONSOLE [A-3] is provided via the loop status lamps. After an incoming trunk call is extended to a station and the called station goes on-hook, the Attendant is alerted by the flashing HOLD indicator lamp.

22.   The following features are denied toward a line or trunk involved in a SERIAL CALL if ASYD, System Data 1, Index 186, bit 4 = 0:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT OVERRIDE	[A-7]
BUSY VERIFICATION	[B-3]
BOSS-SECRETARY OVERRIDE - D^{term}	[B-6D]
CALL HOLD	[C-6, 6D]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1, 1D]

23.   When CALL WAITING - TERMINATING [C-12], CALL WAITING - ORIGINATING [C-31], Attendant Camp-On, or Attendant Camp-On - CCIS is set to the station already engaged in a SERIAL CALL, the following conditions occur:

   a.)   If the station answers the overriding call, the party formerly engaged in the SERIAL CALL is placed on hold. When the station releases and does not return to the held call, the Attendant is recalled.

   b.)   If the station does not answer the overriding call, Call Waiting or Attendant Camp-On is activated.

Interactions

1.   Features requiring the switch hook to be flashed are available. These include CALL TRANSFER-ALL CALLS [C-11], CALL PICKUP [C-7, 30], CONSULTATION HOLD [C-17], and CALL HOLD [C-6] if ASYD System Data 1, Index 186, Bit 4 is "1".

2.   EXECUTIVE RIGHT-OF-WAY [E-1], BUSY VERIFICATION [B-3], and ATTENDANT OVERRIDE [A-7] are available towards a station/trunk involved in a Serial Call, if ASYD System Data 1, Index 186, Bit 4 is "1".

3.   If a Serial Call is transferred to a second station, when the second station hangs up, the Serial Call will return to the Attendant Console if ASYD, System Data 1, Index 186, Bit 4 is "1".

Note: *The SC (Serial Call) key is the key right of the DEST key. The SC/RC (Serial Call Recall) key replaces the CCSA key if ASYD System Data 1, Index 186, Bit 4 is "1".*

Programming

STEP 1: **ASYD** - System Data 1, Index 186, Bit 4. Serial Call Loop Release 0/1: OUT/In Service When data "1" is assigned, CCSA calls will not ring the ATT. In this case, change ARTD CDN 6:TCL from CCSA to DDD Line, TIE Line, etc.

System Data 2, Index 7, Bit 2. Is SERIAL CALL to be enabled on a per-tenant basis? 0/1: No/Yes.

System Data 1, Index 43, Bit 4. Is Attendant able to reenter loop of serial call? 0/1: No/Yes.

FCCS Programming

No unique programming is required for the FCCS network.

S-19   Single-Digit Feature Code

General Description

This feature allows the system to be programmed so that features used most frequently may be accessed by dialing a single digit.

Operating Procedure

To access a desired feature, refer to the Operating Procedure section of that particular Feature Description.

Service Conditions

1. When accessing SINGLE-DIGIT FEATURE CODES, consideration must be given to the overall numbering plan of the particular system, unless timing start has been provided.
2. Timing start is not available with this feature.

Interactions

1. For each feature with one-digit access, an entire number level is eliminated. Do not plan to have more than one or two such features in a system.
2. The corresponding feature cancel code does not have to be a single digit.
3. TRUNK ANSWER ANY STATION [T-8], SPEED CALLING-SYSTEM [S-3], and DIAL ACCESS TO THE ATTENDANT [D-2] are three applications for SINGLE-DIGIT FEATURE CODE.
4. The digit "*" or "#" can be used as the first digit of a trunk access code and can be used as a feature access code.

Programming

STEP 1:   **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan. BLF is not in service.

STEP 2:   **ASPA** - Assign the Tenant and Access Code for the desired feature. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and/or Busy (B). Assign the SRV = SSC (Service Code) or SSCA (Service Code Appendix), and Service Feature Index SID or SIDA for the required feature.

STEP 3:   **ASFC** - Assign to the stations to receive this feature an SFC that allows the corresponding SFI.

S-21 Speed Calling - Station

General Description

This feature allows a user to dial certain frequently-called exchange network numbers using fewer digits (abbreviated call codes) than normally required. Using this feature, a user can establish his own abbreviated codes.

Operating Procedure

1.   Lift handset or press SPEAKER key; receive dial tone.
2.   Dial SPEED CALLING; enter access code (one to three digits). **(Note)**
3.   Dial the abbreviated call code (one to three digits); call is completed.

To set using the Primary Station only:
1.   Lift handset; receive dial tone.
2.   Dial SPEED CALLING; enter feature access code (one or two digits). **(Note)**
3.   Dial the abbreviated call code (one to three digits). At this point no tone is returned.
4.   Dial the outgoing number, including the route access code. A brief pause will occur before receiving service set tone.

Note: *If one digit code is used, the format must be 00 to 99.*

To operate from a D^{term}:
1.   Press the REDIAL key; receive dial tone. The LCD displays:

> **LNR [*] / SPEED [_ _]**
> **(Time Display)**

2.   Press the desired call code; the call is completed.

Service Conditions

1.   SPEED CALLING-STATION codes are programmed into RAM memory per Local Processor.
2.   **(Series 7400 software enhancement)** Each abbreviated call code can store a maximum of 24 digits, including access codes and pauses. When using software prior to Series 7400, a maximum of 18 digits can be stored, including access codes and pauses.
3.   A maximum of 100 stations per Module Group can be equipped with SPEED CALLING-STATION.
4.   100 memory blocks per Module Group are assigned for speed calling. A maximum of 10 numbers can be stored in each memory block. This allows for a total of 1,000 numbers per Module Group.
5.   Each station can be assigned 10 memory blocks for speed calling; therefore, it can be programmed for 100 numbers maximum.
6.   TOLL DENIAL/TOLL DIVERSION [T-6] and TOLL RESTRICTION-3/6-DIGIT [T-7] may or may not be applied to SPEED CALLING, as desired.
7.   LEAST-COST ROUTING-3/6-DIGIT [L-5] may be provided via SPEED CALLING-STATION access.
8.   Each user of an individual station equipped with this feature can program a personal speed calling numbers, via the single-line telephone.
9.   If SPEED CALLING-STATION is assigned to a Local Processor, SPEED CALLING-GROUP [S-23] shares the same memory tables. Therefore, careful consideration should be given when programming.
10.   SPEED CALLING-STATION data will be retained in memory, even if the system is reinitialized or in the event of a power failure, by means of a hard disk for a system.

Service Conditions (cont'd)

11. A pause may be programmed, using the "✳" key of a PB pad. This will take one of the 24 digits available. Rotary type phones cannot store a pause. A pause lasts 2.8 seconds.

12. It is not necessary to erase a stored number in order to store another number. The second number replaces the first.

13. When a caller places a call via Outgoing Call Alternative (OGCA), and when the first outgoing route and the station setting SPEED CALLING - STATION are restricted, this service cannot be set. In this case, the service can be set via the following procedure:

     a.) assign a dummy route,
     b.) clear the restriction between the dummy route and all the stations,
     c.) assign the dummy route as the first route of OGCA.

Interactions

1. Blocks are not assigned sequentially (1-100), but are assigned as a quantity of blocks in the AISA command. These quantities will never exceed the value of 10.

2. If one block is assigned, the Abbreviated Call Code will be digits 0-9. If two blocks are assigned, the Abbreviated Call Code will be digits 00 - 19. If three blocks are assigned, the Abbreviated Call Code will be digits 00 - 29, and so on, to a maximum of 10 blocks with Abbreviated Call Codes 00 - 99.

3. Only the Primary Station will be allowed to use the SPEED CALLING-ASSIGN access code. When assigning the abbreviated SPEED CALLING access code and number, a delay of 6-8 seconds will occur until service set tone is returned.

4. Only those stations assigned as Secondary stations are considered to be members of the SPEED CALLING-GROUP.

5. Stations of a SPEED CALLING-GROUP (INDIVIDUAL) must be in the same Module Group (MG). Error 0238, "MG number of MY-Line/Primary station mismatch" is displayed.

6. SPEED CALLING-INDIVIDUAL requires the assignment of senders, route 905. See UNIVERSAL SENDER [U-3].

7. OUTGOING TRUNK QUEUING [O-2]. This feature may be used with SPEED CALLING-INDIVIDUAL (GROUP) if all trunks are busy.

8. ROUTE ADVANCE [R-6] and LEAST-COST ROUTING-3/6 DIGIT [L-5] may be used with this feature. The ASPA access code to either ROUTE ADVANCE [R-6] or LEAST-COST ROUTING-3/6 DIGIT [L-5] will be stored in the memory of the SPEED CALLING-GROUP number.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, Bit 3. Does TOLL RESTRICTION apply to SPEED CALLING-STATION? 0/1: Yes/No. (If yes, refer to TOLL RESTRICTION-3/6 DIGIT [T-10]).

STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Two access codes must be assigned for this feature.

For the individual station speed calling number assignment, assign the tenant and Access Code (ACC). Assign for a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 14.

For individual station speed calling access, assign the tenant and Access Code (ACC). Assign for a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 21.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 19 to the stations to receive SPEED CALLING-STATION.

Programming (cont'd)

STEP 5: **AISA** - Program the tenant, station, type of station, and the number of SPEED CALLING blocks to be assigned to the Primary station.

TN: Tenant Number

STN: Station Number

MST/SLV: Primary/Secondary

    M: Primary Station

    S: Secondary Station

BLOCK: Number of Blocks

STN: When assigning Secondary Station, assign the Primary Station number.

STEP 6: **AKYD** - Type:Function:SPEED CALLING-STATION (GROUP) [26]

STEP 7: **ADSL** - Assign G_SPD key; Assign SN=1 (Originating; DT Connection) and FKY=26 (Speed Calling Station).

This command is used for assigning a function to each soft key.

STEP 8: **AISD** - This command is used to assign, delete, and display the destination number of Individual Speed Calling.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Two access codes must be assigned for this feature.

For the individual station speed calling number assignment, assign the tenant and Access Code (ACC). Assign for a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 14.

For individual station speed calling access, assign the tenant and Access Code (ACC). Assign for a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 21.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-23   Speed Calling - Group

General Description

This feature allows a user to share a set of common Speed Calling numbers with other users in the group.

Operating Procedure

To record:
1.   Lift handset or press SPEAKER key; receive dial tone.
2.   Dial the SPEED CALLING access code (one to three digits).
3.   Dial the abbreviated call code (one to three digits) and the called exchange network numbers; receive service set tone. **(Note)**

Note: *If one digit code is used, the format must be 00 to 99.*

To operate:
1.   Lift handset; receive dial tone.
2.   Dial the SPEED CALLING feature access code.
3.   Dial the abbreviated call code (one or two digits).
4.   Call is completed.

To operate from a D^term:
1.   Press the REDIAL key; receive dial tone. The LCD displays:

> **LNR [*] / SPEED [_ _]**
> **(Time Display)**

2.   Press the desired call code; the call is completed.

Service Conditions

1.   A maximum of 100 memory blocks per Module Group can be equipped for SPEED CALLING-GROUP. A maximum of ten Speed Calling numbers per memory block can be assigned. This allows for a total of 1,000 numbers per Module Group.
2.   A Primary station will be assigned memory blocks, and associate stations in that group are assigned as Secondary stations. The Primary station will have the capability to program 10 memory blocks commonly used as Speed Calling numbers for that group; therefore, a group can consist of 100 Speed Calling numbers maximum.
3.   **(Series 7400 software enhancement)** Each abbreviated call code can store a maximum of 24 digits, including access codes and pauses. When using software prior to Series 7400, a maximum of 18 digits can be stored, including access codes and pauses.
4.   A station can be assigned as a Primary station for only one group.
5.   There is no limit to the number of Secondary stations that may be assigned to one group.
6.   Secondary stations and their associated Primary station must belong to the same Module Group.
7.   A Secondary station can only be assigned to one Primary group.
8.   TOLL DENIAL/TOLL DIVERSION [T-6] and TOLL RESTRICTION-3/6-DIGIT [T-7] may or may not be applied to Speed Calling, as desired.
9.   LEAST-COST ROUTING-3/6-DIGIT [L-5] may be provided via Speed Calling access.

Service Conditions (cont'd)

10. SPEED CALLING-GROUP and SPEED CALLING-STATION [S-21] use the same block of memory tables.
11. SPEED CALLING-GROUP data remains, even if the system is re-initialized or there is a power failure.
12. A pause may be programmed using the "*" button of a PB pad. This will take one of the 24 digits available. Rotary type phones cannot store a pause. A pause lasts 2.8 seconds.
13. Stations can be added or removed from a group only via MAINTENANCE ADMINISTRATION TERMINALS (MAT) - [M-18].
14. When a caller places a call via Outgoing Call Alternative (OGCA), and when the first outgoing route and the station setting SPEED CALLING - GROUP are restricted, this service cannot be set. In this case, the service can be set via the following procedure:
    a.) Assign a dummy route.
    b.) Clear the restriction between the dummy route and all the stations.
    c.) Assign the dummy route as the first route of OGCA.

Interactions

1. Blocks are not assigned sequentially (1-100), but are assigned as a quantity of blocks in the AISA command. These quantities will never exceed the value of 10.
2. If one block is assigned, the Abbreviated Call Code will be digits 0-9. If two blocks are assigned, the Abbreviated Call Code will be digits 00-19. If three blocks are assigned, the Abbreviated Call Code will be digits 00-29, and so on, to a maximum of 10 blocks with Abbreviated Call Codes 00-99.
3. Only the Primary station will be allowed access to the SPEED CALLING-ASSIGN access code.
4. Only those stations assigned as Secondary stations are considered to be members of the SPEED CALLING-GROUP.
5. Stations of a SPEED CALLING-GROUP must be in the same Module Group (MG).
6. SPEED CALLING-GROUP requires the assignment of senders, route 905. See UNIVERSAL SENDER [U-3].
7. OUTGOING TRUNK QUEUING [O-2]: This feature may be used with SPEED CALLING GROUP if all trunks are busy.
8. ROUTE ADVANCE [R-6] and LEAST-COST ROUTING-3/6 DIGIT [L-5] may be used with this feature. The ASPA access code to either ROUTE ADVANCE [R-6] or LEAST-COST ROUTING-3/6 DIGIT [L-5] will be stored in the memory of the SPEED CALLING-GROUP number.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, Bit 3. Does TOLL RESTRICTION apply to SPEED CALLING-STATION? 0/1: Yes/No. (If yes, refer to TOLL RESTRICTION-3/6 DIGIT [T-10]).

STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND as "2". This should be in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Two access codes must be assigned for this feature. For INDIVIDUAL SPEED CALLING-ASSIGN, assign the tenant and Access Code (ACC). Assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 14. (Available only to the Primary station.)

For INDIVIDUAL SPEED CALLING-ACCESS, assign the tenant and Access Code (ACC). Assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID21.

Programming (cont'd)

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI 19 to the stations to receive SPEED CALLING-STATION.

STEP 5: **AISA** - Program the tenant, station, type of station, and the number of Speed Calling blocks to be assigned to the Primary station.

TN: Tenant Number

STN: Station Number

MST/SLV: Primary/Secondary

        M: Primary Station

        S: Secondary Station

BLOCK: Number of Blocks

STN: When assigning Secondary Station, assign the Primary Station number.

STEP 6: **AKYD** - Assign Type:Function:SPEED CALLING-STATION (GROUP) [26].

STEP 7: **ADSL** - Assign G_SPD key; Assign SN=1 (Originating; DT Connection) and FKY=26 (Speed Calling Station).

This command is used for assigning a function to each soft key.

STEP 8: **AISD** - This command is used to assign, delete, and display the destination number of Individual Speed Calling.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND as "2". This should be in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Two access codes must be assigned for this feature. For INDIVIDUAL SPEED CALLING-ASSIGN, assign the tenant and Access Code (ACC). Assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID 14. (Available only to the Primary station.)

For INDIVIDUAL SPEED CALLING-ACCESS, assign the tenant and Access Code (ACC). Assign a Connection Index of Normal (N). For SRV = SSC (Service Code), assign SID21.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-24D   Save And Repeat - D^term

General Description

This feature allows for a D^term set to save a specific dialed number and then redial that number later.

Operating Procedure

1. Go off-hook, seize any idle line, and dial a number.
2. When the number has been dialed, press the SAVE AND REPEAT (S&R) feature key. The dialed number is stored for future use. The associated LED lights. The LCD displays:

Example: Saved Local Number

S&R	9-NXX-XXXX
(Time Display)	

Note: *Dialed number displays only 16 digits (16DC, 24DS) when monitoring. However, 24 digits can actually be stored in memory.*

3. To access this number later, go off-hook, receive dial tone, and press the S&R key; the saved number is dialed.

Service Conditions

1. One number per station can be saved.
2. The save function may be set at any time after the number has been dialed and before going on-hook.
3. It is not necessary to erase a saved number in order to save another. The second number replaces the first.
4. A D^term user may save the number of an incoming call, if the call originates at a station in the system. A call from an outside trunk cannot be saved.
5. If necessary, dialing can be added after a repeat operation.
6. To monitor the saved digits, press the S&R key while idle. The saved digits will be displayed on the LCD.
7. If the LED associated with S&R goes out, the memory is erased. The S&R key must be pressed again, using the above procedure, to retain the original memory.
8. To memorize the telephone number of the calling station, assign SYS1, Index 641, b0=1 (Telephone Number is available) by the ASYDL command.
9. When activating this feature via FCCS using a D^term Series E, the following circuit cards are recommended:

Function Name	Circuit Card
16ELC	PA-16ELCJ
DAI	PA-DAIG, PA-DAIH, PA-DAIJ
2DAI	PA-2DAIK

Note: *If the above mentioned card is not used, the Caller ID Service is not provided and the telephone number and more than six digits of the calling station number cannot be saved.*

10. When activating this feature via FCCS, the calling number from an outside trunk can be saved, when the calling number information was received.

Interactions

AKYD is assigned after ASDT is assigned. Assign a LEN as TEC 12.

Programming

STEP 1:   **AKYD** - Assign the D^{term} according to the following parameters:

        TN: 1

        STN: Station Number

        TP: Type of D^{term} 0/1:

        RING:

                 0:    No Ringing

                 1:    Ringing All Lines

                 2:    Ringing on Prime Line Only

                 3:    Flexible Ring Assignment, enables RG parameter.

        KYN: Key Number (1-40)

        KYI: Service Index

                 0:    Key Not Used

                 1:    Feature Key

                 2:    Multi-line key

        KD: Not assigned for Feature Key

        FKY: Feature Key Number

        FKY: = 7, SAVE & REPEAT

STEP 2:   **ADSL** - Assign SN=0, 1, 2, 3, 4, 5, 6 and FKY=7 (Save and Repeat).

        This command is used for assigning a function to each soft key.

FCCS Programming

        No unique programming is required for the FCCS network.

S-25D   Service Display - D^{term}

General Description

This feature generates LCD displays corresponding to the various features as they are initiated.

Operating Procedure

Each display is automatically generated when a feature is initiated.

Service Conditions

1. Each display is controlled by System Data and is produced accordingly. The service display may be allowed or denied in System Data on a per-system basis.

2. The contrast on the LCD Display Panel is controlled by two buttons on the top front of the D^{term}. Press the right (UP) button for a darker image or the left (DOWN) button for a lighter image.

3. The LCD will display one of the features being used.

TRANSFER - CALL TRANSFER	[C-11]
PICKUP - CALL PICKUP	[C-7]
CF ALL - CALL FORWARDING - ALL CALLS	[C-5]
CF BUSY - CALL FORWARDING - BUSY LINE	[C-2]
CF NANS - CALL FORWARDING- DON'T ANSWER	[C-3]
HUNTING - STATION HUNTING	[S-7,8,9]
UCD UNIFORM CALL DISTRIBUTION	[U-1]

4. For a transferred call, the LCD displays:

	Transferring Station	Transferred Station
TRANSFER	**XXXX**	**XXXX**
	(Time Display)	

Note: *When the telephone number of the transferring/transferred station exceeds 8 digits, the last 8 digits are displayed. However, a maximum of a 16-digit transferred telephone number can be displayed on the middle line of the LCD, depending on system data.*

Programming

ASYD - System Data 1, Index 78, Bit 1. Is SERVICE DISPLAY in service? 0/1: No/Yes.

FCCS Programming

No unique programming is required for the FCCS network.

S-26D   Speed Calling - One Touch - D^{term}

General Description

This feature allows D^{term} users to dial telephone numbers by pressing a single key. Up to 12/24 numbers may be programmed by the D^{term} user.

Operating Procedure

To program:
1.   Press the FEATURE key.
2.   Press the SPEED CALLING-ONE TOUCH button.
3.   Dial the desired number.
4.   Press the FEATURE key again.
5.   Display will show SPEED SET.

Note: *The page-change function works as follows: If the Page button is not lit, Page 0 Speed Dial memory is being programmed. (This is the same memory that would be used if the Page feature were not being used.) To program Page 1, press the FEATURE, the SPEED CALLING-ONE TOUCH button, the desired number, and the FEATURE key again. Use of the Page feature allows twice the number of equipped speed buttons to be used.*

To verify:
1.   Press the FEATURE button and the desired SPEED CALLING - ONE TOUCH button: The first 16 characters will be displayed.

To use:
1.   Press the SPEED CALLING-ONE TOUCH button, the call will complete.

Service Conditions

1.   A maximum of 16 SPEED CALLING - ONE TOUCH keys can be programmed to any key number (KYN) in consecutive order, when using the appropriate firmware.

Note: *32 keys are available for the D^{term} with a PAGE key (FKY = 55).*

2.   A stored number may have up to 32 digits, including access codes and pauses.
3.   Only the first 16 digits are displayed on the LCD.
4.   SPEED CALLING-ONE TOUCH numbers may only be stored while the D^{term} is idle.
5.   Storing a SPEED CALLING-ONE TOUCH number erases the previously stored number.
6.   After dialing the new number, the user must press the SPEED CALLING-ONE TOUCH key before the LCD displays the time. If the LCD displays the time before the user presses the key, the number has not been stored. The LCD displays SPEED SET when the number has been stored.
7.   Pressing the RECALL key while programming a SPEED CALLING-ONE TOUCH number inserts a pause. A dash ("-") is displayed on the LCD.
8.   Pressing the RECALL key as the first digit of a SPEED CALLING-ONE TOUCH numbers inserts a flash entry. A "!" is displayed on the LCD.
9.   If a VOICE CALL-D^{term} (V-2D) feature is programmed, VOICE CALL initiation can be programmed onto a SPEED CALLING-ONE TOUCH key. The user dials the number and then presses the TRANSFER key when programming SPEED CALLING. The LCD will display "V" after the number. Pressing the SPEED CALLING-ONE TOUCH key initiates an automatic Voice Call to the programmed station.

Service Conditions (cont'd)

10. FLASH ENTRY and VOICE CALL features may be combined on a SPEED CALLING-ONE TOUCH key to activate an automatic voice-announce transfer. To program, press the SPEED CALLING-ONE TOUCH key, press the RECALL key, dial the number, press the TRANSFER key, then press the SPEED CALLING-ONE TOUCH key.

11. A PAGE CHANGEOVER key must be assigned to a programmable Line/Feature key to activate the second page of SPEED CALLING-ONE TOUCH numbers.

Interactions

1. The PAGE CHANGEOVER key is useful for changing the page of feature keys programmed as SPEED CALLING - ONE TOUCH (AKYD, FKY = 49) or the feature key programmed as Call Forwarding/Split Call Forwarding.

2. The Page Changeover function can be activated from any condition (idle, busy, conference, etc.).

3. When assigning SPEED CALLING-ONE TOUCH numbers to D^{term}, if a previous number was not assigned to a particular SPEED CALLING-ONE TOUCH button, the display will not change when that particular button is pressed for programming (it will appear that nothing has happened; the middle portion of the LCD display will continue to display the date and time). Once a number is entered, it will be displayed on the upper portion of the LCD display.

4. The same SPEED CALLING-ONE TOUCH buttons are used for Page 0 and Page 1 numbers. The PAGE CHANGE-OVER key determines which page is selected.

5. There is no deletion of SPEED CALLING-ONE TOUCH numbers. Previously assigned numbers can only be overwritten.

6. SPEED CALLING-ONE TOUCH may be used to store FORCED ACCOUNT CODES [F-7] and AUTHORIZATION CODES [A-20]. Other forms of Speed Calling may not be used for FORCED ACCOUNT CODES [F-7] and AUTHORIZATION CODES [A-20].

7. When SPEED CALLING-ONE TOUCH is used on a programmable Line/Feature key, only eight digits may be stored.

8. When using a D^{term} Series E, SPEED CALLING - ONE TOUCH can be programmed to any keys in consecutive order. A maximum of 16 one touch keys per LEN are allowable.

9. No more than three pauses can be entered in a row.

Programming

No programming is required for the 12 existing SPEED CALLING-ONE TOUCH keys for the D^{term}.

In order to activate the second page of SPEED CALLING-ONE TOUCH numbers, the following must be programmed:

AKYD - Assign a PAGE CHANGEOVER key to a programmable Line/Feature key on the D^{term}. Assign Type:Function:PAGE [55].

If a SPEED CALLING-ONE TOUCH button is to be used on a programmable Line/Feature key, complete the following:

Assign Type:Function:SPEED CALL-ONE TOUCH [49].

FCCS Programming

No unique programming is required for the FCCS network.

S-27   Service Feature Peg Count

General Description

This feature provides a statistical usage report on various features, generated at the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18]. This report will provide the Communications Manager with detailed users' habits and planning data for the communications system.

Operating Procedure

Refer to NEAX2400 IMX System Operations and Maintenance Manual.

Service Conditions

The number of attempts to invoke the following features will be reported through the MAT:

1. CALL HOLD [C-6] count: Number of times CALL HOLD code is dialed by stations for which the feature is allowed.
2. CALL BACK [C-1] count: Number of times CALL BACK set code is dialed by stations for which the feature is allowed.
3. CALL BACK [C-1] cancel count: Number of times CALL BACK is cancelled by stations that have set the feature.
4. EXECUTIVE RIGHT-OF-WAY [E-1] count: Number of times the EXECUTIVE RIGHT-OF-WAY code is dialed by stations for which the feature is allowed.
5. CALL WAITING-ORIGINATING [C-31] count: Number of times the access code for CALL WAITING-ORIGINATING is dialed by stations for which the service is allowed.
6. CALL WAITING-TERMINATING [C-12] count: Number of times CALL WAITING-TERMINATING is set to stations for which the feature is allowed.
7. CALL PICKUP-GROUP [C-7] count: Number of times the CALL PICKUP-GROUP code is dialed by stations for which the feature is allowed.
8. CALL PICKUP-DIRECT [C-30] count: Number of times the CALL PICKUP-DIRECT code is dialed by stations for which the feature is allowed.
9. CALL FORWARDING-ALL CALLS [C-5] entry count: Number of times a destination number is entered for CALL FORWARDING-ALL CALLS by stations for which the feature is allowed.
10. CALL FORWARDING-ALL CALLS [C-5] cancel count: Number of times the CALL FORWARDING-ALL CALLS cancel code is dialed by stations for which the feature is allowed.
11. CALL FORWARDING-BUSY LINE [C-2] entry count: Number of times a destination number is entered for CALL FORWARDING-BUSY LINE by stations for which the feature is allowed.
12. CALL FORWARDING-BUSY LINE [C-2] cancel count: Number of times the CALL FORWARDING-BUSY LINE cancel code is dialed by stations for which the feature is allowed.
13. CALL FORWARDING-DON'T ANSWER [C-3] entry count: Number of times a destination number is entered for CALL FORWARDING-DON'T ANSWER by stations for which the feature is allowed.
14. CALL FORWARDING-DON'T ANSWER [C-3] cancel count: Number of times the CALL FORWARDING-DON'T ANSWER cancel code is dialed by stations for which the feature is allowed.
15. SPEED CALLING ACCESS-SYSTEM [S-3] count: Number of times a fixed abbreviated number is dialed by stations for which the feature is allowed.
16. SPEED CALLING ACCESS-STATION [S-21] count: Number of times a variable abbreviated number is dialed by the stations for which the feature is allowed.

Service Conditions (cont'd)

17. SPEED CALLING ACCESS-GROUP [S-23] count: Number of times a variable abbreviated number is registered by stations for which the feature is allowed.

18. TRUNK ANSWER FROM ANY STATION (TAS) [T-8] count: Number of times the TAS Answer code is dialed by stations for which the feature is allowed.

19. OFF-HOOK QUEUING [O-7] count: Number of times an extension accesses an outgoing trunk via OFF-HOOK QUEUING after initially encountering a condition where all outgoing trunks are busy. The extension must actually access a trunk in order for the count to be incremented.

20. ON-HOOK OUTGOING QUEUING-ENTRY [O-2] count: Number of times an extension accesses the ON-HOOK OUTGOING QUEUING feature by dialing access or going on-hook (if automatic queuing is provided) after initially encountering a condition where all outgoing trunks are busy. The count will be incremented each time the feature is accessed, even if the queuing request is cancelled before a trunk is accessed.

21. ON-HOOK OUTGOING QUEUING [O-2] cancel count: Number of times ON-HOOK QUEUING is cancelled by dialing the cancel code.

22. CONSULTATION HOLD-ALL CALLS [C-17] count: Number of times CONSULTATION HOLD is executed.

23. CALL TRANSFER-ALL CALLS [C-11] count: Number of times a call is transferred to another extension before the called party answers, without Attendant involvement. A call originated internally or from the outside will be registered in the count.

24. THREE-WAY CALLING [T-2] count: Number of times THREE-WAY CALLING occurs without Attendant assistance.

25. The maximum Tenant Number Counting SERVICE FEATURE PEG COUNT is 63 tenants.

Note: *Additional hardware is required.*

Programming

STEP 1: **ASYD** - System Data 1, Index 47, Bit 7. Are traffic measurements required? 0/1: No/Yes.

Refer to the following commands to order PEG COUNTS:

STEP 2: **ATRF** - Assignment of Traffic Measurement Order (CM03)

TYPE: Type of Traffic Measurement

PORT: Port number where Traffic Data is to be output.

INTERVAL: Output Interval must be assigned in units of 10 minutes (range of between 30-120 minutes), or data "0" must be assigned, which is the instruction for assigning output time.

FROM-TO-: Measurement is to be designated.

TIME: Output Time

TYPE:

    1: Terminal Traffic Measurement

    2: Route Traffic Measurement

    3: Station Peg Count

    4: Attendant Console Peg Count

    5: Route Peg Count

    6: Service Peg Count

    8: UCD Route Peg Count

    9: UCD Group Peg Count

Programming (cont'd)

                        10: UCD Station Peg Count
                        11: CCIS Traffic Count
STEP 3:   TYPEs not listed, are not used.
            Display of Traffic Data 1 (DTF1)
            TYPE: Type of Traffic Measurement
                        1:   Terminal Traffic
                        2:   Route Traffic
                        3:   Station Peg Count
                        4:   ATT Peg Count
                        5:   Route Peg Count
            Display of Traffic Data 2 (DTF2)
            TYPE: Type of Traffic Measurement
                        6:   Service Peg Count
                        7:   Terminal Peg Count
            Display of Traffic Data 3 (DTF3)
            TYPE: Type of Traffic Measurement
                        8:   UCD Route Peg Count
                        9:   UCD Group Peg Count
                        10: UCD Station Peg Count
            Display of Traffic Data 4 (DTF4)
                        11: CCIS Traffic Count

S-33 Software Line Appearance

General Description

This feature permits ports that do not physically exist to be used as sub-lines on D^{term} stations. Ports normally reserved on a D^{term} for data stations only, can be assigned as a SOFTWARE LINE APPEARANCE. Additionally, 64 software ports have been added to a Port Interface Module. The 64 software-assigned ports can be assigned as virtual line appearances on D^{term} stations. The use of the data ports and the 64 software-assigned ports conserve valuable hardware for stations and trunks.

Operating Procedure

Call Origination via a SOFTWARE LINE APPEARANCE on a D^{term}:
1. Press the Software Line Appearance key, then either press the SPEAKER key or lift the handset.
2. Upon hearing dial tone, dial the desired number.

Calling a SOFTWARE LINE APPEARANCE from a station/trunk/Attendant Console:
1. The calling party dials the telephone number of the SOFTWARE LINE APPEARANCE.
2. Any D^{term} accommodating the SOFTWARE LINE APPEARANCE will receive ringing and have an incoming lamp display. The D^{term} user presses the LINE key and goes off-hook to answer the incoming call.

Service Conditions

1. When using a SOFTWARE LINE APPEARANCE assigned to a data port (TEC:12), call origination from that line appearance can be made if the card is mounted in that slot.
2. A mix of data ports and sub-lines can be assigned on a D^{term} package.
3. All sub-lines of D^{term}s must be located in the same Local Processor as the MY-Line of that D^{term}.
4. A SOFTWARE LINE APPEARANCE cannot be assigned as a Hotline Station, but can be assigned as a BROKERAGE HOTLINE [B-12] station.
5. A SOFTWARE LINE APPEARANCE cannot activate:

CALL BACK	[C-1]
OUTGOING TRUNK QUEUING	[O-2]
NAILED-DOWN CONNECTION	[N-9]

6. When activating CALL PICKUP-GROUP [C-7], the sub-line will pick up calls assigned to the CALL PICKUP-GROUP of the MY-Line of the D^{term} on which the sub-line appears.
7. When accessing or entering SPEED CALLING [S-2] group/station data, a SOFTWARE LINE APPEARANCE will enter or access the SPEED CALLING [S-2] group/station data of the MY-Line of the D^{term} on which the sub-line appears.
8. The STATION MESSAGE DETAIL RECORDING (SMDR) [S-10] of the SOFTWARE LINE APPEARANCE call activity will be recorded as the MY-Line call activity.
9. The SOFTWARE LINE APPEARANCE cannot be the called station of the following features:

VOICE CALL	[V-2D]
MESSAGE REMINDER	[M-22D]
BOSS-SECRETARY OVERRIDE	[B-5]

10. Station PEG COUNT [P-7] data will be recorded for SOFTWARE LINE APPEARANCEs as a MY-Line of the D^{term}.
11. If the DO NOT DISTURB - D^{term} [D-11D] key is activated by the SOFTWARE LINE APPEARANCE, ringing will not be sent to the port of the MY-Line of the D^{term}.

Programming

STEP 1: **ASDT** - Assign the station as a TEC = 18 for a Virtual Circuit. The Line Equipment Number (LEN) of a SOFTWARE LINE APPEARANCE will exist in Groups 24-31.

STEP 2: **AKYD** - This command assigns for D^{term}s the SOFTWARE LINE APPEARANCE to a programmable Line/Feature key.

  TN: 1

  STN: Station Number

  TP: Type of D^{term} 0/1:

  RING: Assign ringing to the entire phone.

     0: No Ringing

     1: Ringing All Lines

     2: Ringing on Prime Line Only

     3: Flexible Ring Assignment, enables RG parameter.

  PL TN STN: Prime Line Tenant and Station Number

  KYN: Key Number (1-40)

  KYI: Service Index

     0: Key Not Used

     1: Feature Key

     2: Multi-line Key

  KD: Not assigned for Feature Key

  TN STN: Tenant Number and Station Number of SOFTWARE LINE APPEARANCE.

  RG: Ringing Assignment per multi-line appearance

     0: No Ringing.

     1: Ringing in Day Mode Only.

     2: Ringing in Night Mode Only.

     3: Ringing Day and Night.

S-61　　Speed Calling Override - System

General Description

This feature allows numbers programmed for SPEED CALLING to be available to stations on a system-wide basis, determined by Service Feature Class (SFC). For example, SPEED CALLING-SYSTEM [S-3] numbers, available to stations that are not restricted, can be made available to stations that are restricted.

Operating Procedure

To operate:
1. Lift the handset (includes SPEAKER key operation on D^{term}). Listen for dial tone.
2. Dial the SPEED CALLING-SYSTEM [S-3] access code (maximum three digits).
3. Dial the abbreviated code (maximum four digits).
4. If the station is allowed this call, the call is completed; if not, the station will hear a reorder tone.

To operate from a D^{term}:
1. Press the REDIAL key; receive dial tone. The LCD displays:

```
LNR [*] / SPD [_ _]
            (Time Display)
```

2. Press the desired call code.
3. If the station is allowed this call, the call is completed; if not, the station will hear a reorder tone.

Service Conditions

1. This feature cannot be used on an outgoing call which uses OUTGOING TRUNK QUEUING [O-2].
2. This service can be used in combination with CONSECUTIVE SPEED CALLING - SYSTEM [C-62].
3. This feature cannot be used in MFC signaling.
4. This feature cannot be used if the calling station is holding another line.
5. This Attendant Console cannot use this feature.
6. SPEED CALLING-SYSTEM [S-3] must first be provided.

Interactions

1. SPEED CALLING-SYSTEM [S-3] must first be provided.
2. FORCED ACCOUNT CODES [F-7] and AUTHORIZATION CODES [A-20] cannot be programmed for use via SPEED CALLING-SYSTEM [S-3].
3. Pauses are programmable from the MAT, using the "P" key. Pauses consume one digit of the 24 digits available. A pause lasts for 2.8 seconds.
4. TOLL DIVERSION/TOLL DENIAL [T-6] and TOLL RESTRICTION 3/6 DIGIT [T-7] will not interact with this feature if a station is allowed access to an ADC via Service Feature Class.
5. AUTHORIZATION CODES [A-20] are never required to complete a call.

Programming

STEP 1:　**ASYD** - System Data 2, Index 1, Bit 6. Is SPEED CALLING OVERRIDE-SYSTEM to be enabled? 0/1: No/Yes. System Data 2, Index 1, Bit 7. Toll Restriction for SPEED CALLING-SYSTEM [S-3]. Assign data "0".

Programming (cont'd)

STEP 2:   **ANPD** - Reserve a number level for feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assigning an access code to SPEED CALLING-SYSTEM [S-3], assign SRV = SSC (Service Code), SID = 15. Program for Normal (N). NND = Access code plus Abbreviated Digit Code (ADC). See ASPD.

Example: 6 + 010

1 digit + 3digits = NND = 4

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI 12 to stations that will have SPEED CALLING-SYSTEM [S-3].

STEP 5:   **ASPD** - Assign the Tenant Number, the ADC, and the CD-Telephone Number to be sent. Include the access code of the route in the CD.

STEP 6:   **AABD** - Assign the Tenant (TN); and the Abbreviated Speed Calling Code, ADC; as assigned in the ASPD command. Assign the Service Feature Class (SFC) and Restriction Data (RES).

RES 0: Connection is restricted.

RES 1: Connection is allowed.

STEP 7:   **AKYD** - Assign SPEED CALLING-SYSTEM [S-3] to a programmable Line/Feature key. Assign Type:Function:SPEED CALLING-SYSTEM [15].

STEP 8:   **ADSL** - Assign S_SPD key; Assign SN=1 (Originating; DT Connection) and FKY=15 (Speed Calling - System).

This command is used for assigning a function to each soft key.

FCCS Programming

No unique programming is required for the FCCS network.

S-62 Station 5db PAD

General Description

This feature allows a single-line user to be affected by the 5db loss through the system on station-to-station calls.

Operating Procedure

No manual operation is required for this software control feature.

Service Conditions

1. STATION 5db PAD [S-62] is inserted only for intra-office, two-way, station-to-station connections.
2. STATION 5db PAD is inserted into the called party of the station.
3. STATION 5db PAD (both stations) is not inserted by the Class of Service feature class and/or telephone class when a station is talking to an Off-Premises Station (OPX).

Programming

ASYD - System Data 1, Index 4, bit 5, 5db PAD on single line stations? 0/1: Yes/No

FCCS Programming

No unique programming is required for the FCCS network.

S-64   Serial Call - Loop Release

General Description

This feature allows an ATTENDANT CONSOLE loop key to become available after setting SERIAL CALL [S-15].

Operating Procedure

1. The Attendant answers an incoming Central Office call.
2. The Attendant extends the call to the desired station, and the desired station answers.
3. The Attendant presses the SC key. The loop is now available for another call.
4. The called station and the incoming call are connected.
5. The called station hangs up. The SC/RC lamp on the ATTENDANT CONSOLE flashes, indicating INCOMING CALL IDENTIFICATION. If the Attendant position is available, an audible indication will be provided.
6. The Attendant presses the SC/RC key or ANSWER key to return to the incoming calling party.

Service Conditions

1. This feature is available only for incoming Central Office trunk calls.
2. The Attendant can set SC/RC by pressing the SC key after answering the station.
3. The station can switch hook flash after setting SERIAL CALL-LOOP RELEASE.
4. It is not permitted to cancel SERIAL CALL-LOOP RELEASE before recall.
5. The Attendant loop will be maintained until the station is answered, even if the SC key is pressed. In this case, the following features are not available:

    CALL PICK-UP   [C-7, 30]
    CALL FORWARDING-DON'T ANSWER   [C-3]
6. SERIAL CALL [S-15] recalling indication continues, even if the system status is changed from Day Mode to Night Mode.
7. When this service is available, the ATTENDANT CONSOLE [A-3] cannot have a CCSA key.
8. When CALL WAITING-TERMINATING, CALL WAITING-ORIGINATING, ATTENDANT CAMP-ON WITH TONE INDICATION or ATTENDANT CAMP-ON - CCIS is set to the station already engaged in SERIAL CALL, the following conditions occur:
    a.) If the station answers the overriding call, the previous party engaged in SC is placed on hold. If the station releases and does not return to the held call, the Attendant is recalled.
    b.) If the station does not answer the overriding call, Call Waiting or Attendant Camp-On is activated.
9. When using the CCSA key on the DESK CONSOLE, an additional module is required.

Programming

> **ASYD** - System Data 1, Index 186, Bit 4 SERIAL CALL-LOOP RELEASE 0/1: Out (CCSA key) /In Service (No CCSA key)
> System Data 2, Index 2, Bit 5. Serial Call service for ATT: 0/1: Out/In service.
> System Data 2, Index 7, Bit 2. SERIAL CALL-LOOP RELEASE. 0/1: Out/In service.
> See SERIAL CALL [S-15].

FCCS Programming

No unique programming is required for the FCCS network.

S-99   Split Call Forwarding

General Description

This feature allows a station to set two different target stations for CALL FORWARDING-ALL CALLS (FORWARD)/BUSY LINE (FORWARD-BY)/DON'T ANSWER (FORWARD-DA), depending on whether the incoming call is from an internal station or an outside party (C.O. TIE, DID, etc.).

Operating Procedure

1. Station A sets or is set for CALL FORWARDING-ALL CALLS/BUSY LINE/DON'T ANSWER. Station B is set as the transfer destination for an incoming call from a station. Station C is set as the transfer destination for an incoming call from an outside party.
2. An incoming call from a station terminates to Station A. The call is transferred to Station B. **(Note 1)**
3. An incoming call from an outside party terminates to Station A. **(Note 2)**
4. The call is transferred to Station C. **(Note 1)**

Note 1: *For the transfer procedure, refer to the Operation Procedure of CALL FORWARDING-ALL CALLS [C-5], CALL FORWARDING-BUSY LINE [C-2], or CALL FORWARDING-DON'T ANSWER [C-3].*

Note 2: *The call may be transferred to Station B (transfer destination for an incoming call from a station), depending on the route class data [ARTD, CDN 68:SCF] of the trunk involved.*

To set SPLIT CALL FORWARDING using an access code:
To set Call Forwarding from an individual station (Single-line Telephone):
1. Setting Call Forwarding for an incoming call from a station:
   - a.) Lift the handset; receive dial tone.
   - b.) Dial the access code for FORWARD, FORWARD-BY, or FORWARD-DA for an incoming call from a station; receive special dial tone.
   - c.) Dial the number of the desired target station; receive service set tone.
   - d.) Replace the handset.
2. Setting Call Forwarding for an incoming call from an outside party:
   - a.) Lift the handset; receive dial tone.
   - b.) Dial the access code for FORWARD, FORWARD-BY, or FORWARD-DA for an incoming call from an outside party; receive special dial tone.
   - c.) Dial the number of the desired target station; receive service set tone.
   - d.) Replace the handset.

To cancel Call Forwarding from an individual station (Single-line Telephone):
1. Cancelling Call Forwarding for an incoming call from a station:
   - a.) Lift the handset; receive dial tone.
   - b.) Dial the cancel code for FORWARD, FORWARD-BY, or FORWARD-DA for an incoming call from a station; receive special set dial tone.
   - c.) Replace the handset.
2. Cancelling Call Forwarding for an incoming call from an outside party:
   - a.) Lift the handset; receive dial tone.
   - b.) Dial the cancel code for FORWARD, FORWARD-BY, or FORWARD-DA for an incoming call from an outside party; receive special set tone.
   - c.) Replace the handset.

Operating Procedure (cont'd)

To set SPLIT CALL FORWARDING using D^term feature key:
To set Call Forwarding from an individual station (D^term):

1. Setting Call Forwarding for an incoming call from a station:

    a.) Confirm that the PAGE* (One-touch changeover) lamp is on; if the lamp is off, turn the lamp on by pressing the PAGE key.

    b.) Lift the handset or press the SPEAKER key; receive dial tone.

    c.) Press the FORWARD, FORWARD-BY, or FORWARD-DA key; receive special dial tone.

    d.) Dial the number of the desired target station; receive service set tone. The following is displayed on the LCD, when the destination is a station:

    ```
    FORWARD SET        XXXXX

             (Time Display)


    ```

    When the destination is an ATTENDANT CONSOLE, the D^term displays:

    ```
    FWD SET OPR

             (Time Display)


    ```

    When the destination is an outside trunk, The D^term displays:

    ```
    FORWARD SET
             (Time Display)


    ```

    The FORWARD, FORWARD-BY, or FORWARD-DA lamp turns on.

    e.) Replace the handset or press the SPEAKER key. *PAGE feature key is a paging button for SPEED DIALING - One-Touch - D^term [S-26D], (FKY = 55).

2. To set Call Forwarding for an incoming call from an outside party:

    a.) Confirm that the PAGE (One-Touch Changeover) lamp is off; if the lamp is on, turn the lamp off by pressing the PAGE key.

    b.) Lift the handset or press the SPEAKER key; receive dial tone.

    c.) Press the FORWARD, FORWARD-BY, or FORWARD-DA key; receive special dial tone.

    d.) Dial the number of the desired target station; receive service set tone. The following is displayed on the LCD when the destination is a station:

    ```
    FORWARD SET        XXXXX
                  (Time Display)


    ```

    When the destination is an Attendant Console, the LCD displays:

    ```
    FWD SET OPR
                  (Time Display)


    ```

Operating Procedure (cont'd)

When the destination is an outside trunk, the D^{term} displays:

```
┌─────────────────────────────────────┐
│  FORWARD SET       XXXXX            │
│                (Time Display)       │
│                                     │
│                                     │
└─────────────────────────────────────┘
```

To cancel Call Forwarding from an individual station (D^{term}):
  1.   Cancelling Call Forwarding for an incoming call from a station:
       a.) Confirm that the PAGE (One-Touch Changeover) lamp is on; if the lamp is off, turn the lamp on by pressing the PAGE key.
       b.) Lift the handset or press the SPEAKER key; receive service set tone.
       c.) Press the FORWARD, FORWARD-BY, or FORWARD-DA key; receive service set tone. The LCD displays:

```
┌─────────────────────────────────────┐
│  FORWARD CANCEL                     │
│                (Time Display)       │
│                                     │
│                                     │
└─────────────────────────────────────┘
```

The FORWARD, FORWARD-BY, or FORWARD-DA lamp turns off.
       d.) Replace the handset or press the SPEAKER key.
  2.   Cancelling Call forwarding for an incoming call from an outside party:
       a.) Confirm that the PAGE lamp is off; if the lamp is on, turn the lamp off by pressing the PAGE key.
       b.) Lift the handset or press the SPEAKER key; receive dial tone.
       c.) Press the FORWARD, FORWARD-BY, or FORWARD-DA key; receive service set tone. The LCD displays:

```
┌─────────────────────────────────────┐
│  FORWARD CANCEL                     │
│                (Time Display)       │
│                                     │
│                                     │
└─────────────────────────────────────┘
```

Also, the FORWARD, FORWARD-BY, or FORWARD-DA lamp turns off.
       d.) Replace the handset or press the SPEAKER key.

To monitor the assigned data using the D^{term} feature key:
  1.   To monitor the assigned data for calls from incoming trunks (outside):
       a.) Confirm that the LED of the PAGE feature key on the D^{term} is not illuminated. (If it is illuminated, press PAGE key to turn it off.)
       b.) While the D^{term} is in the idle state (on-hook), press the CALL FORWARDING - ALL CALLS/ BUSY LINE or DON'T ANSWER feature key.
            When the destination is a station, the D^{term} displays:

```
┌─────────────────────────────────────┐
│  FORWARD          XXXXX             │
│                (Time Display)       │
│                                     │
│                                     │
└─────────────────────────────────────┘
```

Operating Procedure (cont'd)

When the destination is an ATTENDANT CONSOLE, the D^{term} displays:

```
FWD SET OPR
              (Time Display)
```

When the destination is an outside trunk, the D^{term} displays:

```
FORWARD        XXXXX
              (Time Display)
```

2. To monitor the assigned data for station-to-station calls:
   a.) Confirm that the PAGE key LED on the D^{term} is illuminated. (If it is not illuminated, press the PAGE key to turn it on.)
   b.) While the D^{term} is in the idle state (on-hook), press the CALL FORWARDING - ALL CALLS/ BUSY LINE or DON'T ANSWER feature key.
      When the destination is a station, the D^{term} displays:

```
FORWARD        XXXXX
              (Time Display)
```

When the destination is an ATTENDANT CONSOLE, the D^{term} displays:

```
FWD SET OPR
              (Time Display)
```

To set Call Forwarding from the Attendant Console:
1. Setting Call Forwarding for an incoming call from a station:
   a.) Press an idle Loop key and dial the FORWARD, FORWARD-BY, or FORWARD-DA access code for an incoming call from a station; receive special dial tone.
   b.) Dial the Tenant Number (2 digits) of the originating station, the originating telephone number, and the desired target telephone number, receive service set tone.
   c.) Press the RELEASE key.
2. Setting Call Forwarding for an incoming call from an outside party:
   a.) Press an idle Loop key and dial the FORWARD, FORWARD-BY, or FORWARD-DA access code for an incoming call from an outside party; receive special dial tone.
   b.) Dial the Tenant Number (2 digits) of the originating station, the originating telephone number, and the desired target telephone number; receive service set tone.
   c.) Press the RELEASE key.

To cancel Call Forwarding from the Attendant Console:
1. Cancelling Call Forwarding for an incoming call from a station:
   a.) Press an idle loop key and dial the cancel code for FORWARD, FORWARD-BY, or FORWARD-DA for an incoming call from a station; receive special dial tone.

Operating Procedure (cont'd)

        b.) Dial the Tenant Number (2 digits) of the originating station and the originating telephone number.

        c.) Press the RELEASE key; receive service set tone.

2.   Cancelling Call Forwarding for an incoming call from an outside party:

        a.) Press an idle loop key and dial the FORWARD, FORWARD-BY, or FORWARD-DA access code for an incoming call from an outside party; receive special dial tone.

        b.) Dial the Tenant Number (2 digits) of the originating station and the originating telephone number; receive service set tone.

        c.) Press the RELEASE key.

Service Conditions

1.   The same station can be set as the transfer target station for an incoming call from an outside party and/or from a station.

2.   For an incoming call from a trunk, whether Call Forwarding destination for an incoming call from a station or for an incoming call from an outside party is to be used can be designated on each incoming route basis. (According to ARTD command, CDN 68:SCF, data.)

3.   When an incoming call from a trunk is handled via the Attendant/station, the destination of Call Forwarding is selected according to the route data of the incoming trunk (as assigned by ARTD command, CDN 68:SCF).

4.   This service is invalid on Call Forwarding by the system. (Call Forwarding by the ACFO command.)

5.   Multiple Call Forwarding is available for those stations where SPLIT CALL FORWARDING has been set.

6.   This service can be set from the Attendant Console.

Ex. In a case where station A has set Station B as the transfer target station for an incoming call from a station, and has set Station C as the transfer target station from an incoming call from an outside party.
- When a call from a station terminates to Station A, the call is transferred to Station B.
- When a call from TRK A terminates to Station A, the call is transferred to Station C.
- When a call from TRK B terminates to Station A, the call is transferred to Station B.

7.   Indication of SPLIT CALL FORWARDING (ALL CALLS/BUSY LINE/DON'T ANSWER) feature can be accomplished only if the Service Feature Restriction Class and access codes are assigned properly.

8.   This feature is available for stations where CALL FORWARDING services are available by CLASS OF SERVICE.

9.   Multiple Call Forwarding is available for those stations where SPLIT CALL FORWARDING has been set.

10.   In the UCD procedure, if SPLIT CALL FORWARDING - ALL CALLS (either for station-to-station or incoming trunk) is set on a station in the group, that station is skipped.

Service Conditions (cont'd)

11. If SPLIT CALL FORWARDING is set on a station in the hunting group (STATION HUNTING -
    CIRCULAR [C-7], - TERMINAL [S-9], that station is skipped in hunting. However, if the station has set
    SPLIT CALL FORWARDING for station-to-station calls only, the station is hunted for incoming calls
    from outside. If the station has set SPLIT CALL FORWARDING for outside calls only, the station is
    hunted for station calls.

12. This service cannot be activated concurrently with CALL FORWARDING - I'M HERE [C-81].

13. A user (via a station or an attendant console) can assign a maximum of 24-digit forwarding station number
    including the trunk access code.

14. A D^{term} can display only the first 8 digits of forwarding number on the LCD, even though 24-digit number
    is assigned.

Programming

STEP 1: **ASYD** - System 1, Index 79, Bit 2. (1), Split Call Forwarding Service In Service.

STEP 2: **ANPD** - Assign the minimum necessary number of digits for the first number of the access code for
    Split Call Forwarding.

STEP 3: **ASPA** - Assign the access code for Split Call Forwarding-All Calls.

CI = N, SRV=SSC (Service Code), SID=8: Call Forwarding-All Calls (for C.O./TIE): Entry.

CI = N, SRV=SSC (Service Code), SID=9: Call Forwarding-All Calls (for C.O./TIE): Cancel.

CI = N, SRV=SSC (Service Code), SID=10: Call Forwarding-Busy Line (for C.O./TIE): Entry.

CI = N, SRV=SSC (Service Code), SID=11: Call Forwarding-Busy Line (for C.O./TIE): Cancel.

CI = N, SRV=SSC (Service Code), SID=12: Call Forwarding-Don't Answer (for C.O./TIE): Entry.

C I= N, SRV=SSC (Service Code), SID=13: Call Forwarding-Don't Answer (for C.O./TIE): Cancel.

CI = N, SRV=SSCA (Service Code Appendix), SIDA=86: Call Forwarding-All Calls (for Station):
Entry.

CI = N, SRV=SSCA (Service Code Appendix), SIDA=87: Call Forwarding-Busy Line (for Station):
Entry.

CI = N, SRV=SSCA (Service Code Appendix), SIDA=88: Call Forwarding-Don't Answer (for
Station): Entry.

CI = N, SRV=SSCA (Service Code Appendix), SIDA=89: Call Forwarding-All Calls (for Station):
Cancel.

CI = N, SRV=SSCA (Service Code Appendix), SIDA=90: Call Forwarding-Busy Line (for Station):
Cancel.

CI = N, SRV=SSCA (Service Code Appendix), SIDA=91: Call Forwarding-Don't Answer (for
Station): Cancel.

STEP 4: **AKYD** - Assign the following data to the feature keys of the D^{term} when this service is provided from
    a D^{term}:

Type:Function:CALL FORWARDING-BUSY LINE [1]

Type:Function:CALL FORWARDING-ALL CALLS [2]

Type:Function:CALL FORWARD-DON'T ANSWER [22]

Type:Function:PAGE [55]

STEP 5: **ADSL** - Assign the following soft keys:

SN=1, FKY=1: Call Forwarding - Busy Line (FDB)

SN=1, FKY=2: Call Forwarding - All Calls (FDA)

SN=1, FKY=22: Call Forwarding - Don't Answer (FDN)

Programming (cont'd)

SN=1, FKY=55: Call Forwarding - One - Touch Changeover (PAGE)

This command is used for assigning a function to each soft key.

STEP 6: **ASFC** - Allows Call Forwarding-All Calls (SFI = 7), Call Forwarding-Busy Line (SFI = 9), or Call Forwarding-Don't Answer (SFI = 8) to the SFC of the Station.

STEP 7: **ARTD** - Assign route data to the route of the trunks which validates C.F.-All Calls, C.F.-Busy Line or C.F.-Don't Answer for an incoming call from an outside party. CDN 68:SCF = 1)

STEP 8: **ACFS** - This feature can be set by this command.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARTDN** - Assign route data to the route of the trunks which validates Call Forwarding - All Calls, Call Forwarding - Busy Line or Call Forwarding - Don't Answer for an incoming call from an outside party. CDN 68:SCF = 1)

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-106   Slumber Time - Do Not Disturb

General Description

This service allows a slumber time for up to four times per day on a Station group basis. During the slumber time, all stations in the group concerned are placed into Do Not Disturb mode, and incoming calls (Station/DID/DIT) will be routed to the Attendant or an announcement machine.

Operating Procedure

No manual operation is required.

Service Conditions

1.   The stations for which this feature is set are determined by the telephone number of the group preassigned by the MAINTENANCE ADMINISTRATION TERMINAL (MAT) and Slumber Time data, not by the Service Restriction Class.

2.   This feature cannot be set for data terminals.

3.   This feature cannot be set for Night stations. (NIGHT CONNECTION [N-1] [N-2] take precedence over SLUMBER TIME - DO NOT DISTURB.)

4.   There can be up to seven Slumber Time Groups per system. There is no limitation to the number of stations that can be assigned to one group.

5.   A maximum of four Slumber Time assignments can be made for one Slumber Time Group. When setting more than one assignment, assure that the Times do not overlap each other. Also, a transfer destination can be assigned on each Slumber Time Data basis.

6.   A station cannot be assigned to more than one Slumber Time Group.

7.   A Night Transfer Station cannot be assigned to a Slumber Time Group.

8.   During Slumber Time, incoming calls (station/DID/DIT) are routed to an Attendant Console or announcement machine. When an Attendant Console is designated as the transfer destination, the transfer call is terminated to the ICPT key on the Attendant Console. When an announcement machine is designated as the transfer destination but is not assigned in data by AAED command, the caller receives a busy tone (BT).

9.   An announcement machine with one channel can be connected to each station group. When connecting several station groups to an announcement machine, all groups must be assigned to the same single route and trunk.

10. A station in Slumber Time mode can place an outgoing call.

11. Call transfer to a station in Slumber time mode after holding the call by CONSULTATION HOLD [C-17] is possible only when an Attendant Console is designated as the transfer destination. (The call is transferred to the Attendant Console.) If the announcement machine is designated as the transfer destination, the transfer call is routed to reorder tone (ROT) connection.

12. The caller is not always connected to the announcement from its beginning.

13. Call origination is available during Slumber Time.

14. Station group or time is changed, assigned, or cancelled by MAT command.

15. There is no external indication showing Slumber Time set.

16. Any of the following services take precedence over the Slumber Time service:

        CALL FORWARDING-ALL CALLS   [C-5]
        CALL FORWARDING-BUSY LINE   [C-2]

Service Conditions (cont'd)

           STATION HUNTING   [S-7, 9]

           UNIFORM CALL DISTRIBUTION   [U-1]

17. CALL BACK [C-1] and CALL WAITING-ORIGINATING [C-31] can be set from a Slumber Time station.

18. Each of the following services is restricted to a Slumber Time station:

           CALL WAITING-ORIGINATING   [C-31]

           CALL BACK   [C-1]

           EXECUTIVE RIGHT-OF-WAY   [E-1]

19. Each of the following terminals can access to a Slumber Time station during a Slumber Time. (Slumber Time Override Service):

- Attendant Console
- Station having the SFC that allows Slumber Time Override (ASFC SFI = 107)
- Trunk in the trunk route assigned to ARTD SLOV = 1

20. DAT card is used as the announcement machine.

21. For the FCCS network, by assigning the Physical Station Number in System Data, this feature is available for both the Physical Number and the telephone number.

22. To provide this service in the FCCS network, all the nodes in the network must be assigned the same group number.

Programming

STEP 1:   **ARTD** - Assign the route class data route number of the announcement trunk. **(Note)**

STEP 2:   **ATRK** - Assign the trunk data of the announcement machine. **(Note)**

STEP 3:   **MBTK** - Cancel the make-busy of the announcement trunk assigned by ATRK. **(Note)**

STEP 4:   **AAED** - Assign the data of the announcement machine as shown below: **(Note)**

      EQP =   36: Announcement machine for Slumber Time Group 1

                 37: Announcement machine for Slumber Time Group 2

                 38: Announcement machine for Slumber Time Group 3

                 39: Announcement machine for Slumber Time Group 4

                 40: Announcement machine for Slumber Time Group 5

                 41: Announcement machine for Slumber Time Group 6

                 42: Announcement machine for Slumber Time Group 7

      C =   [ ]

      R =   [ ]

      A =   [ ]

      M =   1:   Multiple Connection

      RT =   [ ] When using a 1-channel announcement machine by more than one Slumber

      TK =   [ ] Time Group, assign the same data.

      C =   Connection time: Disconnected in 30 second/connected until caller releases the station (= 0/1)

      R =   RBT TRANSMISSION: RBT transmission/No RBT transmission (= 0/1)

      A =   Call is answered directly/call is extended to an answering device.

Note: *The data is to be assigned only when announcement machine is designated as the transfer destination.*

STEP 5:   **ASLU1** - Assign Slumber Time Group and Slumber Time Data.

      Assignment of Slumber Time Group

Programming (cont'd)

TN =   [ ] Tenant Number

STN =   [ ] Station Number

G =   [ ] Slumber Time Group Number (1-7)

Assignment of Slumber Time Data

ASLU2 -

G =   [ ] Slumber Time Group Number (1-7)

CNT =   [ ] Count of Assigned Transfer Destination/Time Data

TFR 1/2: Transfer to attendant/announcement machine ⎤ Assign as many data as

FROM = [ ] Time Data   ⎟ assigned by CNT

TO =   [ ] (For assigning one day assign as 00:00). ⎦

STEP 6: **ASFC** - Allow Slumber Time Override to the SFC of the station which performs Slumber Time Override. (SFI = 107, RES = 1)

STEP 7: **ARTD** - Assign the following route class data to the route number of the trunk which performs Slumber Time Override.

CDN 109:SLOV = 1

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: The station to use the service is registered by Physical Station Number in ASLU1 command.

STEP 2: The identical ASLU2 data should be programmed at all FCCS nodes.

By assigning the data, this service is available for the incoming calls to be dialed telephone number.

S-127   Serial Call - D^term

General Description

This feature allows the D^term user to set SERIAL CALL to the central office line/tie line call and extend the call to the desired station/trunk. When the communication with the desired party ends, the announcement instructing the caller to dial the next desired party number is sent out. The caller, by following the instructions, can be connected to a number of destinations without hanging up.

Operating Procedure

1.   The D^term user answers the incoming central office line/tie line call.
2.   The caller requests SERIAL CALL, and the D^term user presses the SERIAL CALL key.
3.   The caller tells the desired station/trunk number to the D^term user; the D^term user extends the call to the desired station/trunk using Consultation Hold.
4.   When the conversation ends, the caller receives the announcement requesting the caller to dial the next telephone/trunk number.
5.   The caller dials the desired station/trunk number. When the called party answers, communication begins.
6.   When the conversation ends, the caller receives the announcement requesting the caller to dial the next telephone/trunk number. The caller may successively dial the desired telephone/trunk number.

Note: *For the D^term equipped with a 24-digit LCD, the 16 digits on the left side of the LCD is used for the service set/cancel indication. The 8-digit space on the right side is blank.*

Service Conditions

1.   Whether to activate this service can be determined on a system basis, but not on a tenant or incoming route basis. Therefore, it is not available to activate this service for each incoming route.
2.   SERIAL CALL can be set only for the incoming central office line, tie line, and ISDN line. It cannot be set for the station or the outgoing trunk.
3.   The station that can set/cancel SERIAL CALL is the D^term with the SERIAL CALL key. In case of the incoming call from a ringdown trunk, the call has to be transferred from the Attendant to the D^term, or the D^term should be previously designated as the Direct-In Termination station.
4.   The D^term may set/cancel SERIAL CALL by pressing the SERIAL CALL key any time while engaged in a call with the incoming trunk party. (The LCD indicates set (SERIAL SET)/cancel (SERIAL CANCEL) for 5 seconds for every attempt, and the SERIAL CALL key lights red while SERIAL CALL is set.) However, the D^term user must not have any other calls when using this service (i.e. this service cannot be used together with CALL TRANSFER-ALL CALLS-D^term [C-11D], CONSULTATION HOLD-ALL CALLS-D^term [C-17D], CALL WAITING-TERMINATING [C-12], etc.).
5.   The caller can call the station, central office line, tie line, or the Attendant successively by activating SERIAL CALL.
6.   When the call terminates on the central office line/tie line in the multi-line and the called station answers, the SERIAL CALL key lights red. However, in case the D^term user answers by CALL PICKUP - GROUP [C-7]/CALL PICKUP - DIRECT [C-30], it does not light.
7.   If SERIAL CALL is not set to the incoming trunk, the caller is not connected to the announcement when the conversation with the first party ends (after being put on Consultation Hold), but receives reorder tone.
8.   This service is available to the incoming route where AUTOMATED ATTENDANT [A-82] or REMOTE ACCESS TO SYSTEM [R-2] are set.
9.   When the registers are all busy when Serial Call is attempted, the caller receives reorder tone.

Service Conditions (cont'd)

10. Whether to send the announcement can be determined on a system basis. If the announcement is not sent, the caller receives dial tone. Both the first and the second announcement is connected in single connection, and the caller receives no tone until the announcement is sent.

11. When Serial Call is attempted, and the caller encounters all announcement trunks busy or when there is no announcement trunk, the caller receives dial tone.

12. The caller can dial the desired telephone/trunk number during the announcement.

13. This service is provided only when the caller uses the DTMF telephone.

14. The caller is connected to the announcement when the caller is engaged in a two party connection with the station, central office line, tie line, or the Attendant and then the station, central office line, tie line or the Attendant releases.

15. If the caller does not dial any number after the announcement, the caller receives no tone until the register prepause timer expires.

16. In case the register prepause timer expires after the announcement, whether to recall to the operator D^term user or to release the call automatically can be selected on a system basis.

17. When recalling to the D^term, whether to end or continue this setting can be selected by system data. However, in case the central office trunk works with Loop Start system (route data LSG=0), release cannot be detected; therefore, when recall to the D^term, this setting is ended. If this setting is ended, the D^term user can press the SERIAL CALL key again and reset.

18. Recall to the D^term selected at item 17 is activated with the following steps and ringing is according to the ringer pattern 5 ASYD Sys Data 3 INDEX 7.

    a.) In case the D^term setting SERIAL CALL is free, the destination is the set line and only the D^term is called. If the set line is accommodated in the other D^term multi-line, the other D^term becomes busy status (lights in red) and CALL FORWARDING – ALL CALLS [C-5] and FORWARDING - DON'T ANSWER [C-3] is not available. When the set line is the my line of the D^term, the LCD displays RECALL. (Ordinary transaction for recall to the D^term user)

    b.) In case the D^term setting SERIAL CALL is busy, another free line among the D^terms is selected by the same transaction as ordinary serial calling. Therefore, CALL FORWARDING - ALL CALLS [C-5], CALL FORWARDING - BUSY LINE [C-2] and STATION HUNTING - CIRCULAR [S-7] are available, and the LCD on the D^term which is selected as a Prime Line indicates RECALL. CALL FORWARDING - DON'T ANSWER [C-3] is not available. In case to end the setting is selected at item 18, the central office line/tie line is released. (reorder tone is sent out); in case to continue is selected, dialing of the next number is allowed. (Dial tone is sent out.)

19. Conditions for restriction are as follows:

    a.) When the dead number or the dead level is dialed (even if the dead number announcement data is assigned, the call is not connected to this announcement, but it is recognized as a redial call. If the second announcement data is assigned [AAED EQP = 35], this announcement has priority).

    b.) In case of inter digit timer timeout while the telephone number is dialed.

    c.) When the called station does not answer for 30 seconds (if CALL FORWARDING - DON'T ANSWER [C-3] is set, the call is forwarded).

    d.) When the called station is busy (if CALL FORWARDING - BUSY LINE [C-2] is set, the call is forwarded).

    e.) The connection is restricted:
    - when the telephone number where the connection with the central office line/tie line is restricted is dialed.
    - when the access code dialing for trunk call origination is restricted.

Service Conditions (cont'd)

- when the access code is dialed for trunk call origination, and inter digit timer expires before the call originating route is determined, resulting in restriction.
- when the outgoing trunks are all busy (if Tandem Trunk Queuing service is set, the service is activated).

20. After the second announcement is sent out, whether to allow dialing of the next number or to release the call automatically can be selected on a system basis.

21. The announcement can be either 16, 32, or 60 seconds, depending on the key setting of the announcement trunk (PA-4DATA). The announcement trunk should always be connected in single connection.

22. When the caller attempts trunk call origination by this service and encounters restriction, the class change service via authorization code dialing is not available.

23. The following services are denied toward a line or trunk involved in Serial Call:

CALL FORWARDING - ALL CALLS	[C-5]
CALL FORWARDING - BUSY LINE	[C-2]
CALL FORWARDING - DON'T ANSWER	[C-3]
CALL PICKUP - DIRECT	[C-30]
CALL PICKUP - GROUP	[C-7]
CALL WAITING - ORIGINATING	[C-31]
CALL WAITING - TERMINATING	[C-12]
STATION HUNTING - CIRCULAR	[S-7]
STATION HUNTING - SECRETARIAL	[S-8]
STATION HUNTING - TERMINAL	[S-9]

24. When the called station via Serial Call is busy, STEP CALL [S-13] is not available.

25. When the call is extended to a trunk, the call is charged to the incoming trunk (the caller).

Programming

STEP 1: **ASYD** - System data 1, index 007, bit 5 = 0/1: when dialing a vacant level, unused number, timeout, recall, or restricted connection, the caller will be (0) able to redial / (1) disconnected.

System data 1, index 435, bit 0 = 0/1: Serial Call in service No/Yes.

System data 1, index 435, bit 1 = 0/1: after pre-pause timer, recall/disconnect.

System data 1, index 435, bit 2 = 0/1: when recalling, the service will end/continue.

STEP 2: **AKYD** - FKY 84 = Serial Call.

STEP 3: **ADSL** - Assign SCALL key; Assign SN=4 (Communication in Progress) and FKY=84 (Serial Call).

This command is used for assigning a function to each soft key.

STEP 4: **AAED** - EQP 34 (Auto Attendant first announcement) C = 0, R = 1, A = 1, M = 0.

EQP 35 (Auto Attendant second announcement) C = 0, R = 1, A = 1, M = 0.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **AAEDN** - EQP 34 (Auto Attendant first announcement) C = 0, R = 1, A = 1, M = 0.

EQP 35 (Auto Attendant second announcement) C = 0, R = 1, A = 1, M = 0.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

S-129   SMDR Output Expansion - ANI/CPN

General Description

This feature expands SMDR information output, by which calling numbers from Central Office may be output to the expanded area.

Operating Procedure

No manual operation is required.

Service Conditions

1. When the expanded area information is used, SMDR equipment must corresponds to the expanded output format.
2. Users may assign 24 kinds of output information (maximum 240 bytes) combined as they like. Information exceeding 240 bytes is not output from its head.

When current information + ANI information (A) + new information D + F + P:

S T X	O	!	K	H / I / J		CCIS OFFICE CODE	AUTH CODE		A	ID	ANI NO.	D	NEW INFO. D	F	NEW INFO. F	P	NEW INFO. P	Z	E T X

240 bytes

Exceeding Info.

Output information:

S T X	O	!	K	H / I / J		CCIS OFFICE CODE	AUTH CODE		A	ID	ANI NO.	D	NEW INFO. D	F	NEW INFO. F	Z	E T X

No output information:

Exceeding information is not output.

P	NEW INFO. P
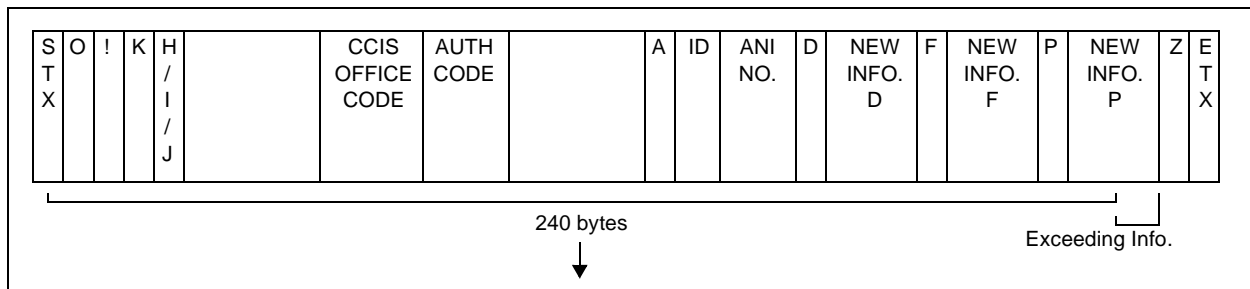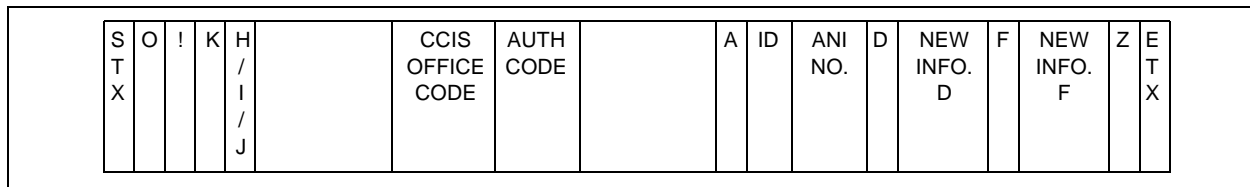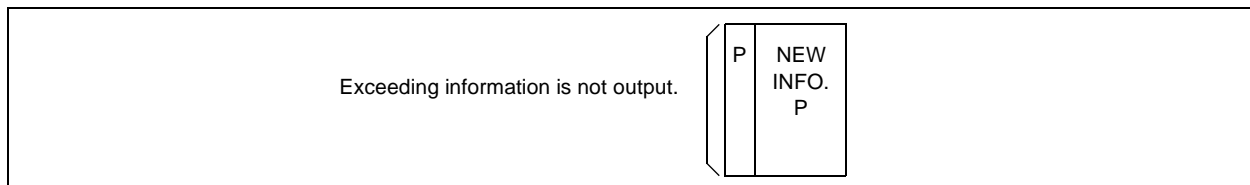
3. Multi output and dual output are available. (If dual output is assigned, it is possible that the formats are different at each port depending on system data [e.g. expanded output is available/not available]).
4. Regarding the ANI information identifier, the numbers 0, 2, 3, 4 and 5 are output only when the information is sent from Central Office.

Service Conditions (cont'd)

Note: *Meanings of ANI information identifier numbers:*
 0 = Not output
 1 = Display
 2 = Not display
 3 = Not provide service
 4 = Outgoing C.O. call
 5 = Service Condition

5. When an office receiving a calling number from Central Office extends the call to another office through CCIS and charging is performed at the extended office, the maximum calling number is 16 digits. However, only when ANI information identifier sent from Central Office is 1 (Display), the calling number is output.

6. This service is available when using CENTRALIZED BILLING – CCIS [C-55]. (A main office receives charging information from its remote office as it received. However, if the main office makes this service invalid, the information in the expanded area is not output but transferred by using current identifiers (outgoing: KA, incoming: KE, both station: KB).

    The following is the table showing relationship between a main office and a remote office when remote charging is established.

Transfer Format From A Remote Office / Output Format From A Main Office	Current Transfer Format	Expanded Transfer Format By Activating This Service
This service is activated.	Expanded area information ID is output only. Information is output in space.	Information is output in the expanded format according to system data of the main office. In case information required to be output at a main office is not in the transfer format from a remote office, information is output same as the current transfer format.
This service is not activated.	Information is output in the current format.	Information in the expanded area is not output but transferred in the current format.

7. This service is not supported in offices performing remote charging.

Programming

Also see TRUNK LINE APPEARANCE [T-23] for information on how to accommodate C.O. line on a D^{term} line/feature key.

STEP 1: **ASYD** - System Data 1, Index 241, Bit 6. 0/1 = When the length of Caller ID exceeds the limit, only the former/latter part of data appears on the LCD.

System Data 1, Index 390, Bit 0. Caller ID display pattern on the LCD. 0/1 = Calling Number/Calling Name has priority.

System Data 1, Index 390, Bit 2. when using D^{term} 2-line LCD, the lower LCD can be used for displaying Caller ID. 0/1 = Out/In service.

Programming (cont'd)

When Calling Number is output to SMDR, the following expanded format is used:

				1	2		96	104		129	130	131	162
S T X	O	!	K	H / I / J			OFFICE CODE OF CALLED PARTY (FOR CCIS)	AUTH CODE		A		ANI NO.	Z	E T X

H = Origination
I = Termination
J = Station-to-Station

A = ANI Information

Identifier:
0 = Output is not available
1 = Displayed
2 = Display denied
3 = Service is not available
4 = Origination from public pay phone
Note:*For 0, 2 and 3, the ANI number is not output.*

Z = End of SMDR Information

System Data 1, Index 288, Bit 5. Expanded SMDR Output for SMDR A Apparatus. 0/1 = Out/In Service.

System Data 1, Index 290, Bit 5. Expanded SMDR Output for SMDR B Apparatus. 0/1 = Out/In Service.

System Data 1, Index 292, Bit 5. Expanded SMDR Output for SMDR C Apparatus. 0/1 = Out/In Service.

System Data 1, Index 294, Bit 5. Expanded SMDR Output for SMDR D Apparatus. 0/1 = Out/In Service.

System Data 1, Index 296, Bit 0. Output of Calling Number (ANI Information). 0/1 = Out/In Service. Assign data "1".

System Data 1, Index 300, Bit 0. 0/1 = Billing information is sent to the Main Node in Expanded SMDR format if CENTRALIZED BILLING - CCIS [C-55].

STEP 2: **ASFC** - Assign a Service Feature Class that allows SFI 14 to stations allowed STATION MESSAGE DETAIL RECORDING [S-10].

STEP 3: **ARTD** - Assign route class data for the C.O. trunk.

15-LSG   :3   50-DPLY   :1

When Calling Number is output to SMDR:

10-SMDR   :1

STEP 4: **ATRK** - Assign trunk data for the C.O. trunk.

STEP 5: **MBTK** - Cancel the make busy of the C.O. trunk.

STEP 6: **AKYD** - Assign Call Id Change Display key. Assign Type:Function:Call ID Change Display [113]. When Call Id Change Display key is pressed, display pattern on the LCD assigned by ASYD command changes according to the conditions below:

When My Line is Prime Line, Call Id Change Display Key is effective while terminating or in conversation.

When My Line is not Prime Line, Call Id Change Display Key is effective while in conversation.

However, display pattern returns to the original setting when answering, holding, or transferring the call.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ASYDL** - System Data 1, Index 241, Bit 6. 0/1 = When the length of Caller ID exceeds the limit, only the former/latter part of data appears on the LCD.

System Data 1, Index 390, Bit 0. Caller ID display pattern on the LCD. 0/1 = Calling Number/Calling Name has priority.

System Data 1, Index 390, Bit 2. when using D^{term} 2-line LCD, the lower LCD can be used for displaying Caller ID. 0/1 = Out/In service.

When Calling Number is output to SMDR, the following expanded format is used:

	1	2		96	104		129	130	131	162	
S T X	O	!	K	H / I / J		OFFICE CODE OF CALLED PARTY (FOR CCIS)	AUTH CODE		A		ANI NO.	Z	E T X

H = Origination
I = Termination
J = Station-to-Station

A = ANI Information

Identifier:
0 = Output is not available
1 = Displayed
2 = Display denied
3 = Service is not available
4 = Origination from public pay phone
Note:*For 0, 2 and 3, the ANI number is not output.*

Z = End of SMDR Information

System Data 1, Index 288, Bit 5. Expanded SMDR Output for SMDR A Apparatus. 0/1 = Out/In Service.

System Data 1, Index 290, Bit 5. Expanded SMDR Output for SMDR B Apparatus. 0/1 = Out/In Service.

System Data 1, Index 292, Bit 5. Expanded SMDR Output for SMDR C Apparatus. 0/1 = Out/In Service.

System Data 1, Index 294, Bit 5. Expanded SMDR Output for SMDR D Apparatus. 0/1 = Out/In Service.

System Data 1, Index 296, Bit 0. Output of Calling Number (ANI Information). 0/1 = Out/In Service. Assign data "1".

System Data 1, Index 300, Bit 0. 0/1 = Billing information is sent to the Main Node in Expanded SMDR format if CENTRALIZED BILLING - CCIS [C-55].

System Data 1, Index 578-581, Bit 0.

STEP 2:   **ARTDN** - Assign route class data for the C.O. trunk.

15-LSG   :3   50-DPLY   :1
When Calling Number is output to SMDR:
10-SMDR   :1

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

T-1 Tandem Switching of TIE Trunks - 2/4-Wire

General Description

This feature allows trunk-to-trunk connections through the switching system, without the need for any Attendant assistance or control. The major use of this feature is in association with the Dial Tandem TIE Line Network to allow TIE Line connections and incoming TIE Line calls automatic access to, and completion of, local Central Office calls.

Operating Procedure

1. Lift the handset; receive dial tone from the distant office.
2. Dial the TIE trunk access code; receive dial tone from the PBX.
3. Dial another TIE trunk access code.

Or

1. Dial the Central Office access code; receive dial tone from the other distant PBX or local Central Office.
2. Dial an extension number of the distant PBX.

Or

1. Dial the Central Office exchange number (local or toll).

Service Conditions

1. When using a 2-wire application, there may be an appreciable decrease in transmission decibel levels.
2. When using a 4-wire application, a TLT circuit card is required for every four TIE Lines. This circuit card provides amplification/attenuation so that the desired transmitting and receiving levels can be maintained, providing the overall Tandem system with transparency.
3. When TIE trunks are busy, the calling station will receive busy tone.
4. Each incoming TIE trunk may have various restrictions for TIE-to-Central Office calling.
5. Careful consideration should be given to access code numbering plans to avoid unnecessary loss of access codes and code duplication within the same system.
6. Tandem switching can also be accomplished via the ATTENDANT CONSOLE [A-3].
7. There is no limitation to the allowable number of Tandem Switching connections.
8. This feature can also be activated when using a trunk in the remote node via FCCS link. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

Interactions

1. The connection described is a user outside the system connected to an incoming TIE Line to an outgoing TIE Line. TRUNK-TO-TRUNK CONNECTION [T-10] is established by either the Attendant Console or a user and is connected to two outgoing trunks.
2. TOLL DENIAL [T-6]: If TOLL DENIAL is applied to an incoming TIE Trunk group, the calling user is routed to reorder tone if an attempt is made to dial-access a toll call.
3. Incoming dial repeating TIE trunks (second dial tone) can connect to the following types of outgoing trunks:
    a.) Dial repeating TIE trunk (second dial tone)
    b.) Senderized TIE trunk
    c.) CO trunk
    d.) FX trunk
    e.) WATS trunk

Interactions (cont'd)

f.) CCSA trunk

4. STATION MESSAGE DETAIL RECORDING (SMDR) [S-10]: On Tandem Connections, the incoming TIE Trunk group route number and outgoing trunk number are recorded.

5. Two outgoing trunk group restriction tables are provided per system. The Direct Dial Access table is indexed when a distant user dials the trunk group access code, and the ATTENDANT CONSOLE [A-3] table is indexed on Attendant completed calls.

Programming

STEP 1: **ARTD** - Assign the TIE Line routes as shown below:

BOTHWAY TIE-LINES:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 3-ISGS | :2 | 4-INSG | :3 | 5-TF | :3 |
| 6-TCL | :4 | 7-L/T | :1 | 8-RLP | :2 | 15-LSG | :5 | | |

STEP 2: **ATRK** - Assign the LENs, TIE Line Route Number, Trunk Number, and Tenant Number.

STEP 3: **MBTK** - Assign the Make Idle status to the TIE Line Trunks.

STEP 4: **ANPD** - Reserve a number level for trunk access. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Assign NND in accordance with a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 5: **ASPA** - Assign the access code as assigned in ANPD above. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Type of Service, SRV = OGC (Outgoing Call), Outgoing Trunk. Assign the route number associated with this access code.

STEP 6: **ARRC** - Assign to the system trunk-to-trunk connection. Use Alternative Route Index (ARI-D-RES) for Direct Connection. Three possible Restrictions may be assigned; data "0", Connection is Restricted; data "1", Connection is Allowed; or data "2", Toll Restriction is required. For TANDEM SWITCHING OF TIE TRUNKS-2/4 WIRE, TOLL RESTRICTION is not required.

STEP 7: **APAD** - Assign any Pad data that may be required for desired quality of service. (Optional, see TIE LINE CONNECTION WITH PAD CONTROL [T-5]).

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ARTDN** - Assign the TIE Line routes as shown below:

BOTHWAY TIE-LINES:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 3-ISGS | :2 | 4-INSG | :3 | 5-TF | :3 |
| 6-TCL | :4 | 7-L/T | :1 | 8-RLP | :2 | 15-LSG | :5 | | |

STEP 2: **ANPDL** - Reserve a number level for trunk access. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Assign NND in accordance with a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 3: **ASPAL** - Assign the access code as assigned in ANPD above. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Type of Service, SRV = OGC (Outgoing Call), Outgoing Trunk. Assign the route number associated with this access code.

FCCS Programming (cont'd)

STEP 4:   **ARRCN** - Assign to the system trunk-to-trunk connection. Use Alternative Route Index (ARI-D-RES) for Direct Connection. Three possible Restrictions may be assigned; data "0", Connection is Restricted; data "1", Connection is Allowed; or data "2", Toll Restriction is required. For TANDEM SWITCHING OF TIE TRUNKS-2/4 WIRE, TOLL RESTRICTION is not required.

STEP 5:   **APADN** - Assign any Pad data that may be required for desired quality of service. (Optional, see TIE LINE CONNECTION WITH PAD CONTROL [T-5]).

T-2   Three-Way Calling

General Description

This feature enables any user to add another party to an existing connection, establishing a three-way conference.

Even if the additional D^{term} user holds the call, THREE-WAY CALLING may be established. (This service is called Consultation Hold.)

Operating Procedure

Procedure 1:
1. Press switch hook; first party is placed on Consultation Hold; receive special dial tone.
2. Dial the desired number; receive answer.
3. Announce the conference and press switch hook again.
4. The THREE-WAY CALLING is now established.

Procedure 2:
1. While connected with the first party, press the switch hook; receive special dial tone. The first party is placed on hold.
2. Dial the second party (D^{term}); receive ring back tone.
3. The second party answers; the CONSULTATION HOLD - ALL CALLS state has been entered.
4. The second party presses the HOLD key and the call in progress is held.
5. Press the switch hook and return to the original call.
6. The second party or another D^{term} station in the same Multi Line group answers the held call.
7. THREE-WAY CALLING is established.

Service Conditions

1. The originating party may hang up at any time. The remaining two parties will not be disconnected.
2. This feature may be activated during any call.
3. Any combination of parties (internal or external) may be included in a three-way call.
4. The maximum number of simultaneous three-way calls depends on the quantity of digital conference trunks within the system. One digital conference trunk circuit card can handle 8 simultaneous three-way calls.
5. The THREE-WAY CALLING feature is not restricted by the line class of service assigned to the user's line; thus, a fully restricted station can transfer a call to another station or the Attendant

When the Consultation Hold service is used:
1. Service restriction class of stations may be assigned at each station.
2. This service is not available when THREE-WAY CALLING has been established.
3. After the originating party presses the switch hook, the station can only go on-hook and press the switch hook. The party in conversation can only operate on-hook.
4. This service is not available when the transferred call is held by CALL HOLD and so on.
5. When the additional station answers the held call, whether to send Override Tone or not depends on the originating station service restriction class.
6. The Conference Trunk (CFT) function is required for the node which accommodates the station operating a three-way conference within the FCCS network.
7. Three-Way Calling can also be established when using the trunk belonging to the remote node within the FCCS network.

Interactions

1. A station in an established three-way connection cannot flash the switch hook to activate a feature. The flash disconnects the last party connected.

2. All three-way calls are protected by privacy. No more than three ports can be bridged together at one time, unless PRIVACY RELEASE [P-18] is being used.

3. If a three-way call includes two trunks and the station hangs up, the trunks will release, unless the trunks are allowed TRUNK-TO-TRUNK CONNECTION [T-10] via the ARRC command, ARI-D-RES.

Programming

STEP 1: **ASYD** - System Data 2, Index 1, Bits 0 & 1. Consultation Hold allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call Denied; 10: Only Terminating Calls Allowed; 11: All calls allowed.

System Data 2, Index 6, Bit 2. This Bit remains as data "0". CALL TRANSFER-ALL CALLS [C-11].

System Data 2, Index 6, Bit 3. Enable add-on ability. This Bit remains as data "0" to allow THREE-WAY CALLING.

System Data 3, Index 2. Assign data 91H for Normal (N), Hooking (H) values.

STEP 2: **ATRK** - Assign LENs as Route 909, Digital Conference Trunk. The LEN consists of the following:

XX Module Group	X Unit	XX Group	X Level

Group and level numbers for the digital conference trunk are 210, 213, 216, 221, 224, 227, 232, 235.

STEP 3: **MBTK** - Make idle the Digital Conference Trunk

STEP 4: **ARRC** - Allow for trunk-to-trunk connections between any two routes that may be used in THREE-WAY CALLING. Assign these routes for ARI-A-RES: This connection is for a station and two trunks ARI-D-RES. If the originating party hangs up, the remaining two parties will stay connected.

STEP 5: **ARSC** - The route restriction class must be constructed to allow the station access to the involved routes.

STEP 6: **ASFC** - When Consultation Hold Enhancement is used, assign each station Service Feature Class (SFC) that allows SFI138 and SFI140.

SFI138: Consultation Hold Enhancement

SFI140: Send Warning Tone to interrupted parties when three-way calling is established using Consultation Hold Enhancement

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARRCN** - Allow for trunk-to-trunk connections between any two routes that may be used in THREE-WAY CALLING. Assign these routes for ARI-A-RES: This connection is for a station and two trunks ARI-D-RES. If the originating party hangs up, the remaining two parties will stay connected.

STEP 2: **ARSCN** - The Route Restriction Class must be constructed to allow the station access to the involved routes.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

T-2D   Three-Way Calling - D^term

General Description

This feature enables a D^term user to establish a three-way conference by connecting an additional party to an already existing conversation.

Even if the additional D^term user holds the call (Consultation Hold), THREE-WAY CALLING may be established.

Operating Procedure

Procedure 1:
1. Press the TRANSFER key; receive special dial tone; the original party is placed on hold.
2. Dial the desired number; receive answer.
3. Announce the conference and press the CONF key.
4. THREE-WAY CALLING is now established. The LCD displays:

```
CONF
        (Time Display)
```

Procedure 2: (Hold on Consultation Hold.)
1. While connected with the first party, press the TRANSFER key (D^term); receive special dial tone. The first party is placed on hold.
2. Dial the second party (D^term); receive ringback tone.
3. The second party answers; the CONSULTATION HOLD - ALL CALLS state has been entered.
4. The second party presses the HOLD key (D^term) and the call in progress is held.
5. Press the CONF key and return to the original call.
6. The second party or another D^term station in the same Multi Line group answers the held call.
7. THREE-WAY CALLING is established.

Service Conditions

1. The originating party may hang up at any time. The other two parties will not be disconnected if assigned as such in system programming.
2. This feature may be activated during any call that does not include the Attendant Console.
3. Any combination of parties (internal or external) may be included in a three-way call.
4. The maximum number of simultaneous three-way calls is dependent on the quantity of Digital Conference Trunks within the system. (Conference function is included in the TSW and MUX circuit card.) One Digital Conference Trunk circuit card can handle eight simultaneous three-way calls.
5. The THREE-WAY CALLING feature is not restricted by the line class of service assigned to the user's line; thus, a fully restricted station can transfer a call to another station or the Attendant.

When the Consultation Hold service is used:
1. Service restriction class of stations may be assigned at each station.
2. This service is not available when THREE-WAY CALLING has been established.
3. After the originating party presses the CONF key, the station can only go on-hook and press the TRANSFER key. The party in conversation can only operate on-hook.
4. This service is not available when the transferred call is held by CALL HOLD and so on.

Service Conditions (cont'd)

5. When the additional station answers the held call, the decision to send Override Tone depends on the originating station service restriction class.

6. The Conference Trunk (CFT) function is required for the node which accommodates the station operating a three-way conference within the FCCS network.

7. Three-Way Calling can also be established when using the trunk belonging to the remote node within the FCCS network.

Programming

STEP 1:   **ASYD** - System Data 2, Index 1, Bits 0 & 1. Consultation Hold allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call Denied; 10: Only Terminating Calls Allowed; 11: All calls allowed.

System Data 2, Index 6, Bit 2. This Bit remains as data "0". CALL TRANSFER-ALL CALLS [C-11].
System Data 2, Index 6, Bit 3. Enable add-on ability. This Bit remains as data "0" to allow THREE-WAY CALLING.
System Data 3, Index 2. Assign data 91H for Normal (N), Hooking (H) values.

STEP 2:   **ATRK** - Assign LENs as Route 909, Digital Conference Trunk. The LEN consists of the following:

XX	**X**	**XX**	**X**
Module Group	**Unit**	**Group**	**Level**

Group and level numbers for the digital conference trunk are 210, 213, 216, 221, 224, 227, 232, 235.

STEP 3:   **MBTK** - Make idle the Digital Conference Trunk

STEP 4:   **ARRC** - Allow for trunk-to-trunk connections between any two routes that may be used in THREE-WAY CALLING. Assign these routes for ARI-A-RES: This connection is for a station and two trunks ARI-D-RES. If the originating party hangs up, the remaining two parties will stay connected.

STEP 5:   **ARSC** - The Route Restriction Class must be constructed so as to allow the station access to the involved routes.

STEP 6:   **ASFC** - When Consultation Hold Enhancement is used, assign each station Service Feature Class (SFC) that allows SFI138 and SFI140.

SFI138:   Consultation Hold Enhancement
SFI140:   Send Warning Tone to interrupted parties when three-way calling is established using Consultation Hold Enhancement

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1:   **ARRCN** - Allow for trunk-to-trunk connections between any two routes that may be used in THREE-WAY CALLING. Assign these routes for ARI-A-RES: This connection is for a station and two trunks ARI-D-RES. If the originating party hangs up, the remaining two parties will stay connected.

STEP 2:   **ARSCN** - The Route Restriction Class must be constructed so as to allow the station access to the involved routes.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

T-3 TIE Line Access

General Description

This feature allows any user dial access to a TIE Line.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the TIE LINE ACCESS code; receive dial tone from the distant PBX.
3. Dial the desired extension number.

Operating Procedure

1. TIE LINE ACCESS may be denied to individual stations via CLASS OF SERVICE-INDIVIDUAL [C-15].
2. The PBX system is equipped with either automatic or dial-repeating TIE trunks.
3. When a power failure occurs at the local NEAX2400 IMX (without reserve power backup), all TIE trunk connections are lost.
4. Each TIE Line group can be arranged for DP or DTMF address signaling incoming and/or outgoing.
5. TOLL DENIAL [T-6]: The calling user is routed to reorder tone if an attempt is made to dial-access a call.
6. The NEAX2400 IMX can be equipped with senderized TIE trunks. Immediate start, delay, or wink start signaling is available.
7. When a trunk group access code is dialed by a user, the TIE trunk group is used to index a trunk group restriction table to determine if the call attempt is allowed. For each outgoing trunk group, the following restriction options can be assigned per RSC:
   - a.) Indicates the TIE trunk is not allowed access to the trunk group dialed.
   - b.) Indicates the TIE trunk is allowed access (unrestricted).
   - c.) Indicates the station is allowed access but is restricted from making 0/1 toll calls or is code (3-digit, 6-digit) restricted.
8. Two outgoing trunk group restriction tables are provided per system. The Direct Dial Access table is indexed when a user dials the trunk group access code and the ATTENDANT CONSOLE [A-3] table is indexed on Attendant completed calls. The restriction options per RSC can differ per table, allowing Attendant completion of outgoing calls for restricted stations.
9. DTMF cannot be received on an incoming TIE Line call when the Signal Interface for Incoming route data is set for Immediate Start.

Interactions

1. For senderized TIE Lines, see UNIVERSAL SENDER [U-3]. The ANND command must be programmed for Senderized TIE Lines (normally for 4(OGC)).
2. If other services, such as STATION MESSAGE DETAIL RECORDING [S-10] and LEAST-COST ROUTING-3/6 DIGIT [L-5] are to be used in conjunction with this feature, the AMND command must be programmed. Go to the ASTP and AOSP command, if digit translation is required.
3. MISCELLANEOUS TRUNK RESTRICTION [M-3]: Restrictions to TIE trunks are determined by the Route Service Class (RSC) assigned to the station.

Programming

STEP 1: **ARTD** - Assign the TIE Line routes as shown below:

BOTHWAY LINES:

RT: 1

1-OSGS	:2/7	2-ONSG	:3	3-ISGS	:2/7	4-INSG	:3	5-TF	:3
6-TCL	:4	7-L/T	:1	8-RLP	:2	13-AC	:1	15-LSG	:5
28-ANS	:1	30-PAD	:7						

STEP 2: **ATRK** - Assign the LENs, TIE Line Route Number, Trunk Number, and Tenant Number.

STEP 3: **MBTK** - Assign the Make Idle status to the TIE Line trunks.

STEP 4: **ANPD** - Assign a number level for trunk access. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated.

STEP 5: **ASPA** - Assign the access code as assigned in ANPD above. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Type of Service, SRV = OGC (Outgoing Call), Outgoing Trunk. Assign the route number associated with this access code.

STEP 6: **ARSC** - The Route Restriction Class must be constructed to allow the station access to the involved routes.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ARTDN** - Assign the TIE Line routes as shown below:

BOTHWAY LINES:

RT: 1

1-OSGS	:2/7	2-ONSG	:3	3-ISGS	:2/7	4-INSG	:3	5-TF	:3
6-TCL	:4	7-L/T	:1	8-RLP	:2	13-AC	:1	15-LSG	:5
28-ANS	:1	30-PAD	:7						

STEP 2: **ANPDL** - Assign a number level for trunk access. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Number of Necessary Digits is usually 1 or 2. Busy Lamp Field is not activated.

STEP 3: **ASPAL** - Assign the access code as assigned in ANPD above. Assign Connection Indexes, CI = N, H; Normal (N) and Hooking (H). Type of Service, SRV = OGC (Outgoing Call), Outgoing Trunk. Assign the route number associated with this access code.

STEP 4: **ARSCN** - The Route Restriction Class must be constructed to allow the station access to the involved routes.

T-5 TIE Line Connection With Pad Control

General Description

This feature provides a switchable transmission pad on TIE trunks that allows tandem connections. Necessary pad control is activated to protect against echo.

Operating Procedure

No manual operation is required.

Service Conditions

1. Pad Control (2dB) will automatically be switched in for the following connections:
   - a.) TIE Line-to-Station
   - b.) Station-to-TIE Trunk/CCSA
   - c.) CCSA-to-Station
   - d.) TIE Line-to-Attendant
   - e.) CCSA-to-Attendant
   - f.) Attendant-to-TIE Trunk/CCSA
2. Pad Control (2dB) will not be switched in for the following connections:
   - a.) TIE Line-to-C.O.Trunk/TIE/CCSA
   - b.) CCSA-to-C.O.Trunk/TIE/CCSA
   - c.) C.O.Trunk-to-TIE/CCSA
   - d.) THREE-WAY CALLING [T-2] used in conjunction with TRUNK-TO-TRUNK CONNECTION [T-10]
3. The 4W E&M Trunk/DTI [D-16] provides Pad Control (0, 2, 4, 8, 12, 16dB) so the desired transmitting and receiving levels can be maintained, providing the overall tandem system with transparency.

Interactions

1. If volume on the DTI is too loud, assign CDN 30:Pad (ARTD) as data "2".
2. The 8TLT card provides four 2-wire DID, CCSA, and TIE Line circuit access. These circuits may be set for loop or E&M signaling. The card contains switchable transmission pads that are switched in or out via software command.
3. The 8TLT card provides four 4-wire TIE Line circuits. These circuits may be set for E&M signaling. The card contains switchable transmission pads that are switched in or out via software. The 8TLT cards are located in the Port Interface Module (PIM) carrier. A maximum of eleven 8TLT can be equipped per PIM.

Programming

STEP 1: **ARTD** - Assign the TIE Line routes as shown below:

BOTHWAY LINES:

RT: 1

| 1-OSGS | :2 | 2-ONSG | :3 | 3-ISGS | :2 | 4-INSG | :3 | 5-TF | :3 |
| 6-TCL | :4 | 7-L/T | :1 | 8-RLP | :2 | 15-LSG | :5 | | |

Pad control is programmed in CDN 30:Pad. For DTI circuit cards, assign data "7", otherwise assign data "0".

STEP 2: **APAD** - Assign the Pad data required for the Tandem connection. Assign the following:

KIND: Kind of Connection

Programming (cont'd)

T:	Tandem Connection
ICRT:	Incoming Route Number
OGRT:	Outgoing Route Number
SFC:	Service Feature Class ⟶ [Not Used]
IC PAD:	Incoming PAD Data (1-15)
OG PAD:	Outgoing PAD Data (1-15)
RT:	Route Number ⟶ [Not Used]

PAD DATA:

TLT (4W E&M)	DTI
	0-8dB Pad On
1-2dB Pad On	1-2dB Pad On
2-4dB Pad On	2-4dB Pad On
3-6dB Pad On	3-6dB Pad On
4-8dB Pad On	4-8dB Pad On
15-PAD OFF	7-PAD OFF

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

STEP 1: **ARTDN** - Assign the TIE Line routes as shown below:

BOTHWAY LINES:

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:2	4-INSG	:3	5-TF	:3
6-TCL	:4	7-L/T	:1	8-RLP	:2	15-LSG	:5		

Pad control is programmed in CDN 30:Pad. For DTI circuit cards, assign data "7", otherwise assign data "0".

STEP 2: **APADN** - Assign the Pad data required for the Tandem connection. Assign the following:

KIND:	Kind of Connection
T:	Tandem Connection
ICRT:	Incoming Route Number
OGRT:	Outgoing Route Number
SFC:	Service Feature Class ⟶ [Not Used]
IC PAD:	Incoming PAD Data (1-15)
OG PAD:	Outgoing PAD Data (1-15)
RT:	Route Number ⟶ [Not Used]

PAD DATA:

TLT (4W E&M)	DTI
	0-8dB Pad On
1-2dB Pad On	1-2dB Pad On
2-4dB Pad On	2-4dB Pad On
3-6dB Pad On	3-6dB Pad On
4-8dB Pad On	4-8dB Pad On
15-PAD OFF	7-PAD OFF

T-6   Toll Denial/Toll Diversion

General Description

This feature prohibits users from placing long distance calls over a specific group of trunks. Restricted calls are routed to either an ATTENDANT CONSOLE [A-3] (diversion) or to an intercept tone (denial).

Operating Procedure

No manual operation is required after this feature is programmed into system data.

Service Conditions

1. TOLL DENIAL/TOLL DIVERSION is the industry-standard 0/1 type.
2. Immediately after dialing any area code with a second digit of "0" or "1", the user is restricted.
3. Restriction may be programmed to give the user a busy signal or to divert the user to the Attendant Console.
4. This feature may be applied to all types of trunks (DDD, FX, WATS), provided the same restrictions apply to all trunks of the same type.
5. This feature is applied to individual stations on a route-restriction basis.
6. TOLL DENIAL/TOLL DIVERSION is set on a per-TENANT [T-12] basis.
7. The 0/1 Toll Denial and Toll Diversion feature cannot be used together for the same tenant.
8. The 0/1 Toll Denial and Toll Diversion feature is assigned on a per-line (RSC) Class of Service and/or per-incoming TIE Trunk group basis. The feature, when provided, is applicable on a per-trunk group basis.

Interactions

1. TOLL DENIAL/DIVERSION is applicable only to RES 2 when assigning routes via Route Restriction Index (RRI) 3.
2. LEAST-COST ROUTING-3/6 DIGIT [L-5]: For LCR(S) applications, allow the LCR Flag Route. The route chosen via AOPR will then be governed by the RSC of the station. If the station is toll-restricted from the route, TOLL DENIAL/DIVERSION will apply
3. TOLL DENIAL and TOLL DIVERSION cannot be used simultaneously in the same tenant.
4. ROUTE ADVANCE [R-6]: Station A dials a toll call by accessing route 1. Route 1 is busy and advances to route 2. Station A is restricted from making this call on route 2.
5. PASSING DIAL TONE [P-2]: The Attendant Console cannot use the PASSING DIAL TONE [P-2] feature to allow a toll restricted station to dial a restricted number.
6. In System Data 1, Index 135, a seizure guard timer exists to protect the system from individuals who attempt to defeat TOLL RESTRICTION/TOLL DIVERSION with rapid dialing. Leave as data "00" for a default value of 1 second (RAM data is 1FH).
7. A station uses the OGC direct dial access to a route. The station is restricted via RES 0: Connection Restricted. The station receives reorder tone.

Programming

STEP 1:   **ASYD** - System Data 1, Index 75. Should the following commands be developed for Day/Night: 0/1: No/Yes. See DAY/NIGHT CLASS OF SERVICE [D-15] for details.

                    Bit 0- Develop ARSC command for Day/Night?

Programming (cont'd)

Bit 3- Develop ATDP command for Day/Night?

System Data 2, Index 1, bits 4 & 5. If TOLL DENIAL is required, assign these bits as data "00". If TOLL DIVERSION is required, assign these bits as "01". Calls are then diverted to the Attendant Console. Assigned on a per-tenant basis.

STEP 2: **ARSC** - Assign Route Restriction Classes. When these are assigned to stations, classes will determine whether or not a station will be allowed access to a specific route or specific dialing sequence. See TOLL RESTRICTION-3/6 DIGIT [T-7]. Assign the following:

DAY/NIGHT:	Day/Night Mode
	D: Day Mode
	N: Night Mode
TN:	Tenant Number
RT:	Route Number
RSC:	Route Restriction Class
RRI:	Route Restriction Index
	0: IC Restriction via Attendant Console (DDD, etc.)
	1: IC Restriction Direct Connection (DID, etc.)
	2: OG Restriction via Attendant Console
	3: OG Restriction Direct Connection (DDD, etc.)
RES:	Restriction Data
	0: Connection is Restricted
	1: Connection is Allowed
	2: Connection is Toll Restricted (See TOLL RESTRICTION-3/6-DIGIT [T-7])

STEP 3: **ASDT** - When assigning the data to specific stations, assign the proper RSC to each station.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ASYDL** - Index 640, assign FPC of the Attendant Console for Toll Diversion

STEP 2: **ARSCN** - Assign Route Restriction Classes. When these are assigned to stations, classes will determine whether or not a station will be allowed access to a specific route or specific dialing sequence. See TOLL RESTRICTION-3/6 DIGIT [T-7]. Assign the following:

DAY/NIGHT:	Day/Night Mode
	D: Day Mode
	N: Night Mode
TN:	Tenant Number
RT:	Route Number
RSC:	Route Restriction Class
RRI:	Route Restriction Index
	0: IC Restriction via Attendant Console (DDD, etc.)
	1: IC Restriction Direct Connection (DID, etc.)
	2: OG Restriction via Attendant Console
	3: OG Restriction Direct Connection (DDD, etc.)

FCCS Programming (cont'd)

        RES: Restriction Data

                    0:     Connection is Restricted

                    1:     Connection is Allowed

                    2:     Connection is Toll Restricted (See TOLL RESTRICTION-3/6-DIGIT [T-7])

STEP 3: **ASDTN** - When assigning the data to specific stations, assign the proper RSC to each station.

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

T-7   Toll Restriction - 3/6-Digit

General Description

This feature allows the NEAX2400 IMX to be programmed to restrict outgoing calls according to specific area and/or central office codes. This restriction is controlled on the basis of a three-digit area code or a six-digit combination area and office code numbering plan.

Operating Procedure

No manual operation is required.

Service Conditions

1. The programmed restriction pattern may consist of either codes to be allowed or codes that are to be denied.
2. This feature is assigned on a CLASS OF SERVICE-INDIVIDUAL [C-15] basis.
3. When a toll call is denied, reorder tone will be returned to the calling party. If desired, the calling party can be routed to the Attendant Console. See TOLL DENIAL/TOLL DIVERSION [T-6] for further details.
4. The outgoing call using a trunk in the remote node via FCCS link is available. Therefore, Route Restriction class data must be identical in the FCCS network. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

Interactions

1. When Toll Restriction is specified in ARRC, all the possible dialing-patterns must be assigned in ATDP. If office codes within an Area Code do not need to be restricted, allow the Area Code only. Always provide the system with the most economical configuration of digits when constructing TOLL RESTRICTION tables.
2. In the ARRC command, ARI-A-RES must be programmed to allow two trunks and a station in a conference. ARI-D-RES is programmed if the two trunks are to remain connected after the station drops off, or if TOLL RESTRICTION applies to a direct trunk-to-trunk connection, such as TIE Line to DDD.
3. ROUTE ADVANCE [R-6]: Station A dials a toll call by accessing route 1. Route 1 is busy and advances to route 2. Station A is restricted from making this call on route 2. The call will be restricted.
4. PASSING DIAL TONE [P-2]: The Attendant cannot use PASSING DIAL TONE [P-2] to allow a toll-restricted station from using a restricted route.
5. OUTGOING TRUNK QUEUING [O-2]: When a station is restricted from all other routes, a user may queue a trunk to complete a call over unrestricted routes.
6. LEAST-COST ROUTING-3/6-DIGIT [L-5]: Translations in AFRS must be such that the digits dialed in the trunk-to-trunk connection would be recognizable in terms of choosing a route. If a route cannot be chosen, TOLL RESTRICTION 3/6 DIGIT cannot be applied.
7. When using the FCCS network, the outgoing call using a trunk in the remote node is available. Therefore, Route Restriction class data must be identical in the FCCS network. For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.

Programming

N + Dialing				
Call Type	**Digits Dialed**	**Digits Needed**	**MND**	**Toll**
Local Calls	<u>9</u>-NNX-XXXX	9-N	8	0
Near Distance Calls	<u>9-1</u>-NNX-XXXX	9-1-NN	9	1
Long Distance Calls	<u>9</u>-1-NPA-NXX-XXXX	9-1-NP	12	1
Without N + Dialing				
Call Type	**Digits Dialed**	**Digits Needed**	**MND**	**Toll**
Local Calls	<u>9</u>-NNX-XXXX	9-N	8	0
Long Distance Calls	<u>9</u>-NPA-NXX-XXXX	9-NP	11	1

Note: *The digits underlined are to be listed in the DC (Digit Code) parameter.*
Overseas or Operator-assisted calls should be listed with an MND equal to the calculated number of required digits.
Special dialing sequences, such as, "911" with an MND = 4 should also be listed.
N = 2-9, P = 0 or 1, X = 0-9

STEP 1: **ATDP** - This command is used with the AARP command. It designates the digit codes that will be allowed, denied, or toll-restricted. These codes are designated by Route Restriction Class. The Number of Necessary Digits data is used to specify where a 3 or 6-digit translation should begin. The digits to be examined for 3 or 6-digit translation are listed in AARP. Assign the following:

DAY/NIGHT: Day/Night Mode

         D: Day Mode

         N: Night Mode

TDM/OG: Tandem Connection/Outgoing Connection

         T: Tandem Connection

         O: Outgoing Connection

ICRT: Incoming Route Number (Tandem Connection Only)

RSC: Restriction Class (0-15)

OGRT: Outgoing Route Number

DC: Destination (Area) Code (Maximum 11 digits)

TDI: Restriction Data *

         0:     Connection is Restricted

         1:     Connection is Allowed

         2:     3/6 Digit Toll Restriction [Go to AARP]

         3:     C.O.Operator Call 9 + 0.

NND: Number of Necessary Digits (Used only when TDI = 2).

Note: **TDI 4 may appear when the digits input under the DC parameter are incorrect. The switch is looking for more digits.*

STEP 2: **ASYD** - System Data 1, Index 75. Should the following commands be developed for Day/Night? 0/1: No/Yes. See DAY/NIGHT CLASS OF SERVICE [D-15] for more details.

Bit 0- Develop ARSC command for Day/Night?

Bit 3- Develop ATDP command for Day/Night?

System Data 2, Index 1, Bit 3. Does TOLL RESTRICTION apply to SPEED CALLING-STATION [S-21]? 0/1: Yes/No.

Programming (cont'd)

System Data 2, Index 1, Bits 4 & 5. If TOLL DENIAL (busy tone) is required, assign these Bits as data "00". If TOLL DIVERSION (to Attendant) is required, assign these Bits as "01".

System Data 2, Index 1, Bit 7. Does TOLL RESTRICTION apply to SPEED CALLING-SYSTEM [S-3]? 0/1: Yes/No.

STEP 3: **ARSC** - Assign Route Restriction Classes. When these are assigned to stations, classes will determine whether or not a station will be allowed access to a specific route or specific dialing sequence. Assign the following:

DAY/NIGHT:	Day/Night Mode
	D: Day Mode
	N: Night Mode
TN:	Tenant Number
RT:	Route Number
RSC:	Route Restriction Class
RRI:	Route Restriction Index
	0: IC Restriction via Attendant Console (DDD, etc.)
	1: IC Restriction Direct Connection (DID, etc.)
	2: OG Restriction via Attendant Console
	3: OG Restriction Direct Connection (DDD, etc.)
RES:	Restriction Data
	0: Connection is Restricted
	1: Connection is Allowed
	2: Connection is Toll Restricted

STEP 4: **AMND** - This command indicates the total number of digits to expect, based on the first digits dialed. A "9" + a local call will equal 8 digits; "9" + "1" + an Area Code call will equal 12 digits. Assign the dialed digits information and the corresponding Maximum Necessary Digits (MND) data. Flag this data as a Toll Call: data "1" or a local call: data "0".

STEP 5: **AARP** - This command is used to designate digits translated for 3 digit and 6 digit restriction. In ATDP, a digit code is listed. The system will examine these digits and if the Restriction Code TDI is assigned as data "2" Toll Restriction, the program will do two operations. The first operation will examine the NND value. If NND is "6", then the AARP information will apply to the sixth digit dialed. For example, assume 9-1-301-555-1212 is dialed. AARP will look at the sixth digit dialed for translation. Translation will begin with 555.

Assign the following:

OGRT:	Outgoing Route Number
RSC:	Route Restriction Class
FLAG:	1: 3 Digits
	2: 6 Digits
DC:	555
RES:	Restriction Data
	0: Restricted
	1: Allowed

Note: *Only 3 digits or 6 digits may be entered for the DC parameter of this command.*

Programming (cont'd)

Toll Restriction Examples:

Several examples of the use of TOLL RESTRICTION are listed below:

RSC 1:   Allow local only.

RSC 2:   Allow local plus Area Codes 718, 212, 201, and 914.

RSC 3:   Allow local plus Area Codes 718, 212, and 201; and office codes 239, 465, and 798 only within Area Code 914.

RSC 4:   Allow local plus all Area Codes except 808, 213, 408, and 714.

RSC 5:   Allow local plus all Area Codes, but restrict office code 976 within each Area Code.

To simplify the examples, only one route, (route 1, DDD) will be used. There will be no difference between Day and Night restrictions. 1 + dialing is assumed with an LCR access code of "9".

Example 1 - RSC 1 Assignment (Allow local only)

<u>ATDP</u> <u>Command</u>-

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 1

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

Notice that assignments for digit codes "90" and "91", which cover operator calls and all 1 + Area Code calls, are not assigned. Digit Codes not assigned are automatically restricted.

<u>AARP</u> <u>Command</u>-

Not Required. This command is only required when TDI = 2 is assigned in ATDP.

Example 2 - RSC 2 Assignment

(Allow local plus Area Codes 718, 212, 201, and 914)

<u>ATDP</u> <u>Command</u>-

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 2

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

To allow Area Codes 718, 212, 201, and 914, repeat the ATDP command for the following Digit Codes:

DC: 91718   TDI: 1 (Connection is Allowed)

DC: 91212   TDI: 1 (Connection is Allowed)

DC: 91201   TDI: 1 (Connection is Allowed)

DC: 91914   TDI: 1 (Connection is Allowed)

This allows these specific Area Codes.

Area Codes not assigned are automatically restricted.

<u>AARP</u> <u>Command</u>-

Not Required.

Example 3 - RSC 3 Assignment

(Allowed local plus Area Codes 718, 212, and 201; and office codes 239, 465, and 798 only within Area Code 914.)

<u>ATDP</u> <u>Command</u>-

TDM/OG: O (Outgoing Connection)

Programming (cont'd)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 3

DC: 92   TDI: 1(Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

To allow Area Codes 718, 212, and 201, repeat the ATDP command for the following Digit Codes:

DC: 91718   TDI: 1 (Connection is Allowed)

DC: 91212   TDI: 1 (Connection is Allowed)

DC: 91201   TDI: 1 (Connection is Allowed)

To allow office codes 239, 465, and 798 within Area Code 914, assign the ATDP command as follows:

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 3

DC: 91914   TDI: 2 (Go to AARP Command)

NND: 6 (Begin restriction after 91914, i.e; the 6th digit dialed.)

AARP Command-

OGRT: 1   RSC: 3

FLAG: 1   DC: 239   RES: 1 (Connection is Allowed)

Repeat these same assignments for the following Digit Codes:

OGRT: 1   RSC: 3   FLAG: 1   DC: 465   RES: 1

OGRT: 1   RSC: 3   FLAG: 1   DC: 798   RES: 1

This allows office codes 239, 465, and 798 within Area Code 914. All other office codes are automatically restricted.

Note: *This method of assignment allows office codes 239, 465, and 798 to any Area Code that is assigned as TDI = 2 in ATDP. For example, if the assignment for Area Code 718 was changed from TDI = 1 (allowed) to TDI = 2, then the office codes 239, 465, & 798 would also be allowed for Area Code 718.*

If different Office Codes are to be allowed in the 718 Area Code (for example 623 and 567), then the assignments for Area Codes 914 and 718 must be made as follows:

ATDP Command-

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

RSC: 3   OGRT: 1

DC: 919   TDI: 2 (Go to AARP Command)

NND: 3

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

RSC: 3   OGRT: 1

DC: 917   TDI: 2 (Go to AARP Command)

NND: 3

This tells the system to check AARP tables for restrictions for all Area Codes beginning with 9 and 7.

AARP Command-

OGRT: 1   RSC: 3   FLAG: 2

DC: 914239   RES: 1 (Connection is Allowed)

DC: 914465   RES: 1 (Connection is Allowed)

Programming (cont'd)

DC: 914798   RES: 1 (Connection is Allowed)

OGRT: 1   RSC: 3   FLAG: 2

DC: 718623   RES: 1 (Connection is Allowed)

DC: 718567   RES: 1 (Connection is Allowed)

This allows just these office codes within these particular Area Codes. All other area codes beginning with "7" or "9" are also restricted. At this point, if allowing Area code 714 is desired, assign AARP as follows:

AARP Command-

OGRT: 1   RSC: 3   FLAG: 1

DC: 714   RES: 1 (Connection is Allowed)

Example 4 - RSC 4 Assignment

(Allow local plus all Area Codes except 808, 213, 408, and 714)

ATDP Command-

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 4

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 4

DC: 912   TDI: 2 (Go to AARP Command)

NND: 3

DC: 913   TDI: 2 (Go to AARP Command)

DC: 914   TDI: 2 (Go to AARP Command)

\\\   (Through)

DC: 919   TDI: 2 (Go to AARP Command)

This tells the system to check AARP tables for all restrictions for Area Codes.

AARP Command-

OGRT: 1 RSC: 4   FLAG: 1   DC: 808   RES: 0*

OGRT: 1 RSC: 4   FLAG: 1   DC: 213   RES: 0*

OGRT: 1 RSC: 4   FLAG: 1   DC: 408   RES: 0*

OGRT: 1 RSC: 4   FLAG: 1   DC: 714   RES: 0*

OGRT: 1 RSC: 4   FLAG: 2   DC: 000000 RES: 1**

*This assignment restricts the Area Codes listed.

**DC: 000000" indicates all other Destination Codes except those already assigned Destination Codes.

RES: Restriction Data: (0/1)

       0:   Not assigned Area Codes are restricted

       1:   Not assigned Area Codes are allowed.

The above assignment allows all other dialing patterns (Area Codes) except 808, 213, 408 and 714.

Example 5 - RSC 5 Assignment

(Allow local plus all Area Codes, but restricted from office code 976 within each Area Code)

Programming (cont'd)

ATDP Command-

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 5

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 5

DC: 912   TDI: 2 (Go to AARP Command)

NND: 6

DC: 913   TDI: 2   NND: 6

(Go to AARP Command)

DC: 914   TDI: 2   NND: 6

(Go to AARP Command)

\\\   (Through)   \\\

DC: 919   TDI: 2   NND: 6

(Go to AARP Command)

This tells the system to check AARP tables for all restrictions for Area Codes.

AARP Command-

OGRT: 1   RSC: 5   FLAG: 1   DC: 976

RES: 0 (Restricted)

OGRT: 1   RSC: 5   FLAG: 1   DC: 000000

RES: 1 (Allowed)

This will restrict office code 976 and allow every other office code.

STEP 6: **ARRC** - Provide trunk-to-trunk connection capabilities according to the requirements of the system. The applicable trunk-to-trunk connections will be those provided by parameter ARI-D-RES Direct Connection; for example, REMOTE ACCESS TO THE SYSTEM [R-2] and TANDEM SWITCHING OF TIE TRUNKS-2/4 WIRE [T-1].

ICRT: Incoming Route Number

OGRT: Outgoing Route Number

ARI-A-RES: This allows/restricts trunk-to-trunk and tandem connection via the Attendant Console.

0: Alternate routing is Restricted

1: Alternate routing is Allowed

ARI-D-RES: This allows/restricts trunk-to-trunk and tandem connections via direct-dial access from a station.

0: Alternate routing is Restricted

1: Alternate routing is Allowed

2: Toll Restriction is Required

STEP 7: **ATDP** - When TOLL RESTRICTION is required for trunk-to-trunk connections, ATDP will provide all the digit information. Therefore, up to 11 digits may be listed as being allowed for a specific trunk-to-trunk connection. TDI = 2 should not be assigned because AARP cannot be used for Tandem connections.

Programming (cont'd)

Example 6 - Trunk-to-Trunk Connection

Allow all Local Calls

ATDP Command-

TDM/OG: T (Tandem Connection)

ICRT: Route 2   OGRT: 1

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

Notice that assignments for digit codes "90" and "91", which cover operator calls and all 1 + Area Code calls, are not assigned. Digit Codes not assigned are automatically restricted.

Example 7 - Trunk-to-Trunk Connection

Allow Limited Area Codes

ATDP Command-

TDM/OG: T (Tandem Connection)

ICRT: Route 2   OGRT: 1

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes "93" through "99" to allow all local office codes.

To allow Area Codes 718, 212, 201, and 914 repeat the ATDP command for the following Digit Codes:

DC: 91718   TDI: 1(Allow)

DC: 91212   TDI: 1(Allow)

DC: 91201   TDI: 1(Allow)

DC: 91914   TDI: 1(Allow)

This allows these specific Area Codes.

All the Area Codes which are not assigned are automatically restricted.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1:   **ARSCN** - Assign the route restriction class.

STEP 2:   **ATDPL/N** - Assign the digit codes to be allowed or denied access, or toll-restricted.

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *For more detailed information, see the NEAX2400 IMX Fusion Network System Manual.*

T-8 Trunk Answer from Any Station (TAS)

General Description

This feature allows any station (except one with incoming restrictions) to answer incoming calls when the system is in Night Mode. Incoming exchange network calls will activate a common alert (TAS) signal at the customer's premises. By dialing a specified code, any station may answer the call and then extend it to any other station using CALL TRANSFER-ALL CALLS [C-11].

Operating Procedure

1. TAS signal (bell, buzzer, etc.) sounds.
2. Lift the handset, receive dial tone.
3. Dial the specified TAS access code.
4. Connection to incoming call is completed.

Service Conditions

1. An incoming call that terminates in the Night mode will have the following priority:
   a.) NIGHT CONNECTION-FLEXIBLE [N-2]
   b.) NIGHT CONNECTION-FIXED [N-1]
   c.) TRUNK ANSWER FROM ANY STATION (TAS) [T-8]
2. TAS indication will be activated for the following incoming calls:
   a.) Listed Directory Number
   b.) Foreign Exchange
   c.) WATS
   d.) CCSA
3. All consoles assigned to handle calls for a particular group of stations (whether or not they belong to the same TENANT [T-12]) must have NIGHT CONNECTION [N-1,2] set before this feature will be activated.
4. The TAS indicator can be provided on a per-tenant basis.
5. The TAS indicator must be locally-provided.
6. This feature is sometimes referred to as Universal Night Answer (UNA).
7. Individual stations may be denied access to this feature via CLASS OF SERVICE-INDIVIDUAL [C-15].
8. If the system has changed to Day mode while a TAS call is being indicated, the ATTENDANT CONSOLE [A-3] can be connected to this call.
9. Only one TAS per Tenant can be assigned as the TAS signalling port.

Interactions

1. For TAS to operate, an ATI circuit card is required, and the system must be in the Night mode, depending on the type of Attendant Console system that is in service. Exercise care when setting the resistance value via switch settings on the ATI circuit card.
2. TENANT SERVICE [T-12]: Only one TAS circuit may be assigned per tenant.
3. NIGHT CONNECTION-FIXED/FLEXIBLE [N-1, 2]: TAS can be used in conjunction with NIGHT CONNECTION-FIXED/FLEXIBLE [N-1, 2]. When the Night Connection station(s) is busy, incoming calls are directed to TAS.

Interactions (cont'd)

4. CALL TRANSFER-ALL CALLS [C-11]: A station answering a call via the TAS feature will have access to the transfer feature.

5. CENTRALIZED ATTENDANT SERVICE (CAS) [C-20]: TAS may be installed at either the Main site only or at both the Main and Satellite sites. Operations at either site are the same as TAS installed in a non-CAS system. The Satellite system must have a means of placing the system into Night mode. This would require an ATI circuit card connected to a Night switch.

6. CALL FORWARDING - ALL CALLS [C-5] / BUSY LINE [C-2]: When a Direct Inward Dialing (DID) call terminates to a station setting CALL FORWARDING - ALL CALLS [C-5] or BUSY LINE [C-2] to the Attendant, the call can be answered using the TAS feature.

7. CLASS OF SERVICE-INDIVIDUAL [C-15]: Stations must be allowed access to TAS via Service Feature Class. The station Route Restriction Class will either allow or deny connection to incoming C.O. calls via TAS.

8. DAY/NIGHT CLASS OF SERVICE [D-15]: A CLASS OF SERVICE-INDIVIDUAL [C-15] change that occurs when the system goes into Night mode may allow a station to answer incoming trunk calls that are restricted to that station in Day mode.

9. HOUSE PHONE [H-2], INDIVIDUAL ATTENDANT ACCESS [I-6], STATION-TO-STATION CALLING-OPERATOR ASSISTANCE [S-12], and ATTENDANT NIGHT TRANSFER [A-19]: These calls will not be directed to TAS when the system is in Night mode.

10. CONSULTATION HOLD [C-17]: TAS cannot be accessed via CONSULTATION HOLD.

11. TRUNK ANSWER ANY STATION will not default if other provisions are not made to answer incoming calls when the system is in Night mode. See the ACFR command.

12. The type of Attendant Console system used determines how the system will enter into the Night mode. See System Data 2, Index 2, Bits 2 & 3.

13. A user receives a reorder tone after dialing the TAS access code if one or more of the following applies:
    a.) Station line is inward restricted.
    b.) Station line is fully restricted.
    c.) Station is restricted from the TAS access code.
    d.) Station has a party on Hold.
    e.) Another station has answered the TAS call and no other calls are in the TAS queue.

14. Incoming calls remain in the TAS queue until answered from a station or until abandoned by the far end.

Programming

STEP 1: **ASYD** - System Data 1, Index 68, Bit 2. Type of TAS ringing; 0/1: Interrupted/Continuous.

SYS1, Index 77, Bit 0. Is Day/Night change accomplished by removing Attendant Console handset? 0/1: No/Yes.

System Data 1, Index 229, Bit 3. Day/night change system message printout. 0/1: No/Yes.

STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to TRUNK ANSWER FROM ANY STATION, SRV = SSC (Service Code), SID = 16 TAS. Connection Index of CI = N, Normal (N).

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 13 for the station to receive TRUNK ANSWER FROM ANY STATION.

Programming (cont'd)

STEP 5: **ACFR** - Allow a Transfer Service Feature Index of 5, TAS to the listed types of incoming calls to be answered by TAS. The Call Class Indexes (CCI) will correspond to ARTD, CDN 6:TCL; Trunk Class parameter.

      CCI: 1-LDN

                2-DDD2

                3-DDD3

                4-TIE LINE

                5-DDD4

STEP 6: **ATAS** - Assign the TAS circuit to the TN, MG, PIM, and the circuit number: 0/1; based on the circuit location. TAS CKT # = Attendant Console CKT #.

T-9   Trunk Group Busy Lamp

General Description

This feature provides the ATTENDANT CONSOLE [A-3] with a visual indication when all trunks in a particular trunk group are busy (LDN, WATS, FX, DOD, CCSA, TIE or Special Trunks). Assignment of the TGBLs is made using the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

Operating Procedure

No manual operation is required.

Service Conditions

1. The ATTENDANT CONSOLE [A-3] must have a designated TRUNK GROUP BUSY LAMP (TGBL) section.
2. This feature may be used on trunk groups consisting of WATS, TIE, FX, and special trunks.
3. Ten TGBLs are available on each Attendant Console.
4. Trunk Group Warning to indicate when a preset number of trunks in a group is busy is not provided.
5. Trunk groups cannot be combined to light a common TGBL.
6. A maximum of 10 trunks including LD and TIE are displayed on an Attendant Console.
7. Desk Console cannot be used to activate this feature.

Interactions

1. ATTENDANT CONSOLE [A-3] number is the equivalent to the trunk number when assigning the Attendant Console Route 901 in ATRK.
2. The ATRK command must be assigned before the ATGL command. If ATRK is not assigned first, ERROR: 0245, "ATTENDANT CONSOLE [A-3] not assigned yet", will be indicated.

Programming

STEP 1: **ASYD** - System Data 1, Index 9. Assign the number of ATTENDANT CONSOLE [A-3] to be used in the system.

STEP 2: **ATRK** - Assign Route 901 to the Attendant Console.

STEP 3: **ARTD** - Assign route data for each Trunk Group that will be represented by a Trunk Group Busy Lamp.

STEP 4: **ATRK** - Assign trunks to the routes assigned in ATRK.

STEP 5: **MBTK** - Make idle the trunks that are assigned, including the ATTENDANT CONSOLE [A-3].

STEP 6: **ASYD** - System Data 1, Index 15, Bits 0-3. In hexadecimal, assign how many TGBLs are in service, to a maximum of 10 lamps. Assign 0AH.

STEP 7: **ATGL** - Assign the ATTENDANT CONSOLE [A-3] number, the TGBL number (1-10), and the Route Number(s) to be associated with the TGBL.

FCCS Programming

Programming for the IMX-U

(Series 7400 software enhancement) TGBL data can be transmitted to all the local nodes by the circuit card DLMX (PA-PC94) via DLKC circuit cards in the IMX-U. For more detailed information, see the NEAX2400 IMX Office Data Specification and the NEAX2400 IMX Circuit Card Manual.

Programming for the DLMX (PA-PC94) Circuit Card

STEP 1: **ASYD** - SYS1 INDEX 15, b0-3: Number of Trunk Group Busy Lamps (TGBL) for Attendant Console.

Assign 01 (Hex) - 0A (Hex) for 1-10 busy lamps. **(Note 1)**

Note 1: *Unify the data to all the local nodes.*

STEP 2: **ASYDL** - SYS1 INDEX 804, b1: Transmission of Logical Route Busy Information.

0/1: Out (ATGL) /In service (ATGLL) **(Note 2) (Note 4)**

Note 2: *Assign the system data to the each local node.*

STEP 3: **ATRK** - Assign the trunk data of DLMX.

RT: 938 (DLMX)

LENS: Assign LV7 of odd-number Group (G) **(Note 3)**

Note 3: *Assign the trunk data to the local node which the DLMX card(s) is/are mounted.*

STEP 4: **ATGLL** - Assign the ATTENDANT CONSOLE [A-3] number, the TGBL number (1-10), and Logical Route Number that are associated with the TGBL.

Note 4: *When the data of ASYD SYS1, INDEX 804 b1 is changed, ATGLL has to be reassigned.*

Note 5: *Before assigning the ATGLL, FPC of the Node which the Attendant Console is established, is needed to be assigned by the command ASYDL SYS1 INDEX 640.*

STEP 6: **MBTK** - Assign the Make Idle status to the trunk which DLMX card(s) is/are mounted.

T-10   Trunk-to-Trunk Connection

General Description

This feature provides any user with the ability to conference together either two Central Office calls or a Central Office and TIE Line call.

Operating Procedure

1. Place incoming caller on hold.
2. Receive special dial tone.
3. Dial the desired Central Office or TIE access code.
4. Receive second dial tone.
5. Dial the desired number; receive answer.
6. Announce the conference and momentarily press the switch hook again.
7. The original party is now included in connection.

Service Conditions

1. The originating party may hang up at any time. The additional two parties will not be disconnected.
2. This feature may be restricted to individual stations via System Data.
3. In the case of outgoing calls on trunks with no answer supervision, this feature may be activated only after 18 seconds have elapsed since the last digit was dialed. This timer is programmable in System Data.
4. In the case of outgoing calls on trunks with answer supervision, this feature may be activated as soon as the called party answers.
5. A user may hang up after completing a TRUNK-TO-TRUNK CONNECTION without affecting the connection of the two outside parties, provided that:
    - a.) One trunk is incoming and the other is outgoing.
    - b.) Both trunks are ground start.
    - c.) Users wait a programmed time interval after dialing an outside line before hanging up.
6. If the originating party encounters a no-answer or busy signal when trying to conference a third party, the originating party switch hook flashes and is reconnected to the held call.
7. This feature is inoperative when release signal is not provided from the distant end.

Interactions

1. For direct trunk-to-trunk connection, see TANDEM SWITCHING OF TIE TRUNKS-2/4-WIRE [T-1].
2. If a THREE-WAY CALLING [T-2] connection includes two trunks, then when the station hangs up, the trunk will release, unless the trunks are allowed TRUNK-TO-TRUNK CONNECTION via the ARRC command, ARI-D-RES.

Programming

STEP 1:   **ASYD** - System Data 1, Index 156. The timer value for non-senderized trunks between seizure and when a switch hook flash is possible. Default is 30 seconds.Without SMDR, it is recommended to change it to two seconds. Program 31H.

System Data 1, Index 157. The timer value for senderized trunks between seizure and when a switch hook flash is possible. Default is 18 seconds. Without SMDR, it is recommended to change it to two seconds. Program 31H. (See STATION MESSAGE DETAIL RECORDING [S-10]).

Programming (cont'd)

System Data 2, Index 1, Bits 0 & 1. CONSULTATION HOLD. Assign data "11" for CONSULTATION HOLD service on Originating, Terminating, and Tandem calls.

System Data 2, Index 6, Bit 2. This Bit remains as data "0". CALL TRANSFER-ALL CALLS [C-11].

System Data 2, Index 6, Bit 3. Enable add-on station. This Bit remains as data "0" for THREE-WAY CALLING [T-2].

System Data 3, Index 2. Assign data 91H for normal switch hook flash values.

STEP 2: **ARSC** - Stations allowed to establish TRUNK-TO-TRUNK CONNECTION must be provided access to routes that have been allowed TRUNK-TO-TRUNK CONNECTION in the ARRC command.

STEP 3: **ASFC** - Assign a Service Feature Class that allows SFI 10 to stations that will have CALL HOLD [C-6].

STEP 4: **ATRK** - Assign these LENs as Route 909, Digital Conference Trunk. LENs consist of the following:

XX	**X**	**XX**	**X**
Module Group	**Unit**	**Group**	**Level**

Group and Level numbers for the Digital Conference Trunk are 210, 213, 216, 221, 224, 227, 232, and 235.

STEP 5: **ARRC** - Routes that will be allowed TRUNK-TO-TRUNK CONNECTION must be allowed here for ARI-A-RES.

ICRT: Incoming Route Number

OGRT: Outgoing Route Number

ARI-A-RES: This allows/restricts trunk-to-trunk (tandem) connection via the Attendant Console and stations.

ARI-D-RES: This allows/restricts trunk-to-trunk (tandem) connections via Direct Dial access from a station and trunks.

0: Alternate routing is restricted

1: Alternate routing is allowed

0: Alternate routing is restricted

1: Alternate routing is allowed

2: Toll Restricted

When ARI-D-RES is needed for a direct dial TRUNK-TO-TRUNK CONNECTION, refer to the application within this document for the programming steps. Such applications include REMOTE ACCESS TO SYSTEM [R-2], TANDEM SWITCHING OF TIE TRUNKS-2/4-WIRE [T-1], INCOMING CENTRAL OFFICE TO TIE LINE CONNECTION [I-3], and TOLL RESTRICTION-3/6-DIGIT [T-7].

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ARSCN** - Stations allowed to establish TRUNK-TO-TRUNK CONNECTION must be provided access to routes that have been allowed TRUNK-TO-TRUNK CONNECTION in the ARRC command.

FCCS Programming (cont'd)

STEP 2: **ARRCN** - Routes that will be allowed TRUNK-TO-TRUNK CONNECTION must be allowed here for ARI-A-RES.

    ICRT: Incoming Route Number

    OGRT: Outgoing Route Number

    ARI-A-RES: This allows/restricts trunk-to-trunk (tandem) connection via the Attendant Console and stations.

    ARI-D-RES: This allows/restricts trunk-to-trunk (tandem) connections via Direct Dial access from a station and trunks.

        0:   Alternate routing is restricted

        1:   Alternate routing is allowed

        0:   Alternate routing is restricted

        1:   Alternate routing is allowed

        2:   Toll Restricted

When ARI-D-RES is needed for a direct dial TRUNK-TO-TRUNK CONNECTION, refer to the application within this document for the programming steps. Such applications include REMOTE ACCESS TO SYSTEM [R-2], TANDEM SWITCHING OF TIE TRUNKS-2/4-WIRE [T-1], INCOMING CENTRAL OFFICE TO TIE LINE CONNECTION [I-3], and TOLL RESTRICTION-3/6-DIGIT [T-7].

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

T-12 Tenant Service

General Description

This feature provides for more than one organization (tenant) to share the same PBX. Through system programming, each organization may be restricted to its own Central Office trunks, ATTENDANT CONSOLEs [A-3], and extension links. In addition, incoming calls are directed to the specific organization (tenant).

Operating Procedure

No manual operation is required.

Service Conditions

1. An Attendant Console is normally provided for each tenant. However, when required, a single common console may be shared by two or more tenants.
2. Inter-office calling between tenants may or may not be restricted, depending on System Data.
3. Different tenants may share a common group of trunks, where required.
4. When a tenant station dials "0" (Operator Call Code), it will be connected to that tenant's console.
5. Different tenants cannot use the same numbering plan.
6. The same telephone numbers cannot be assigned among different Tenants (for example, stations numbered 2XXX can be associated with only one Tenant).
7. STATION-TO-STATION [S-11], CALL TRANSFER [C-11] THREE-WAY CALLING [T-2], TAS [T-8] and CALL FORWARDING [C-2, 3, 5] calls between Tenants can be restricted or allowed.
8. SMDR [S-10] includes Tenant identification.
9. The same access code can be assigned among Tenants for service features (for example, CALL HOLD [C-6], CALL BACK [C-1], CALL PICKUP - GROUP [C-7], CALL FORWARDING - ALL CALLS - D^{term} [C-5D], SPEED CALLING [S-3], TAS [T-8], etc.).
10. The NEAX2400 IMX can provide TENANT SERVICE [T-12] to a maximum of 63 tenants.
11. Tenant numbers should be allocated on a network basis for the FCCS network.

Interactions

1. To provide TENANT SERVICE, features need not be separated. Whenever possible, keep features common to use data memory as economically as possible. When commands are separated, they must be programmed for each tenant accommodated in System Data 2.
2. FORCED ACCOUNT CODES [F-7] and AUTHORIZATION CODES [A-20] do not require separate tenant service for AMND, System Data 1, Index 93, Bit 6.
3. Each tenant may have its own Attendant Console(s), unless that number exceeds system capacity; for example, five tenants in a two-PIM configuration. The number of consoles per tenant is not limited by programming but is limited by the system configuration.
4. Different tenants may or may not share the same CO trunks. Termination of a trunk is a function of the ARSC command. DID trunks can be assigned to any tenant. However, the Listed Directory Number, as assigned in the ALDN command, determines where the call terminates. If the incoming LDN digits are assigned against Tenant 2, the call terminates to the Tenant 2 Attendant Console, even if the digits come on a Tenant 1 trunk.

Interactions (cont'd)

5. CALL FORWARDING [C-2, 3, 5]: When a station call forwards to the Attendant Console, the call will go to the originating station's Attendant Console, as assigned via the Tenant parameter of the ATRK command.

6. CLASS OF SERVICE-INDIVIDUAL [C-15]: Refer to the programming section. This feature affects the construction of all classes of service.

Programming

STEP 1: **ASYD** - System Data 1, Index 8. Assign the number of tenants that the system will serve, in hexadecimal format.

System Data 1, Indexes 92, 93, & 94. The Bits of these indexes allow for either common or separate tenant assignments for other specific commands. The following Bits represent the following commands. Assign as follows; 0/1: Separate/Common.

Index 92

Bit 0, All of ASYD, System Data 2

Bit 1, ASPA

Bit 2, ANPD

Bit 3, ALDN, ASDT & ASAT (Must be assigned as data "1".)

Bit 4, ARSC

Bit 5, ACFR

Index 93

Bit 0, ASFC

Bit 1, ACFO

Bit 2, ATAS

Bit 3, ASPD

Bit 4, ASTP & AFRS (O.G.Connection)

Bit 5, ASTP & AFRS (I.C.Connection)

Bit 6, AMND

Bit 7, AAED

Index 94

Bit 0, ATNR

Bit 2, APCR. (EPN Only)

STEP 2: **ATNR** - Assign the appropriate tenant restrictions.

DAY/NIGHT: Day/Night Mode

    D: Day Mode

    N: Night Mode

OGTN: Originating Tenant

TMTN: Terminating Tenant

TRI: Tenant Restriction Index (0-15)

RES: Restriction Data (0/1)

    0: Restricted

    1: Allowed

Programming (cont'd)

Assignment of Tenant Restriction Class

TRI: Tenant Restriction Index

    0: Allows intra and inter-tenant station calls. Allow calls within tenant.

    1: Allows CALL FORWARDING-ALL CALLS, DON'T ANSWER, BUSY LINE on an intra and inter-tenant basis. Allow this feature within tenant.

    2: Not used.

    3: Allows the CALL FORWARDING-ALL CALLS, DON'T ANSWER, and BUSY LINE on an intra and inter-tenant basis as when set by the Attendant Console.

    4: Allows or restricts incoming calls to the Attendant Console on a per-tenant basis. Thus, an Attendant Console may handle calls only for a specific tenant.

    5: Day/Night Mode Change Restriction is not used in North America.

    6: Not Used.

    7: Not Used.

STEP 3: **ATRK** - Assign the Attendant Consoles to receive incoming trunks according to tenant. The TN parameter will determine which specific tenants this Attendant Console will handle. Example: In a three-tenant system, the Attendant Console will handle tenants 1 and 3. Assign the following:

RT: 901   TK: 1

LENS: 000200

CNT: 2   1   TN: 1   RSC: 0

CNT: 2   2   TN: 3   SFC: 0

STEP 4: **MBTK** - Make idle the Attendant Console trunks.

FCCS Programming

No unique programming is required for the FCCS network.

T-18D Time Display - D^{term}

General Description

This feature provides a digital time display on a D^{term}'s LCD.

Operating Procedure

No manual operation is required.

Service Conditions

1. The time is displayed according to the clock in the PBX and is set via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

2. Time is displayed automatically:

```
        12:48    PM      WED     27
```
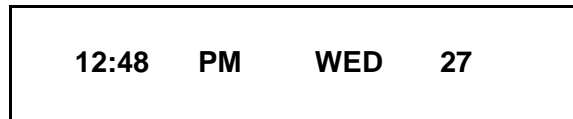
3. Time is constantly displayed on the center line of the LCD.

4. The time will not be displayed when a D^{term} station is set for a second line MESSAGE WAITING INDICATION -D^{term} [M-85D] and MW/VMM is displayed.

5. While NAME DISPLAY - SYSTEM [N-28], NAME DISPLAY - SYSTEM - CCIS [N-37], or NAME DISPLAY WITHOUT - OAI - CCIS [N-37] 16-digit display is activated on the D^{term} with 2-line LCD display, the time is not displayed. When both the calling/called station are released from a station-to-station call, the LCD of the calling/called station returns to the TIME DISPLAY.

Interactions

1. Only the D^{term} with display has the TIME DISPLAY feature capability.

2. The calendar and time must be set via ATIM command.

Programming

STEP 1: **ATIMN** - Assignment of time data command for the FCCS network.

STEP 2: **ATIM** - Assignment of time data command must be used to provide the system with the date and time.

STEP 3: **ASDT** - The D^{term} itself must be assigned. Assign to an LEN served by an 8DLC or 16ELC, with a Telephone Equipment Class (TEC) of 12.

T-23   Trunk Line Appearance

General Description

This feature allows a D^{term} user to directly access a Central Office trunk or TIE Line without dialing an access code. Incoming calls can also be answered at the TRUNK LINE APPEARANCE [T-23].

Operating Procedure

To access an outgoing trunk:
1. Press the TRUNK LINE APPEARANCE line/feature key.
2. Lift the handset or press the SPEAKER key. Central Office or distant PBX dial tone will be heard.
3. Dial the destination number.

To answer an incoming call from the TRUNK LINE APPEARANCE:
1. Ringing and an LED indication alert the D^{term} user of the incoming call.
2. Press the TRUNK LINE APPEARANCE line/feature key.
3. Lift the handset or press the SPEAKER key.
4. Answer the incoming call.

Service Conditions

1. A TRUNK LINE APPEARANCE can be accommodated on D^{term}s, and 24/40-button Add-On Modules.
2. A TRUNK LINE APPEARANCE can be assigned as a SOFTWARE LINE APPEARANCE [S-33].
3. A TRUNK LINE APPEARANCE can be assigned in a Circular or Pilot Hunt Group.
4. A TRUNK LINE APPEARANCE is available for destination offices that can receive DP/PB signals.
5. CALL FORWARDING-ALL CALLS [C-5], CALL FORWARDING-BUSY LINE [C-2] and CALL FORWARDING-DON'T ANSWER [C-3] can be set at the Attendant Console for a TRUNK LINE APPEARANCE assigned to a Virtual Line Appearance or an unused data port.
6. A TRUNK LINE APPEARANCE can receive incoming calls from internal stations, DID, DIT, or TIE Line trunks.
7. When a call is originated with the RECALL key and the trunk is busy, the call is in the queue waiting to seize the idle trunk. If no dial tone has been found for two seconds, the calling party hears a busy tone (if the idle trunk is found within two seconds, the station is connected to the idle trunk).
8. When TRUNK LINE APPEARANCE is used for the DP line, program two seconds or less for outgoing inhibit timing after trunk release (ARTD CND 34: GUARD = 1-3).

Interactions

1. For incoming calls, the trunk must be assigned as a DIRECT-IN TERMINATION [D-7] trunk.
2. The trunk may still be seized by other stations or the ATTENDANT CONSOLE if the route is not isolated from other features such as LEAST-COST ROUTING-3/6 DIGIT [L-6] or ROUTE ADVANCE [R-6].
3. The trunk may be selected by INDIVIDUAL TRUNK ACCESS [I-4]. If accessed, the D^{term} will not have a lit LED for busy condition, as would occur when a trunk is seized in a 1A2 key system. If the user of TRUNK LINE APPEARANCE goes off hook to seize the trunk, busy tone is returned. The LCD displays:

> **BUSY**
>   **(Time Display)**

Interactions (cont'd)

4. TRUNK LINE APPEARANCE and HOTLINE-OUTSIDE [H-9] are mutually exclusive. Both features require the AHLS command, and the same station cannot be provided with two Hotline features.

Programming

STEP 1: **ASDT** - Assign the station with the TRUNK LINE APPEARANCE as a virtual line (TEC = 18).

TN: Tenant Number

STN: Station Number

LENS: Line Equipment Number (6 digits)

TEC: Telephone Class (1-31)

    1: DP (10pps)

    2: PB

    3: DP/PB

    12: D^{term}

    13: Data Terminal Via D^{term}

    14: Hotline

    15: CAS Line

    16: Data Terminal Via Data Module

    18: Virtual Circuit

    23: ISDN Terminal

    27: Eight Conference Equipment

RSC: Route Restriction Class (0-15)

For assignment of RSC, ARSC command.

SFC: Service Feature Class (0-15)

For assignment of SFC, ASFC command.

STEP 2: **ARTD** - Assign the route of the TRUNK LINE APPEARANCE as a ground-start, ring-down trunk.

RT: 1

1-OSGS	:2	2-ONSG	:3	3-ISGS	:1	4-INSG	:3	5-TF	:1/3
6-TCL	:1	7-L/T	:1	8-RLP	:2	15-LSG	:1	44-PRV	:1

STEP 3: **ATRK** - Assign the LENs, Route Number, Trunk Number, and Tenant Number. Assign one or more trunks to a specific route used to be connected as a TRUNK LINE APPEARANCE.

STEP 4: **MBTK** - Assign the make idle status to the trunks.

STEP 5: **ASFC** - Assign a Service Feature Class that allows Brokerage Hot Line (SFI = 36) to the stations to receive TRUNK LINE APPEARANCE.

STEP 6: **AHLS** - Assign the following parameters for the station with the TRUNK LINE APPEARANCE:

HOT TN: Tenant Number.

STN: Station with the TRUNK LINE APPEARANCE.

TYPE: For TRUNK LINE APPEARANCE, assign Type 3.

CON RT: Assign the TRUNK LINE APPEARANCE Route.

TK: Assign the TRUNK LINE APPEARANCE trunk.

T-28   Trunk-to-Trunk Third-Party Cancellation

General Description

This feature allows a station to cancel an active trunk-to-trunk connection (during a three-way-connection) and return to the original call.

Operating Procedure

If a station is presently engaged in a call with another station or with a trunk party:
1.   Switch hook flash; receive special dial tone.
2.   Dial a trunk access code and the number for the desired third party; the called party is rung.
3.   Switch hook flash to establish a three-way connection.
4.   Switch hook flash to release the trunk; the station returns to the original call.

Service Conditions

1.   The third party that can be cancelled by this feature is an outgoing trunk seized by an outgoing access from CONSULTATION HOLD-ALL CALLS [C-17].
2.   If a Broker's Call has been activated by a D^{term}, the following restrictions apply:
    a.) In the case of CONSULTATION HOLD-ALL CALLS [C-17] outgoing (station hold), the third party can be cancelled as follows: Engaged in station-to-station call $\longrightarrow$ Three-Way Connection $\longrightarrow$ Switch hook.
    b.) The third party cannot be cancelled by the following sequence: Engaged in station-to-trunk call $\longrightarrow$ Three-Way Connection $\longrightarrow$ Switch hook.
    c.) This restriction does not apply to CONSULTATION HOLD-ALL CALLS [C-17] outgoing (trunk hold).

Programming

ASYD - System Data 1, Index 156. Trunk Soft Hold Timer A, used with second dial tone trunks. Assign data 00H for 30 seconds. (Data 31H may be used for a value of two seconds if CALL TRANSFER-ALL CALLS [C-11] is to be used immediately after connecting to the trunk.) This is the time between trunk connection and when switch hook flash is allowed on a non-senderized trunk connection.

System Data 1, Index 157. Trunk Soft Hold Timer A, used with senderized trunks. Assign data 00H for a value of 18 seconds. (Data 31H may be used for a value of two seconds, if CALL TRANSFER-ALL CALLS [C-11] is to be used immediately after connecting to the trunk.). This is the time between trunk connection and when switch hook flash is allowed on a senderized trunk connection. It is also used to determine when SMDR billing will begin.

System Data 2, Index 1, Bits 0 & 1. CONSULTATION HOLD allowed or denied? 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call denied; 11: All calls allowed. Normally assign data "11".

System Data 3, Index 2, Bits 0-3. Switch hook flash starts timer. To calculate this value: (1 ~ FH) x 120 msec = Timer.

Programming (cont'd)

System Data 3, Index 2, Bits 4-7. Switch hook flash ends timer. To calculate this value: (1 ~ FH) x 120 msec = Timer. For both beginning and ending timers, assign 91H for 120 - 1080 msec.

```
        f (t)              Bit 0-3                Bit 4-7
                                   SHF Detect
                          120 ms              1080 ms Disconnection
     0 ms

           No Detection
```
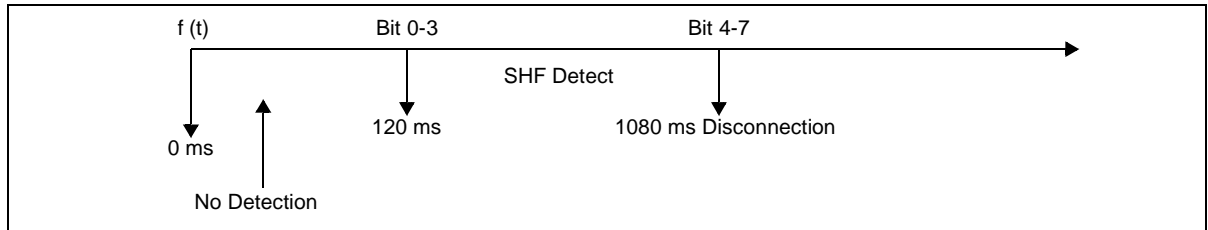
FCCS Programming

No unique programming is required for the FCCS network.

Note: *System timers may be set on a network basis in ASYDN.*

T-62　　　　　　　　　Timed Reminder

General Description

This feature allows a user to set a Timed Reminder call from the station. The system calls up the station at the designated time. When the station answers the call, the user hears a message or Music-On-Hold.

Operating Procedure

To set a Timed Reminder call:
1. Lift a handset; receive dial tone.
2. Dial the Timed Reminder (SET) access code.
3. Designate your desired time by dialing 4 digits. (Ex. 16:30 → 1630)
4. Hear service set tone or a recorded message which indicates the Timed Reminder call has been set.
5. Hang up.

To cancel a preset Timed Reminder call:
1. Lift the hand set; receive dial tone.
2. Dial the Timed Reminder (CANCEL) access code.
3. Hear service set tone or a recorded message which indicates the Timed Reminder call has been cancelled.
4. Hang up.

To answer a Timed Reminder call:
1. A station which has been set Timed Reminder starts ringing at the predetermined time.
2. Lift the handset.
3. Hear Music-On-Hold or a recorded message which indicates this call is a Timed Reminder call.
4. Hang up.

Service Conditions

1. In the following cases, the user attempting to set/cancel this service receives reorder tone:
   a.) when the SFI = 41 of the service class is 0,
   b.) when CALL FORWARDING - ALL CALLS [C-5] is set.
2. The wake-up times are to be set at five-minute intervals. For example, if the user dials 1004, the wake-up time will be set at 10:00 a.m.
3. 500 stations per local processor can be set for a single wake-up period. If the 500 stations limit is exceeded, the system will automatically set the wake-up time five minutes earlier (to the maximum of 75 minutes).
4. The wake-up time entered latest has the priority over the ones entered previously.
5. The no answer timer for the wake-up call is 30 seconds. After the no answer timer expires, no retry is performed.
6. If the link block, etc. occurs while being recalled, no retry is performed.
7. When the station is busy or lockout while being recalled, the station is recalled three minutes after. This retry is repeated three times.
8. When CALL FORWARDING - BUSY LINE is set to the station setting wake-up, the destination is recalled (except when the destination is not the station line, the station setting wake-up is recalled). When the destination is busy, no retry is performed.
9. When the announcement trunk is blocked, the user receives music.
10. When the Timed Reminder cancel code is dialed, the user hears Service Set Tone or the announcement even when the service is not set.

Programming

STEP 1: **ASYD** - System Data 1, Index 162, bits 6 and 7 tone type when a Timed Reminder call is answered.

b7	b6		b7	b6	
0	0 = Music-On-Hold		0	1 = Announcement	

Note: *When Music-On-Hold is selected, STEPs 5 through 8 are not required.*

System Data 1, Index 163, bit 7. Start time for Timed Reminder/Wake Up Call 0/1 = On time / 5min. earlier the appointed time.

System Data 1, Index 169, bits 4. through 7. Maximum advancing time for Timed Reminder calls, which becomes effective when the number of stations which have appointed the same time exceeds the threshold value (maximum 500 STNs per LP or CPU). This value is set as follows.

5x N (min.)   N ranges 0 to F (Hex).

STEP 2: **ASFC** - Allow this feature to proper service feature classes (SFI = 41). 0/1 = Restricted / Allowed

STEP 3: **ASPA** - Assign the following two access codes for this feature.

Timed Reminder (SET):SRV = SSC (Service Code), SID = 48

Timed Reminder (CANCEL):SRV = SSC (Service Code), SID = 49

STEP 4: **ARTD** - Assign route data for announcement trunk(s).

STEP 5: **ATRK** - Assign trunk data for the announcement trunk(s).

STEP 6: **MBTK** - Make idle the assigned trunk(s).

STEP 7: **ARSC** - Allow the connection between the assigned trunk(s) and stations.

STEP 8: **AAED** - Assign announcement equipment data.

EQP   = 16 (Timed Reminder Set-up Message)

EQP   = 18 (Timed Reminder Cancel Message)

EQP   = 22 (Timed Reminder/Wake Up Call Message for Announcement Trunk)

C: Duration of Connection

0/1:   Disconnected in 30 sec./ Until the station releases

R: Sending Ring Back Tone

0/1: To be sent / Not to be sent

A: Answer Signal Sending

0/1: No answer from in coming trunk / Answer from incoming trunk

M: Multiple Connection

0/1: Single / Multiple Connection

RT: Route Number   TK: Trunk Number

Standard programming is as follows:

C = 1, R = 1, A = 0, M = 1

T-63 Tone Block

General Description

This feature allows the user of a station (via analog adapter) or an analog station (PB) to restrict any call. This prevents interruption of data transmission, before the connection.

Operating Procedure

To set the service:
1. Lift the handset: receive the dial tone.
2. Dial the access code of "Data Privacy on Demand; Entry".
3. Hear the special dial tone or the dial tone (depending on the system data).
4. Dial the desired phone number.
5. The called party answers.

Note: *This service may also be set during communication by performing a switch hook flash.*

To cancel the service:
When the operating user cancels this service during the communication in progress:
1. Perform a switch hook flash (the called party is held).
2. Hear the special dial tone.
3. Dial the access code of DATA PRIVACY ON DEMAND [D-17] cancel.
4. Hear the service set tone.
5. Press the switch hook button to reconnect the held party.
6. Tone Block is cancelled.

Service Conditions

1. This service is available for the analog station or the D^{term} with analog adapter.
2. If the user stops to transfer a call in the middle of the operation, this service is not cancelled.
3. This service is cancelled when the station, which has been set Tone Block, is released from the connection.
4. Services to be restricted by setting Tone Block service are shown below.

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
BUSY VERIFICATION	[B-3]
EXECUTIVE RIGHT-OF- WAY	[E-1, 1D]
CALL WAITING TERMINATING	[C-12]
CALL WAITING - ORIGINATING	[C-31]

Interactions

1. When TONE BLOCK is set to the D^{term} which is assigned the DO NOT DISTURB (DND) key, the lamp of the DND key flashes. When the DND key is pressed, the lamp goes off and the TONE BLOCK service is cancelled.
2. A user can activate the current service for restricting a call (Data Privacy On Demand) as usual by:
   a.) dialing the access code for entry or cancel the service during communication, or
   b.) pressing the DND key for entry or cancel the service.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal, (N) and Hooking (H). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign the access code for Tone Block as shown below:

CI = H, SRV=SSCA, SIDA=48 (Data Privacy on Demand; Entry)

CI = H, SRV=SSCA, SIDA=49 (Data Privacy on Demand; Cancel)

CI = N, SRV=SSCA, SIDA=48 (Data Privacy on Demand; Entry)

STEP 3: **ASYD** - Assign the system data.

SYS1, INDEX322, b6

0=SPDT is sent after dialing the access code for this service.

1=DT is sent after dialing the access code for this service.

FCCS Programming

No unique programming is required for the FCCS network.

U-1 Uniform Call Distribution (UCD)

General Description

This feature distributes incoming calls to a UCD group of up to 100 stations. Calls are distributed to idle stations in a circular pattern, in the order in which they arrive.

Operating Procedure

To transfer a call to a busy UCD group:
1. All the stations in a UCD group are busy.
2. A user not in the group answers an incoming call (trunk or station).
3. The user dial the UCD primary number after pressing the switch hook or the TRANSFER key:
    a.) The user hears busy tone.
    b.) The calling party is held.
4. The station goes on-hook.
    a.) The calling party hears Ring Back Tone (during queuing).
5. The UCD group becomes idle:
    a.) The call terminates to an idle station in the UCD group.
    b.) The calling party hears Ring Back Tone. (during ringing)
6. The idle station answers the call:
    a.) The calling party is connected to the UCD station.

Service Conditions

1. The maximum number of UCD groups is 63.
2. A UCD group may have 100 stations.
3. UCD groups are assigned through the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
4. Stations are arranged in a circular-type hunt group. A call to the group starts at the first idle station, after the last station that received a call.
5. If all of the group's stations are busy, the call waits in a queue. The caller hears ringback tone. The first call in the queue will be answered.
6. CALL WAITING LAMP-UCD [C-76] will light (if programmed) after calls are in queue and will flash when the threshold value for that UCD group is reached.
7. A user can block UCD calls by dialing a Busy Out (BYO) code (1 to 3 digits), or if it is a D^{term}, by pressing the DND or BYO key. The user can still originate calls from and receive calls to its own telephone number. The user can dial the BYO code from a normal dial tone connection or from a CONSULTATION HOLD-ALL CALLS [C-17] condition.
8. Each UCD group is assigned a UCD group number, allowing DIRECT INWARD DIALING (DID) [D-8] calls to be routed to selected groups.
9. If the Attendant or the user transfers a call to a busy UCD group, the call will wait in queue until a station in the group becomes idle.
10. Incoming calls to individual stations in the group are not distributed by UCD hunting. Only calls to the UCD group number follow the circular distribution.
11. Each UCD group has a controlling station. Only the controlling station or the Attendant can activate or deactivate CALL FORWARDING-ALL CALLS [C-5] when the UCD group number is not a phantom number.

Service Conditions (cont'd)

12. If CALL FORWARDING-ALL CALLS [C-5] is set on a controlling station and the destination station is idle, a call to the UCD group is transferred. If the designated station is busy, the user will hear busy tone.

13. If CALL FORWARDING-ALL CALLS [C-5] is set on a non-controlling station, that station is skipped in any UCD hunt.

14. The Attendant can use BUSY VERIFICATION [B-3] to check the busy/idle condition of the UCD stations. If the BYO code or key has been used, the Attendant will receive a reorder tone.

15. CALL WAITING-ORIGINATING [C-31] can be activated by an individual UCD user towards another station within the system. Also, another user can activate this feature towards an individual UCD group station. CALL WAITING-ORIGINATING [C-31] can be activated toward a UCD group number when all the stations and the queue are busy. Waiting is set to the controlling station.

16. CALL WAITING-TERMINATING [C-12], when assigned to an individual UCD group station, allows the calling user to wait on the called station's line when it is busy. The group user can be connected to the waiting call by hanging up. The station rings and the call is connected when the caller goes off-hook. These calls have priority over UCD calls in the queue.

17. CALL BACK [C-1] can be activated by an individual UCD group user towards another station. Also, another user can activate this feature towards an individual UCD station. CALL BACK [C-1] can be activated toward a UCD group number when all the stations and UCD queue are busy. CALL BACK [C-1] is set to the controlling station.

18. A UCD group number can be used as the destination station of DIRECT-IN TERMINATION [D-7] or of NIGHT CONNECTION-FIXED/FLEXIBLE [N-1/N-2].

19. A UCD group number can be assigned as the destination station of OFF-HOOK ALARM [O-6], PRIORITY CALL [P-9], ATTENDANT NIGHT TRANSFER [A-19], and LDN NIGHT CONNECTION [L-28, 29].

20. If a Phantom Number is assigned to a controlling station, UCD hunting may or may not occur (depending on the APHN command setting), when the Phantom Number is dialed.

21. Three types of traffic measurements can be provided for the UCD feature:

    a.) UCD route peg count:
    - Count of incoming calls from each route to each UCD group
    - Count of calls answered by UCD
    - Count of other calls (abandoned, restricted, blocked)
      Example:

From 07/24 08:00 to 07/24 09:00				
Route	**UCD Group**	**Incoming**	**Answer**	**Abandon**
10	1	9	7	2
	2	15	15	0
Route Total	24	22	2	

    b.) UCD Group peg count:
    - Count of incoming calls to each UCD group
    - Count of answered calls
    - Count of other calls (abandoned, restricted, blocked)

Service Conditions (cont'd)

Example:

From 07/24 09:00 to 07/24 10:00			
UCD Group	**Incoming**	**Answer**	**Abandon**
1	12	6	6
2	11	8	3
Total	23	14	9

c.) UCD station peg count:
   • Count of incoming calls to each station in each group
   • Count of answered calls
   • Count of other calls (abandoned, restricted, blocked)
   Example:

From 07/24 9:00 to 07/24 10:00					
UCD Group	**TN**	**STN**	**Ringing**	**Answer**	**Abandon**
1	1	1000	4	4	0
		1001	3	2	1
Group Total			7	6	1

22. UCD Peg counts are available for calls transferred to the UCD group by the Attendant and for calls transferred to the UCD group from a station.

23. The total numbers of incoming calls for which the UCD queueing feature is available, and other incoming calls such as intra-office, tie line, etc., are as follows:

   1 IMG, 4 IMG system   384 calls/system maximum
   IMX-U (16 IMG) system   640 calls/system

   Calls above this limit are terminated by a busy tone connection.

24. During queueing block, the ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] is valid. The attendant hears reorder tone when the ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] is restricted.

25. OVERFLOW-UCD [O-13] is available.

26. When a UCD controlling station transfers the in-progress station call or trunk call to a station which has been set CALL FORWARDING-ALL CALLS [C-5] or CALL FORWARDING-BUSY LINE [C-2] whose forwarding destination is the UCD controlling station, these features are valid.

27. When UCD queueing is not available and the system data ASYD SYS 1 INDEX 60 bit 3 = 1 assigned, UCD peg count is not activated.

28. When the controlling station transfers the station/trunk to another station that has set CALL FORWARDING - ALL CALLS [C-5] or CALL FORWARDING - BUSY LINE [C-2] (to the same controlling station), call forwarding is activated and the MCI message is sent out.

29. Whether UCD incoming call information is to be sent to a Message Center Interface (MCI) or not can be specified on a UCD group basis using the AUCD command. This feature can be assigned to each UCD Group. In the case of UCD incoming calls overflowing to a UCD Group, the judgement whether the information is to be sent to MCI or not depends on the terminated UCD Group.

30. When OVERFLOW - UCD [O-13] is activated, the transferred destination's data decide whether UCD incoming call information is sent to MCI or not.

Service Conditions (cont'd)

31. This feature is available via FCCS link.

32. A UCD Group for FCCS service is not available for the destination of the dead level or the dead number.

33. The following number is assignable to a station of the UCD group.

   a.) Physical Station Number (Physical Station Number, Phantom Number, Monitored Number [Pilot No.], DTE station)

   b.) Telephone number

34. When activating this feature via the FCCS network, only the telephone number is available for FCCS service.

35. When activating this feature via the FCCS network, the maximum number of the UCD groups in a node is 63.

36. When activating this feature via the FCCS network, the station assigned by using the Physical Station Number and the station assigned by using the telephone number cannot be accommodated in the same group and the same node.

37. When activating this feature via the FCCS network, the maximum number of stations per group are as shown below:

   Physical Station Number: 100 stations
   Telephone Number: 100 stations

38. When activating this feature via the FCCS network, two types of UCD groups are available:

   Group (a):   All the stations belonging to one group are accommodated in the same node.

   Group (b):   Stations belonging to one group are accommodated in different nodes.

   Group (a) and Group (b) can be used together within a FCCS network.
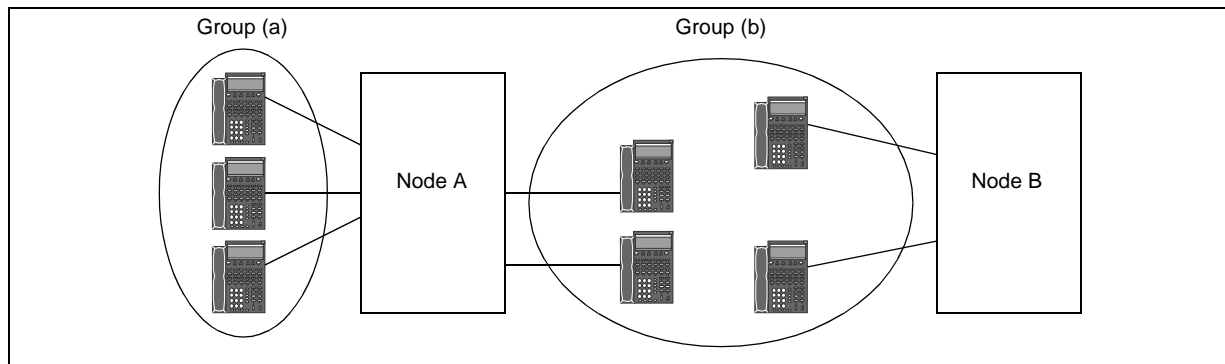
39. When using the FCH card in conjunction with FCCS link:

   a.) Stations in four different nodes can be assigned in a UCD group.

Service Conditions (cont'd)

b.) When stations belonging to different nodes are assigned to a UCD group, the station hunt is not activated in assigned order if the stations are not assigned in continuous order within a node. First, the call is shifted to the stations within the node of the UCD controlling station, even though it is not in consecutive order (in the node, station hunt is activated in assigned order). After all the stations in the node are hunted, the station hunt is shifted to the next assigned station and the stations in the node are hunted in assigned order. See the figure below.

Example:

- Station No. 1 is the UCD controlling station. When the call encounters busy, the call is hunted in order of No. 3, No. 4 (hunted in the node of the controlling station) to No. 2, No. 6, No. 8 (hunted in the node C that accommodates the next station in assigned order) to No. 5, No. 7.

No.1 No.3 No.4 No.5 No.7 No.2 No.6 No.8
(Controlling station)

Note: *Numbers under the stations show the assigned order.*

---

40. Phantom Telephone Number (PHTELN) can also be assigned to each telephone number (a maximum of 16 PHTELNs per TELN, TELNs + PHTELNs in total = 60,000 or less). The assigned PHTELN may or may not be the UCD group number by the APHNN command setting (see Interactions).

41. When activating this feature via the FCCS network, BUSY OUT is available for the station assigned by the telephone number.

42. When a call terminates to the UCD station through FCCS link, MCI data can be output. MCI text format is designated via the ASYDL command.

43. When activating this feature via the FCCS network, when PEG COUNT [P-7] service is provided, UCD Route Peg Count/UCD Group Peg Count/UCD Station Peg Count is available.

44. When activating this feature via the FCCS network, in regard to CALL WAITING LAMP - UCD [C-76] service, if a UCD incoming call is terminated when the queue slot is full, the lamps of the stations in the same node that accommodates the controlling station, start to flash.

45. When activating this feature via the FCCS network, a UCD station assigned by the telephone number cannot be a destination station for DIRECT-IN TERMINATION (DIT) [D-7] or NIGHT CONNECTION FIXED/FLEXIBLE [N-1/2].

46. A UCD group may accommodate members from four different Fusion Point Codes.

47. When all FCCS links are busy:
    a.) UCD member stations belonging to the node where the UCD controlling station is not accommodated are not hunted.
    b.) when all UCD stations in a hunt group are busy, incoming calls routed to the group are not queued. The calling party hears busy tone.

Service Conditions (cont'd)

      c.) When the CCIS line is used as the alternative routing, SERVICE DISPLAY is not activated and the hunting function is completed at the terminated station.

48. When using a Phantom Telephone Number (PHTELN) for a UCD controlling station via FCCS, consider the following:

      a.) Whether to use the PHTELN to start the UCD hunt or not can be selected by the command APHNN. When using the PHTELN, assign "1" in the "PH" parameter. If not, assign "0".

      b.) When "PH = 1": UCD hunt starts by dialing either the Telephone Number of the controlling station or its Phantom Telephone Number. Both numbers can be the UCD group number.

      c.) When "PH = 0": UCD hunt starts by dialing the Telephone Number of the controlling station only. The feature is not provided when the PHTELN is dialed.

Interactions

1. UCD PEG COUNT information is available using Traffic commands. Refer to PEG COUNT [P-7] for more information.

2. CALL FORWARDING-ALL CALLS [C-5]: Only the controlling station or the Attendant Console can activate this feature. When activated, calls to the UCD group will be diverted. If the destination station is busy, busy tone is returned to the calling party. If the UCD group number is a Phantom Number, CALL FORWARDING-ALL CALLS [C-5] cannot be activated.

3. CALL FORWARDING ALL CALLS/BUSY LINE [C-2, 5]: When a member station in a UCD group activates CALL FORWARDING-ALL CALLS [C-5] or CALL FORWARDING-BUSY LINE [C-2], only calls directed to that station are forwarded. UCD group calls are not affected. UCD calls will bypass the call forwarded station.

4. CALL FORWARDING-DON'T ANSWER [C-3]: All calls terminating at a UCD station will forward if the call is not answered before the Call Forwarding timer expires.

5. There is no peg count for calls directed to a UCD group which terminate to a station outside the UCD group due to CALL FORWARDING [C-2, 3, 5].

6. ATTENDANT CAMP-ON WITH TONE INDICATION [A-1]: UCD calls extended by the Attendant to the controlling station will not camp-on unless all of the non-controlling stations are either busy or in the Busy Out state, and the controlling station is engaged in a two-way conversation. Then the call will camp-on to the controlling station and will terminate at the first available station.

7. In the event of a non-UCD call extended to a member station of a UCD Group, ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] will operate normally.

8. If the UCD controlling station answers an ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] call using CONSULTATION HOLD-ALL CALLS [C17], there is no peg count.

9. BUSY VERIFICATION [B-3]: This feature can be used by the Attendant to check the busy/idle condition of an individual station assigned to a UCD group. When this feature is used against an individual station that is idle but has set Busy Out, the Attendant will receive reorder tone.

10. BUSY VERIFICATION [B-3] will activate the normal hunting sequence, and the next station in the UCD group scheduled to receive the call will be rung. BUSY VERIFICATION [B-3] will operate only when all the stations in the group are busy, and only if the station is engaged in an actual call.

11. A D^{term} user can set or cancel Busy Out at any time and from any condition (idle, busy, three-way conference, PRIVACY RELEASE [P-18]), simply by pressing the BUSY OUT key.

12. Single-line users can set Busy Out by going off-hook and dialing the BUSY OUT access code, or from the switch hook flash, by dialing the BUSY OUT access code when engaged in a normal two-way conversation.

Interactions (cont'd)

13. The DND key functions in the same manner as the BUSY OUT key for UCD calls. However, while the BUSY OUT key allows non-controlling UCD stations to receive calls dialed directly, use of the DND key restricts all incoming calls.

14. If OVERFLOW-UCD [O-13] is in service, overflow will take place if all the stations in the first group are busy or in the Busy Out state.

15. If the OVERFLOW-UCD [O-13] group is also busy, queuing to the first group takes place.

16. Once BUSY OUT cancel code is activated, any UCD call in queue will automatically be directed to and ring the cancelling UCD station.

17. BUSY OUT set/cancel cannot be activated by a D^{term} user from the idle (on-hook) condition if the My-line is in use by another D^{term} user. The D^{term} user must first go off-hook or press the SPEAKER key (even though no line will actually be seized), before pressing the BUSY OUT set/cancel key.

18. If the system is reset, traffic measurement requests are no longer in service.

19. When using a Phantom Number for a UCD controlling station, consider the following:

    a.) Whether to use the Phantom Number to start the UCD hunt or not can be selected by the command APHN. When using the Phantom Number, assign "1" in the "PH" parameter. If not, assign "0".

    b.) When "PH = 1": UCD hunt starts by dialing either the station number of the controlling station or its Phantom No. Both numbers can be the UCD group number.

    c.) When "PH = 0": UCD hunt starts by dialing the station number of the controlling station only. The feature is not provided when the Phantom Number is dialed.

Programming

STEP 1:   **ASHU** - Assign the required data for the UCD group:
  TN: Tenant Number
  STN: Station Number
  CNT: Number of stations to be entered (recommended maximum of 100 stations)
  STN: Station Numbers of the stations included in the UCD group
  (The order in which stations are programmed is the order in which they will be hunted.)

STEP 2:   **ANPD** - Reserve a number level for feature access. Assign Connection Indexes of Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to UCD BUSY OUT. SRV = SSCA (Service Code Appendix), SIDA = 50 BUSY OUT set, SRV = SSCA (Service Code Appendix), SIDA = 51 BUSY OUT cancel. Connection Status Indexes CI = N, Normal (N) and CI = H, Hooking (H).

STEP 4:   **AKYD** - Assign BUSY OUT set/cancel key (same key does both; toggles function on/off). Assign Type:Function:UCD BUSY OUT [19]. Assign UCD Call Waiting Indication key. Assign Type:Function:CALL WAITING LAMP [47].

STEP 5:   **ADSL** - Assign UCDBO key; Assign SN=0 (Idle), 3 (Called Station Busy) and FKY = 19 (UCD Busy Out).
  This command is used for assigning a function to each soft key.

STEP 6:   **ATRF** - Assign Traffic Measurement Order.
  TYPE: Type of Traffic Measurement
  INTERVAL: Output Interval must be assigned in units of ten minutes (range is from 30-120 minutes), or data "0" must be assigned, which is the instruction for assigning output time.

Programming (cont'd)

FROM-TO-: Measurement time is to be designated.

TIME: Output Time

TYPE: 1-11

    1: Terminal Traffic Measurement

    2: Route Traffic Measurement

    3: Station Peg Count

    4: Attendant Console Peg Count

    5: Route Peg Count

    6: Service Peg Count

    8: UCD Route Peg Count

    9: UCD Group Peg Count

    10: UCD Station Peg Count

    11: CCIS Traffic Count

STEP 7: **DTF3** - Display of Traffic Data 3

TYPE: Type of Traffic Measurement

    8: UCD Route Peg Count

    9: UCD Group Peg Count

    10: UCD Station Peg Count

STEP 8: **AUCD** - Assign the related data for the UCD group, if necessary. Assign the tenant number and the station number of the UCD controlling station, QTH ACT, QTH for the UCD PEG COUNT, CWT for CALL WAITING LAMP UCD [C-76], and MCI for MESSAGE CENTER INTERFACE [M-26].

STEP 9: **APHN** - Assign Phantom Number to each UCD controlling station (if necessary).

TN: Tenant number

REAL STN: Station number of the controlling station

PH: Phantom number mode

    0 = Used individually

    1 = Used as the UCD group number (UCD hunting to be activated)

PHSTN: Phantom station number

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note 1)**

STEP 1: **ASYD** - This data must be assigned to the NCN.

System Data 1, Index60, b3: 0/1 = UCD Queuing is used/not used

STEP 2: **ANPDN** - This data must be set to the NCN.

Reserve a number level for feature access.

STEP 3: **ASPAN** - This data must be set to the NCN.

Assign an access code of UCD BUSY OUT.

FCCS Programming (cont'd)

STEP 4: **ASHUN** - This data must be assigned to the NCN.

UGN:	User Group Number
1st TELN:	Telephone Number of UCD Controlling Station
TELN:	Telephone Number of the UCD Station

STEP 5: **AUCDN** - This data must be assigned to the NCN, Assign the related data for UCD group, if necessary.

UGN:	User Group Number
TELN:	Telephone number of UCD Controlling Station
QTH ACT:	UCD Queuing Peg Count is Invalid/Valid
QTH:	UCD Queuing Peg Count Value
CWT:	Threshold value of Call Waiting Lamp (1-255)
MCI:	0/1 = MCI data for the call terminated to the UCD group can be output/cannot be output

STEP 6: **APHNL** - Assign Phantom Number to each UCD controlling station (if necessary).

UGN:	User group number
TELN:	Telephone number of the controlling station
PH:	Phantom number mode
	0 = Used individually
	1 = Used as the UCD group number (UCD hunting to be activated)
PHTELN:	Phantom telephone number **(Note 2)**

Note 1: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

Note 2: *Multiple PHTELNs (maximum of 16) can be assigned per TELN. Select whether to use each PHTELN for UCD hunt or not by the "PH" parameter.*

Note 3: *When Busy Out key is assigned to the feature key, assign the data to all the nodes by the AKYD/ADSL command.*

U-3   Universal Sender

General Description

This feature permits dialed numbers to be transmitted via a sender, a device that will automatically add or delete the necessary number of digits or perform any necessary conversions.

Operating Procedure

No manual operation is required.

Service Conditions

1. For incoming connections, digits may be deleted according to the route involved. A maximum of 4 digits may be added (including the access code).
2. For outgoing connections, digits may be added/deleted according to the route involved. A maximum of 24 digits may be deleted, and a maximum of 4 may be added (including the access code).
3. LEAST-COST ROUTING [L-5]: Digits may be added/deleted according to the route involved and the dialed digits. A maximum of 24 digits may be deleted, and a maximum of 24 may be added, consisting of either digits or 2.8 second pauses.

Interactions

1. For features requiring digit translation, refer to the specific feature programming description.
2. The ASTP, AOSP, and AISP commands operate to translate incoming TIE Line digits that are received by the register and then sent to the opposite PBX via UNIVERSAL SENDER. The ANND command is used like the AMND command. It tells the system how many digits the register is to expect for a specific route. The UNIVERSAL SENDER then sends the digits to the opposite PBX.

    Features requiring the UNIVERSAL SENDER are:

ATTENDANT CONSOLE	[A-3]
ATTENDANT KEY PAD	[A-4]
AUTOMATIC TRUNK TEST	[A-21]
CALL FORWARDING-OUTSIDE	[C-28]
LEAST-COST ROUTING-3/6 DIGIT	[L-5]
OUTGOING TRUNK QUEUING	[O-2]
OFF-HOOK QUEUING	[O-7]
PUSHBUTTON CALLING	[P-4]
PUSHBUTTON-TO-ROTARY CONVERSION	[P-6]
SPEED CALLING	[S-3, 21, 23]
TOLL RESTRICTION-3/6-DIGIT	[T-7]

Programming

STEP 1: **ATRK** - Assign these LENs as sender Route 905, Trunk. A LEN consists of the following:

XX	X	XX	X
Module Group	**Unit**	**Group**	**Level**

Level numbers for the sender trunks are 4-7.

STEP 2: **MBTK** - Assign the Make Idle status to the sender trunks.

V-1 Variable Timing Parameters

General Description

The Variable Timing Parameters feature gives the PBX the versatility to change timing parameters, using the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18]. All timing parameters for a specific timing sequence are set initially within the generic program. These timing parameters can be changed to accommodate user requirements.

Operating Procedure

No manual operations required. Refer to the NEAX2400 IMX Office Data Specification.

General Description

The following list describes the major VARIABLE TIMING PARAMETERS:

1. Automatic Recall Timer: AUTOMATIC RECALL [A-8]:

   a.) standard timing: 30 seconds
   b.) variable timing: 2-30 seconds (two-second increments)

2. No Answer Timer for station call: CALL FORWARDING-DON'T ANSWER [C-3]:

   a.) standard timing: 30 seconds
   b.) variable timing: 2-30 seconds (two-second increments)

3. No Answer Timer for station call via an Attendant Console: CALL FORWARDING-DON'T ANSWER [C-3]:

   a.) standard timing: 10 seconds
   b.) variable timing: 2-30 seconds (two-second increments)

4. No Answer Timer for Call Transfer: CALL TRANSFER-ALL CALLS [C-11]:

   a.) standard timing: 30 seconds
   b.) variable timing: 2-30 seconds (two-second increments)

5. Periodic Time Indication Tone Timer: PERIODIC TIME INDICATION TONE [P-11]:

   a.) standard timing: first period - 3 minutes; other periods - 3 minutes
   b.) variable timing: first period - 0.5 to 12.5 minutes (0.5-minute increments), other periods - 0.5 to 12.5 minutes (0.5-minute increments)

6. Recall Timer for unanswered paging: PAGING TRANSFER [P-10] and RADIO PAGING [R-16]:

   a.) standard timing: 30 seconds
   b.) variable timing: 30 to 480 seconds (30-second increments).

   All other timers are variable (e.g., Register pre-pause timer, Sender pre-pause timer, and switch hook timer).

Note: *If no data is entered, the system operates properly using default data (RAM data). ASYD indexes are not usually reprogrammed, with the possible exception of System Data 1, Indexes 156 and 157. All the hexadecimal data mentioned is default data.*

Interactions

1. To calculate VARIABLE TIMING PARAMETERS, multiply the Timer Class by the Miscellaneous Timer Class, TC x MTC = VARIABLE TIMING PARAMETER. TC is a set value. MTC is any value from 1-15, assigned in hexadecimal. For the PERIODIC TIME INDICATION TONE Timer, a TC of 3 equaling 2 seconds is not available, but a TC of 4 equaling 30 seconds is available.

   Timer Index:

Bit	7	6	5	4	3	2	1	0
	Timer Class (TC)				Miscellaneous Timer Class (MTC)			
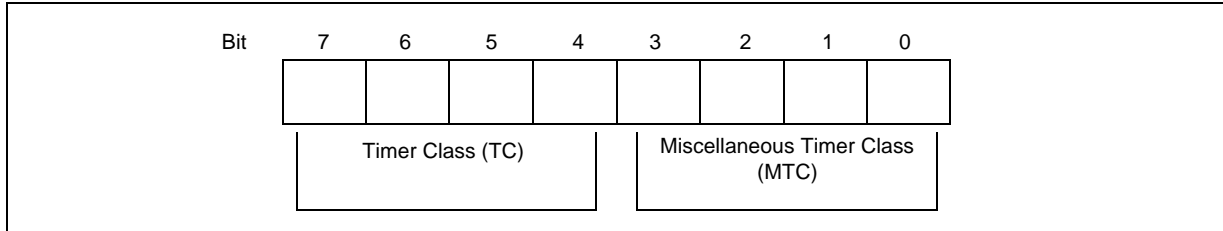
TC values for Indexes 136, 147, 150, 155, 156, 157, 158
TC 0 = -
       1 = -
       2 = -
       3 = 2 seconds.
TC values for Indexes 134, 139, 140, 141, 152
TC 0 = -
       1 = -
       2 = -
       3 = 2 seconds
       7 = 8 seconds.
TC values for Indexes 137, 146
TC 0 = -
       1 = 64 milliseconds
       2 = -
       3 = 2 seconds
       4 = 30 seconds.
TC values for Indexes 138
TC 0 = -
       1 = 64 milliseconds
       2 = -
       3 = 2 seconds
       4 = 30 seconds
       5 = 5 minutes
       6 = 1 second.

Timer Index:

Bit	7	6	5	4	3	2	1	0
	Timer Class (TC)				Miscellaneous Timer Class (MTC)			
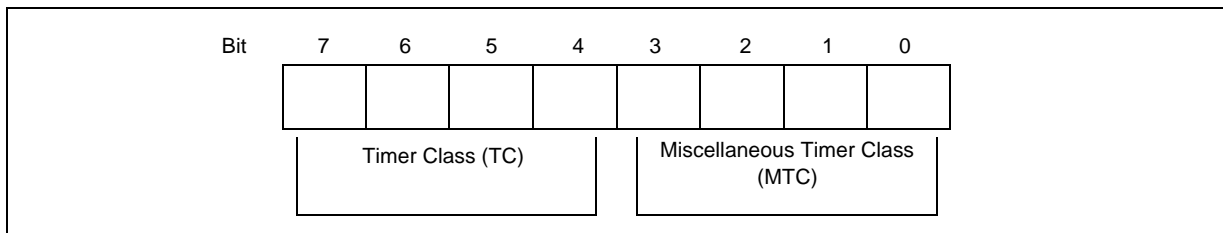
Interactions (cont'd)

TC values for Indexes 142, 143, 144
TC 0 = -

       1 = -
       2 = -
       3 = 2 seconds
       4 = 30 seconds
       7 = 8 seconds.

TC values for Indexes 135
TC 0 = -

       1 = 64 msec.

TC values for Indexes 149
TC 0 = -

       1 = -
       2 = -
       3 = 2 seconds
       4 = 30 seconds.

TC values for Indexes 145
TC 0 = -

       1 = 2 seconds.

Programming

ASYD - System Data 1. All VARIABLE TIMING PARAMETERS are located between Indexes 128 and 159, with the exception of Paging.

AUTOMATIC RECALL [A-8]

System Data 1, Index 145. Assign "9F" (in hex) for 30 seconds.

CALL FORWARDING-DON'T ANSWER [C-3]

System Data 1, Index 141. Assign 35H for 10 seconds. This timer works in conjunction with Index 139, which is assigned "3F" (in hex) for 30 seconds. After ringing for 10 seconds at the first station and 30 seconds at the CALL FORWARDING destination station, the call returns to the Attendant Console. CALL TRANSFER-ALL CALLS [C-11].

System Data 1, Index 140. Assign 3FH for 30 seconds.

PERIODIC TIME INDICATION TONE [P-11]

System Data 1, Indexes 137 and 138. Timer Class of data "4" for 30 seconds is available for both timers. Index 137 sets when the first tone will be heard. Assign "46" (in hex) for 3 minutes. Index 138 sets the interval between the first tone and all subsequent tones. Assign "46" (in hex) for 3 minutes. This assignment works with ARTD, CDN 29:TELP.

PAGING TRANSFER [P-10]

System Data 1, Index 74, Bits 0-3. Set the Paging No-Answer timer for Recall on Transfer. Set to "00" (in hex) for 30 seconds. (0-F + 1) x 30 = Recall Value RADIO PAGING [R-16].

System Data 1, Index 73, Bit 4. Not used. System Data 1, Index 73, Bit 5. The Recall timer is doubled, as set in System Data 1, Index 74, Bits 4-7. After the first half of the timer, recall of the radio page occurs via the PBX. The system grabs a register and the Radio Page trunk and resends the two or three-digit answer code. Is this operation wanted? 0/1: Yes/No.

System Data 1, Index 74, Bits 4-7. Recall timer for radio page. (N + 1) x 30 = Time Out, where N = value set in hex in Bits 4-7. If the paged party doesn't respond, the page is cancelled.

V-2 Voice Call

General Description

This feature enables a single line telephone to make a VOICE CALL [V-2] when the called party is a D^{term} set. This path exists from the calling party to the called party's built-in speaker. If the called party's MIC is on, the called party can converse hands-free.

Operating Procedure

From a single line station to a D^{term}:
1. Dial the telephone number of the desired D^{term} station and receive ringback tone.
2. Perform a switch hook flash.
3. Dial the VOICE CALL access code. A signal tone (two bursts) is transmitted over the called party's speaker.
4. Called D^{term} displays:

```
┌─────────────────────────────────────────┐
│ VOICE                           XXXX     │
│            (Time Display)                │
│                                          │
└─────────────────────────────────────────┘
```

5. Announce the call over the built-in speaker.

Service Conditions

1. When the called station is not a D^{term}, reorder tone will be sent to the calling party for a pre-determined time, followed by ringback tone.
2. Once a VOICE CALL has been activated, the called station will appear busy on multi-line sets displaying the called station.
3. VOICE CALL will follow CALL FORWARDING - ALL CALLS [C-5] and CALL FORWARDING - BUSY/DON'T ANSWER [C-2, 3].
4. VOICE CALL will terminate at the station whose my line is the same as the extension called.
5. Only the called station can respond HANDS-FREE [H-5D].
6. STATION MESSAGE DETAIL RECORDING SYSTEM [S-10] is not available for this service.

Programming

For a Single-Line Set:
STEP 1: **ASYD** - System Data 1, Index 17, Bit 0. Hooking (H) service for single-line set. This is used for the MESSAGE REMINDER [M-19] and VOICE CALL features of a single-line set.
STEP 2: **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.
STEP 3: **ASPA** - Assign an access code to VOICE CALL, SRV = SSCA, SIDA = 41.
Connection Status CI = H, Hooking (H).
STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 52 to single-line stations which will be allowed to initiate Voice Calls.
Assign a Service Feature Class allowing SFI = 93 to D^{term} stations that do not allow access by VOICE CALL.

Programming (cont'd)

For a D^term:

STEP 1: **AKYD** - Assign the station according to the following parameters:

    TN: 1

    STN: Station Number

    TP: Type of D^term 0/1:

    RING:

        0: No Ringing

        1: Ringing All Lines

        2: Ringing on Prime Line Only

        3: Flexible Ring Assignment, enables RG parameter.

    KYN: Key Number (1-40)

    KYI: Service Index

        0: Key Not Used

        1: Feature Key

        2: Multi-line Key

    KD: Not assigned for Feature Key

    FKY: Feature Key Number

    FKY = 14, VOICE CALL.

STEP 2: **ADSL** - Assign VOICE key; Assign SN=2 (Originating; RBT Connection) and FKY=14 (Voice Call).

This command is used for assigning a function to each soft key.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node. **(Note)**

STEP 1: **ANPDL** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPAL** - Assign an access code to VOICE CALL, SRV = SSCA, SIDA = 41.

Connection Status CI = H, Hooking (H).

Note: *When using ASYDL or ASYDN to program an FCCS feature, the basic programming of ASYD is required in addition to ASYDL or ASYDN.*

V-2D   Voice Call - D^{term}

General Description

This feature provides a voice path between two D^{term} sets. This path exits from the calling party to the called party's built-in speaker. If the called party's MIC key is on, the called party can converse hands-free.

Operating Procedure

From one D^{term} to another D^{term}:
1.   The originating D^{term} user dials the desired telephone number and receives a ringback tone.
2.   The calling party presses the VOICE CALL feature key. A signal tone (two bursts) is transmitted over the called party's speaker. The calling party's LCD displays:

                                                         Called Number

```
┌─────────────────────────────────────────┐
│  VOICE                          XXXX      │
│           (Time Display)                  │
│                                           │
└─────────────────────────────────────────┘
```

From a single-line set to a D^{term}:
1.   The single-line set user dials the desired D^{term} number and receives a ringback tone.
2.   The calling party presses the switch hook, and dials VOICE CALL access code. A signal tone is transmitted over the called party's speaker.
3.   The calling party announces the call over the built-in speaker.

Service Conditions

1.   After a voice call has been activated, the called station will appear busy on multi-line sets displaying the called station.
2.   A voice call will follow CALL FORWARDING-ALL CALLS [C-5] and CALL FORWARDING-BUSY LINE/DON'T ANSWER [C-2, C-3].
3.   A voice call will terminate at the station MY-LINE [M-23D].
4.   When a called station is not a D^{term}, a reorder tone will be sent to the calling party followed by a ringback tone.
5.   Only the called station can respond using HANDS-FREE ANSWER BACK-D^{term} [H-4D].
6.   If the called station is restricted from VOICE CALL SERVICE by Class of Service, status of the calling/ called party is as follows:
     a.) Calling party
          Single Line: Receives ringback tone after hearing reorder tone for up to 30 seconds or by pressing the switch hook during reorder tone.
          D^{term}:   When using the VOICE key: Receives ringback tone, and LCD displays VOICE REST for 5 seconds.
                          When using an access code, hear reorder tone, and LCD displays VOICE REST for 5 seconds. After hearing reorder tone for 30 seconds or after pressing switch hook, receives ringback tone.
     b.) Called party's D^{term} continues to ring.
7.   STATION MESSAGE DETAIL RECORDING [S-10] is not available for this service.

Interactions

A Voice Call cannot be sent to a single-line station.

Programming

Operating with the feature key:
STEP 1:   **AKYD** - Assign the station according to the following parameters:

   TN: 1
   STN: Station Number
   TP: Type of D^{term} 0/1:
   RING:

        0:   No Ringing
        1:   Ringing All Lines
        2:   Ringing on Prime Line Only
        3:   Flexible Ring Assignment, enables RG parameter.
   KYN: Key Number (1-40)
   KYI: Service Index
        0:   Key Not Used
        1:   Feature Key
        2:   Multi-line Key
   KD: Not assigned for Feature Key
   FKY: Feature Key Number=14 (VOICE CALL)

STEP 2:   **ADSL** - Assign VOICE key; Assign SN=2 (Originating; RBT Connection) and FKY=14 (Voice Call). This command is used for assigning a function to each soft key.

Operating with the access code:
STEP 1:   **ASYD** - System Data 1, Index 17, Bit 0. Hooking (H) service for single-line set. This is used for the MESSAGE REMINDER [M-19] and VOICE CALL features of a single-line set.

STEP 2:   **ANPD** - Reserve a number level for feature access. Assign Connection Indexes, CI = N, H, B; Normal, Hooking, and Busy (applicable to any feature assigned to this level). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to VOICE CALL, SRV = SSCA, SIDA = 41. Connection Status, CI = H, Hooking.

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI = 52 to single-line stations which will be allowed to initiate Voice Calls.

   Assign a Service Feature Class allowing SFI = 93 to D^{term} stations that do not allow access by VOICE CALL.

FCCS Programming

   No unique programming is required for the FCCS network.

V-3D   Volume Control - D^{term}

General Description

This feature is used for controlling the volume of a D^{term} set's built-in speaker and receiver.

Operating Procedure

1. The D^{term} set is equipped with a sliding volume control knob located in the front, beneath the dial pad. Volume can be increased by moving the control to the right, and decreased by moving it to the left.

2. The ringing volume is controlled by a switch on the underside of the D^{term}. It is marked RING and located directly below the LCD Display Panel. The ringing volume is increased by moving the switch to the right and decreased by moving the switch to the left.

3. The ringing tone can be set to one of three distinct tones, using switch settings "1", "2", or "3", depending on user preference. Each switch setting produces a separate distinct ringing tone.

    > Setting "1" produces the lowest.
    > Setting "2" produces a medium.
    > Setting "3" produces the highest.

    To control the ringing tone, there is a switch located underneath the D^{term}. It is opposite the Transfer Key, and is labeled RINGING TONE. It has switch settings marked 1, 2 and 3.

For D^{term} Series E:

1. The D^{term} is equipped with two control buttons located on the top front of the phone. Volume can be increased by pushing the right control button while off-hook. Volume can be decreased by pushing the left control button while off-hook.

2. The ringing volume is also adjusted by the same two control buttons. Ringing volume by pushing the right control button while the D^{term} is ringing. Decrease the ringing volume by pushing the left control button while the D^{term} is ringing.

3. The ringing tone can be set to one of four distinct ringing tones by performing the following: Press the feature key + 3. Each time this is performed, one of the four patterns is selected.

Service Conditions

Ringing, Recall Ringing, and Voice Call Signal Tone are not controlled by VOLUME CONTROL.

Programming

> No programming is required.

W-1 WATS Access

General Description

This feature permits any user direct-dial access to outgoing WATS lines.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the WATS ACCESS code.
3. Receive second dial tone.
4. Dial the desired number.

Service Conditions

Access to WATS lines may be denied to individual stations via CLASS OF SERVICE-INDIVIDUAL [C-15].

Interactions

1. WATS ACCESS will operate in conjunction with the following features:

LEAST-COST ROUTING-3/6-DIGIT	[L-5]
MISCELLANEOUS TRUNK ACCESS	[M-1]
MISCELLANEOUS TRUNK RESTRICTION	[M-2]
INDIVIDUAL TRUNK ACCESS	[I-4]
OUTGOING TRUNK QUEUING	[O-2]
OFF-HOOK QUEUING	[O-7]
ROUTE ADVANCE	[R-6]
DIRECT-IN TERMINATION	[D-7]

2. A WATS Access trunk can be used with any system feature that can be used with any other trunk. There are no unique characteristics of a WATS trunk of note in relation to the implementation of other features.

Programming

STEP 1: **ARTD** - Assign the WATS line routes as shown below:

INCOMING WATS LINES (GROUND START):

RT: 1

3-ISGS	:1	4-INSG	:3	5-TF	:2/3	6-TCL	:3	7-L/T	:1
8-RLP	:2	15-LSG	:1						

OUTGOING WATS LINES (GROUND START):

RT: 1

1-OSGS	:2	2-ONSG	:3	5-TF	:1/3	6-TCL	:3	7-L/T	:1
8-RLP	:2	15-LSG	:1						

STEP 2: **ATRK** - Assign the LENs, WATS Line Route Number, Trunk Number, and Tenant Number.

STEP 3: **MBTK** - Assign the Make Idle status to the WATS Line Trunks.

STEP 4: **ANPD** - Reserve a number level for trunk access. Assign Connection Indexes, CI = N, H, B; Normal (N), Hooking (H), and Busy (B) (applicable to any feature assigned to this level). Number of Necessary Digits is usually 1 or 2. Busy lamp Field is not activated.

Programming (cont'd)

STEP 5: **ASPA** - Assign the access code as assigned in ANPD above. Type of Service, SRV = OGC (Outgoing Call) Outgoing Trunk. Assign the route number associated with this access code.

STEP 6: **ARSC** - The Route Restriction Class must be constructed to allow the station access to the involved routes.

Networking with NEAX2400 IMX and NEAX2000 IVS

Purpose

(Series 7400 software enhancement) The following explains connectivity issues between a NEAX2400 IMX and a NEAX2000 IVS. An FCCS Group consists of a network where multiple NEAX2400 IMXs are connected via FCCS link.

Note: *NEAX2400 IMX - NEAX2000 IVS connection is available only if the NEAX2000 IVS is the satellite office (requires NEAX2000 IVS Series 2000 or later software).*

Service Conditions

Network Configuration

1. The following table shows the summary of network configurations:

| Type | Connection Type | | Maximum Telephone Numbers | Service | | Centralized Function | | |
	NEAX2400 IMX - NEAX2400 IMX	NEAX2000 IVS - NEAX2400 IMX		NEAX2400 IMX - NEAX2400 IMX	NEAX2000 IVS - NEAX2400 IMX	Maintenance	Billing (Note)	MCI (Note)
1	FCCS	CCIS	120,000	FCCS service	CCIS service	Available	Available	Available
2	CCIS	CCIS	120,000	CCIS service	CCIS service	Available	Available	Available

Note: *For details, refer to the following services:*
Maintenance - Centralized System Management Report - CCIS [C-57]
Billing - Centralized Billing - CCIS [C-55]
MCI - Message Center Interface - CCIS [M-67]

2. There are two connection types for the network:

   a.) NEAX2000 IVS - NEAX2400 IMX connection
   b.) NEAX2400 IMX - NEAX2400 IMX connection

Network Establishment

- NEAX2000 IVS - NEAX2400 IMX
1. Additional NEAX2000 IVSs cannot be connected to a NEAX2000 IVS that has already been connected with NEAX2400 IMX. Only one SPAN is allowed for NEAX2400 IMX - NEAX2000 IVS connection.
2. The maximum number of routes and nodes for the NEAX2000 IVS are given by subtracting the number of routes (LGRT) used for the NEAX2400 IMX from 899 (maximum number of routes in an FCCS group).

Note: *This condition is applied to the NEAX2400 IMX side. The NEAX2000 IVS system may accommodate up to 255 nodes (including NEAX2400 IMX), because the maximum number of Point Codes (PCs) assigned at NEAX2000 IVS system is 255, including the nodes in the network.*

3. When the signal route is deleted, the voice route is used per route, but the signal route can be shared with multiple routes. However, when the network is established using EVENT BASED-CCIS, the signal route must be used per route.

- NEAX2400 IMX - NEAX2400 IMX
1. The maximum number of NIDs per FCCS group is 253.
2. The maximum number of routes assigned in each FCCS group is 899.
3. An NCN and NDM exist in each FCCS group.

FCCS Network Group

1. Since multiple FCCS networks are connected in the network, an FCCS network group number is required to distinguish each FCCS network from others. An FCCS network group is called an FCCS group, and a maximum of four FCCS groups can be connected in the network.

Service Conditions (cont'd)

2. A center FCCS group should be specified from among multiple FCCS groups in the network. It is the only node allowed to assign and delete telephone numbers within the self FCCS group and the others.

3. The network consists of FCCS groups and NEAX2000 IVS systems within the range of 2 SPANs from the center FCCS group, and within the range of 4 SPANs from end to end.

Interactions

1. PS Roaming and Hand-over services cannot be activated in the network. To execute Roaming service, the Q.931a line should be connected exclusively.

2. The OAI/ACD service in the network is executed with the same conditions in the normal CCIS network.

A-44   Asynchronous Data Switching - CCIS

General Description

The NEAX2400 IMX supports up to 19.2 Kbps asynchronous switched modemless data communication, from node to node, in a CCIS network. An asynchronous Data Adapter is required for the D^{term}, and an asynchronous Data Module is used for non-voice applications.

Operating Procedure

To initiate a data call from a D^{term} equipped with a Data Adapter:
1. Press the DATA key on the D^{term}; the DATA lamp will light steadily.
2. Dial the DTE telephone number (in another office); the DATA lamp will flash.
3. When the called DTE answers, the DATA lamp will light steadily.

To receive a data call at a D^{term} equipped with a Data Adapter:
1. When a data call is received, the DATA lamp will flash and Ringing Tone will be heard.
2. Press the DATA key to answer the call.
3. The DATA lamp will light steadily.

Note: *If the Data Adapter is equipped with DATA INTERFACE-AUTOMATIC ANSWER - CCIS [D-65], no manual operation is required.*

To initiate a data call from a DTE equipped with a Data Module:
1. Enter the origination command DM CALL from the DTE keyboard. Press the RETURN key. The monitor will display DM CALL and READY.
2. Enter the DTE telephone number by entering DIAL-XXXXX. Press the RETURN key. The monitor will display DIAL-XXXXX.
3. The monitor will then display CALLING.
4. When the called party answers, the monitor will display OPEN.

To receive a data call at a DTE equipped with a Data Module:
1. The Data Module will provide ringing.
2. Enter READY and press the RETURN key. The DTE can then communicate through the switch.

To initiate a Data Call from a D^{term}/Data Adapter via keyboard dialing:
1. Enter the origination command DM CALL from the DTE keyboard. Press the RETURN key. The monitor will display DM CALL and READY.
2. Enter the DTE telephone number by entering DIAL-XXXXX. Press the RETURN key. The monitor will display DIAL-XXXXX.
3. The monitor will then display CALLING.
4. When the called party answers, the monitor will display OPEN.

To release from a Data connection when using keyboard dialing:
1. Enter the release request command ESC - DM from the keyboard of the DTE. Press the RETURN key. The monitor will display ACK.
2. Enter the release command RLS from the keyboard of the DTE. Press the RETURN key. The monitor will display RLS and RELEASED.
3. The data connection is released.

When the opposite end DTE disconnects when using keyboard dialing:
1. When the opposite end DTE releases, the Data Adapter buzzer will sound three times.
2. Enter release command RLS and press the RETURN key. The monitor will display RLS and RELEASED.
3. The data connection is released.

Service Conditions

1. Data terminals up to 19.2 Kbps can be connected.

Note: *Additional hardware is required for 19.2 Kbps.*

2. A data terminal can be a member of a Pilot Hunt group or a Circular Hunt group.
3. The calling and called DTEs must be code and speed compatible.
4. Keyboard dialing can only be utilized by a D^{term}/Data Adapter or asynchronous Data Module.
5. Additional hardware is required to activate KEYBOARD DIALING - DATA ADAPTER [K-1].
6. If keyboard dialing is used to establish a data connection, keypad dialing for a data connection is ineffective until the data connection releases. If data communication is established by keypad dialing, it is possible to release by keyboard dialing.
7. The display of the DTE will be blank when data communication is established by keypad dialing. The display of the D^{term} will be blank when data communication is established via keyboard dialing.
8. The DSPY/AUTO key on the D^{term} is ineffective when keyboard dialing is used to establish a data call.
9. When an incoming data call is received, the displays of the DTE and the D^{term} will show the number of the calling data station or the incoming trunk type and number.

Interactions

When assigned, the DATA feature key acts as the telephone number of the data station for the Data Adapter. The telephone number of the data station will only appear on one D^{term} set. The telephone number of the data station may be used as a DID number.

Programming

For Data Adapter

STEP 1: **ASDT** - Assign levels 4, 5, 6, & 7 of a PA-4DLC as a TEC = 13. Data level 4 corresponds to voice level 0, level 5 to level 1, level 6 to level 2, level 7 to level 3.

    TN: Tenant Number
    STN: Station Number
    LENS: Line Equipment Number (6 digits)
    TEC: Telephone Class (1-31)

          1: DP (10pps)
          2: PB
          3: DP/PB
         11: VMM
         12: D^{term}
⟶   13: Data terminal Via D^{term}
         14: Hot Line
         15: CAS Line
         16: Data Terminal Via Data Module
         18: Virtual Circuit
         19: TMM
         20: PSM
         23: ISDN Terminal
         27: Eight Conference Equipment

Programming (cont'd)

         RSC: Route Restriction Class (0-15)

         For assignment of RSC, ARSC command

         SFC: Service Feature Class (0-15)

         For assignment of SFC, ASFC command

STEP 2:   **AKYD** - Despite the fact that a station number is assigned in ASDT for the data number, only the voice station number must be assigned to the D^{term}. Assign the DATA and DTX key. The AUTO key is an optional assignment. Assign as follows:

         TN: 1

         STN: Station Number

         TP: Type of D^{term} 0/1:

         RING:

               0:   No Ringing

               1:   Ringing All Lines

               2:   Ringing on Prime Line Only

               3:   Flexible Ring Assignment, enables RG parameter

⟶ KYN: Key Number (1 - 40)

         KYI: Service Index

               0:   Key Not Used

⟶   1:   Feature Key

               2:   Multi-line Key

         KD: Assign as 0

⟶ FKY: Feature Key Number

         RG: Ringing Assignment per Multi-line Appearance

               0:   No Ringing

               1:   Ringing in Day Mode Only

               2:   Ringing in Night Mode Only

               3:   Ringing Day and Night

The feature keys, DATA TRANSFER DTX (FKY = 31), DATA (FKY = 29) must be assigned. DISPLAY/AUTO (FKY = 30) is optional.

STEP 3:   **ASFC** - For TEC = 13 stations, assign an SFC that at a minimum SFI 11 = 0, DATA LINE SECURITY.

STEP 4:   **ARSC** - Construct a Route Restriction Class that allows access to the desired incoming and outgoing routes.

STEP 5:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1.

STEP 6:   **ACFR** - Allow all incoming Call Class Index (CCI) for Transfer Service Feature Index (TSFI)=1.

A-45 Attendant Camp-On with Tone Indication - CCIS

General Description

This service feature allows Inter-Office Attendant Camp-On for when the Attendant and the called party belong to a different PBX in the CCIS network.

Operating Procedure

1. Stations (a) and (b) are talking through a CCIS line.
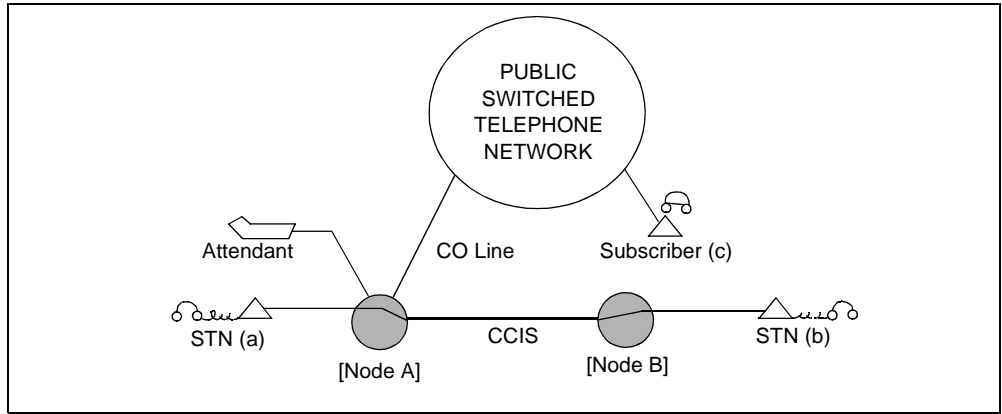
2. Subscriber (c) places a call to Node A through a CO line. An Attendant in Node A answers the call.
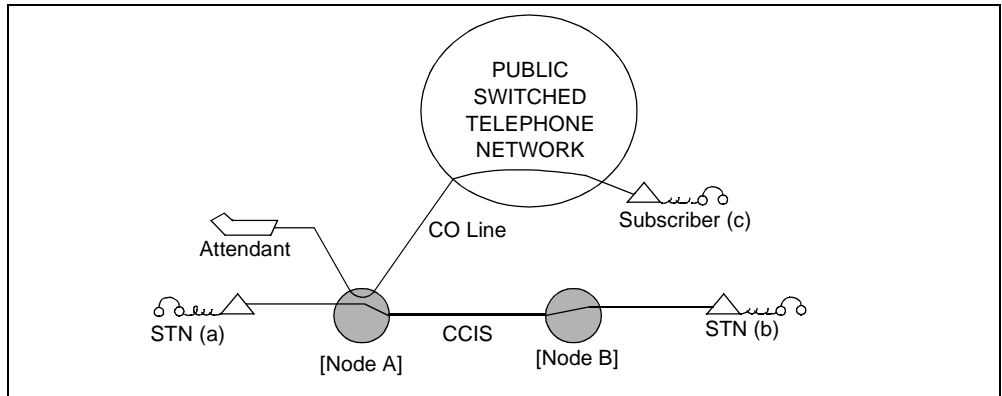
Operating Procedure (cont'd)

3. The Attendant dials the number for Station (b); Subscriber (c) receives Hold Tone; the Attendant receives busy tone.
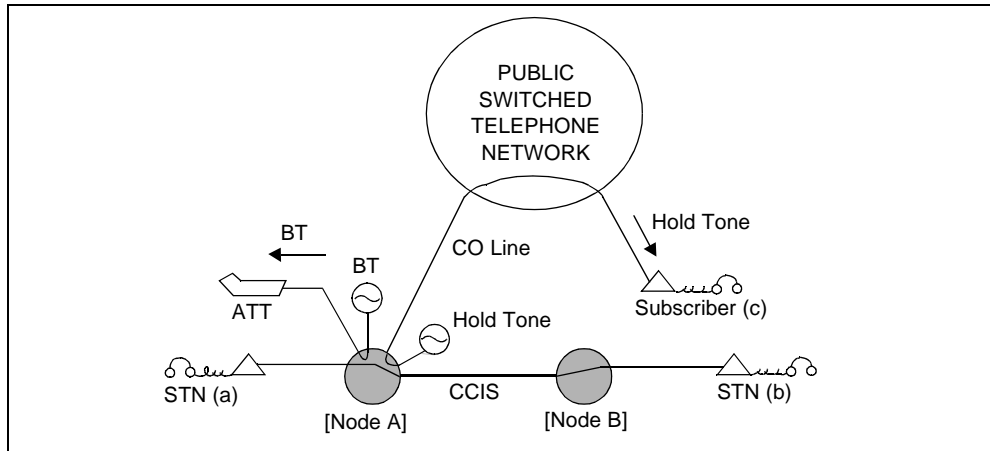
4. The Attendant presses the RELEASE key (Attendant Camp-On service setting) **(Note 1)**. While talking with Station (a), Station (b) receives Camp-On Tone, and the Attendant can now handle other calls.
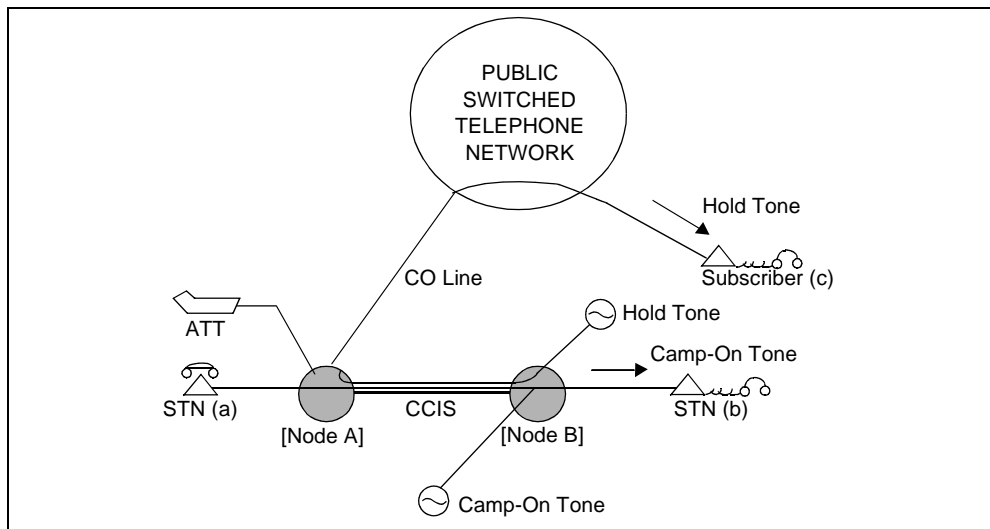
Operating Procedure (cont'd)

5. Stations (a) and (b) both go on-hook **(Note 2)**; (b) is rung, and (c) receives ringback tone.
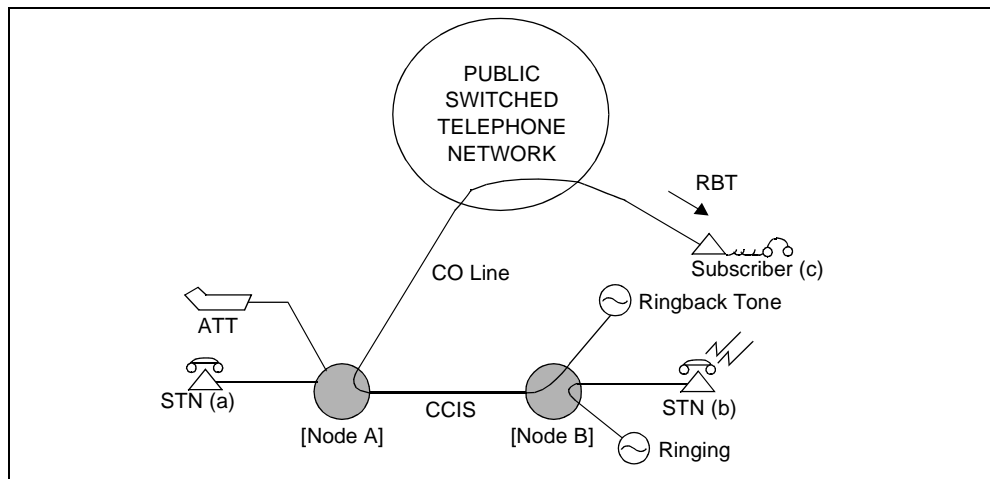
6. Station (b) answers; Station (b) and Subscriber (c) are connected with each other.
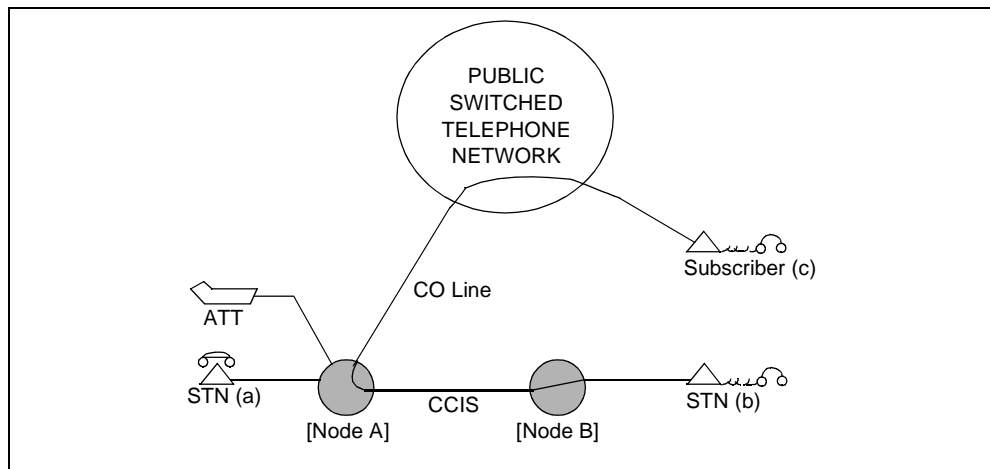
Note 1: *If the Attendant presses the BV key instead of the RELEASE key, the Attendant bridges into the Station (b) side and, as a result, a three-way connection is set up. In this case, both (a) and (b) are bridged into the connection. The Attendant sets Camp-On by pressing the RELEASE key.*

Note 2: *Instead of on-hook by Stations (a) and (b), if (b) switch hook flashes and dials the Call Hold Access Code, (b) can answer Subscriber (c) (C.O.line party), and (a) is held on the line.*
If (b) switch hook flashes and dials the Call Hold Access Code once again, (b) can return to the connection with (a). In this case, Subscriber (c) is held on the C.O.line.

Service Conditions

1. Only one incoming call can be camped on to a particular station at any given time. Multiple CAMP-ON is not allowed.

2. Calls that remain camped-on for longer than the predetermined time will initiate AUTOMATIC RECALL - CCIS [A-71].

3. CAMP-ON may be denied if the busy station is:
   a.) Dialing or in the LINE LOCKOUT [L-3] mode.

Service Conditions (cont'd)

b.) Listening to a tone.

c.) Being rung.

d.) The TIE Line is idle at the time the operator has pressed RELEASE key.

e.) Already camped-on by a previous call.

f.) Protected from CAMP-ON by CLASS OF SERVICE-INDIVIDUAL [C-15].

g.) Protected by DATA LINE SECURITY [D-12].

h.) Being connected to an A.C Loop.

i.) Activating any conflicting feature, such as:

CALL BACK - CCIS	[C-44]
CALL HOLD	[C-6][C-6D]
CALL TRANSFER - CCIS	[C-50][C-50D][C-54]
BUSY VERIFICATION - CCIS	[B-9]
BOSS-SECRETARY OVERRIDE-D^{term}	[B-6]
CALL WAITING - TERMINATING	[C-12]
CONSULTATION HOLD - ALL CALLS - CCIS	[C-58][C-58D]
DIAL ACCESS TO ATTENDANT - CCIS	[D-71]
DATA LINE SECURITY - CCIS	[D-66]
DATA PRIVACY ON DEMAND - CCIS	[D-68]
EXECUTIVE RIGHT-OF-WAY - CCIS	[E-8][E-8D]
NON-EXCLUSIVE HOLD - D^{term}	[N-7D]
OUTGOING TRUNK QUEUING - CCIS	[O-12][O-12D]
OFF-HOOK QUEUING - CCIS	[O-11]
VOICE CALL-D^{term} - CCIS	[V-7D]
PRIVACY RELEASE	[P-18]

In each of the above instances, the ATTENDANT will receive a reorder tone.

Programming

STEP 1:   **ASFC** - Release the restrictions of SFI = 11 (Data Line Security) to the SFC of the station receiving the Camp-On service. This must also be assigned to SFC = 0 at the satellite systems.

SFI 4 = 1 for SFC 0.

STEP 2:   **ARSC** - Release the incoming restrictions between the incoming restrictions of the station receiving Camp-On and the incoming trunk route. (at RRI = 0, 1)

A-46   Attendant-Controlled Conference - CCIS

General Description

This feature allows the Attendant to establish a conference among as many as eight parties. The conference group can consist of any combination of stations and/or trunks in a CCIS network.

Operating Procedure

To activate ATTENDANT-CONTROLLED CONFERENCE - CCIS:
1. A station calls the Attendant to request a conference.
2. The Attendant connects the calling station to the conference leader by dialing the circuit number of the conference leader connected to the Conference Unit.
3. The Attendant sequentially calls all desired parties and connects by pressing START, dialing the pilot number of the conference, and pressing RELEASE.

Using the MMCB:
4. When all parties are connected, the conference leader with a push-button telephone can dial digit "0" to prevent additional stations from entering the conference group, thereby assuring privacy. If the leader presses "0" again, more parties can be added.
5. If the conference leader dials digit "#", all conferees will be disconnected. Otherwise, the conference is terminated only after all parties have hung up.

Using the PA-CFTB:
6. When all parties are connected, the conference leader with a push-button telephone can dial digit "0" to prevent additional stations from entering the conference group, thereby assuring privacy. If the leader presses "0" again, more parties can be added.
7. If the conference leader dials digit "#", all conferees will be disconnected. Otherwise, the conference is terminated only after all parties have hung up.

For either:
8. To release from a conference circuit individually, a user hangs up. The remaining conferees can continue without interruption.

Service Conditions

1. Conference Units are designed to provide adequate amplification, but the condition of the Central Office connections will affect transmission.
2. Conference Unit extension numbers should be placed in a STATION HUNTING-TERMINAL [S-9] group. Only the Pilot number of this group should be published.
3. Each Conference Unit can provide up to an eight-party conference.
4. Override services, such as BUSY VERIFICATION [B-3] [B-9], ATTENDANT OVERRIDE [A-7] or EXECUTIVE RIGHT-OF-WAY [E-1] [E-8], are denied to stations engaged in a conference call.
5. The following additional hardware is required:
   a.) External Conference Unit MMCB, Model No.37008
   b.) PA-16LCBE Circuit Card
6. The PA-CFTB circuit card may be used rather than the external Conference Unit MMCB. The MMCB also requires a PA-16LC that is not required by the PA-CFTB.

Interactions

1. The Attendant Console must first be provided.

Interactions (cont'd)

2. NEC provides a PA-16LCBE circuit card that provides momentary-open for all 16 circuits. This is required to provide a release signal when line circuits are connected to external equipment such as conference and page units. This keeps reorder tone from being sent to the Conference Unit.

3. The last port of a PA-16LCBJ/PA-16LCBL provides battery reversal upon release. Therefore, when a station disconnects, reorder tone is not returned to the external Conference Unit.

Programming

STEP 1: **ASDT** - Assign Tenant No. Station No., LENs, and the Telephone Equipment Class (TEC) to the station connected to the Conference Unit. Also, assign the Service Feature Class and Route Restriction Class (RSC) to the telephone.

The RSC should allow connections to the incoming and outgoing routes that will be connected to a conference.

TN: Tenant Number

STN: Station Number

LENS: Line Equipment Number (6 digits)

TEC: Telephone Class (1-31)

     1:   DP (10pps)

     2:   PB

→   3:   DP/PB

     11:   VMM

     12:   D^{term}

     13:   Data Terminal via D^{term}

     14:   Hotline

     15:   CAS Line

     16:   Data Terminal via Data Module

     18:   Virtual Circuit

     19:   TMM

     20:   PSM

     23:   ISDN Terminal

     27:   Eight Conference Equipment

RSC: Route Restriction Class (0-15)

For assignment of RSC, ARSC command.

SFC: Service Feature Class (0-15)

For assignment of SFC, ASFC command.

STEP 2: **ASHP** - Assign a Pilot hunting group using the last circuit of eight PA-16LC line circuits or eight circuits on one PA-16LCBE circuit card. These ports are connected to an external Conference Unit, MMCB Model 37008.

A-71 Automatic Recall - CCIS

General Description

This service feature works as a time reminder. When an attendant-handled call through CCIS remains on hold, camped-on or ringing unanswered for a fixed interval, the attendant is automatically alerted.

Operating Procedure

No manual operation is required.

Service Conditions

1. AUTOMATIC RECALL timing is preset in System Data at 30 seconds. See the VARIABLE TIMING PARAMETER [V-1] for other selectable timing choices.

2. If the attendant re-enters a held or camped-on trunk, timing is reset when the trunk is returned to the previous condition.

3. In addition to the standard visual indication for incoming calls, the ATTENDANT CONSOLE [A-3] buzzer will sound to signal RECALL, provided no calls are being processed.

4. This feature is denied on INCOMING CENTRAL OFFICE CALL TO TIE-LINE CONNECTION [I-3], except in the following conditions:

5. When the incoming signaling is a loop-start.

6. When ATTENDANT LOOP RELEASE [A-6] is activated.

7. When an Attendant answers AUTOMATIC RECALL - CCIS [A-71], the dialed number of the calling station/trunk number can be displayed (as programmed in System Data).

8. The indication on the Attendant Console follows DIGITAL DISPLAY-STATION [D-5]. When the dialed number is displayed, the display is as follows:

    a.) Tenant Number: Blank Space
    b.) Trunk Route Restriction Class: Blank Space
    c.) Telephone Number: Dialed Number (Last Digits).

9. AUTOMATIC RECALL - CCIS will appear on the attendant's HOLD key.

Interactions

1. This feature is available on calls extended to a branch PBX via a CENTRALIZED ATTENDANT SERVICE (CAS) [C-20] position.

2. System Data 2, Index 6, Bit 7. On a per-tenant basis, allow this Bit for CALL FORWARDING-DON'T ANSWER [C-47] via the Attendant Console. During this operation, the call will ring at the called station for the time interval set in System Data 1, Index 141. The call is then forwarded and rings at the forwarded station for the time interval set in Index 145. If the call is still not answered, it will be recalled to the Attendant Console via AUTOMATIC RECALL [A-8].

3. System Data 1, Index 70, Bit 0 (Called Number Display). This Bit does not affect the display on the Attendant Console for recalled calls. It is used for DID's that have call forwarded to the Attendant, or should the Attendant re-enter the loop on an extended call before AUTOMATIC RECALL [A-8] has taken place.

4. When a trunk call recalls back to the Attendant Console, the destination telephone number will display and the Source (SRC) LED will be lit. By pressing the SRC key, the display will change to the originating route and trunk number. By pressing the Destination (DEST) key, the display will change to the destination station.

Interactions (cont'd)

5.   The station will continue to ring, even as the call recalls to the Attendant Console. When conference is allowed and a conference card is programmed and installed, if the station should answer at the same time the Attendant answers the recalling call, a three-way conversation will then take place. The Attendant can press the SRC, DEST, or TALK keys to achieve the desired conversation, or press the RELEASE key to get out of the conversation.

6.   Station calls extended by the Attendant to another station within the same system (node) will recall to the Attendant. Station calls extended by the Attendant over CCIS will not recall. Trunk calls will recall in both instances.

Programming

STEP 1:   **ASYD** - System Data 1, Index 145.

Timer Class 1 = 2 seconds. For normal operation, assign 00H. [RAM data is 94H.] Any call that uses AUTOMATIC RECALL, keeps one of the Attendant Console switched loops busy. Since there are six loops per Attendant Console, the maximum use of this feature is limited to that number. AUTOMATIC RECALL interval (normally set for 30 seconds) is a system option (System Data 1, Index 145), and can be varied from two seconds to two minutes in increments of two seconds.

System Data 1, Index 73, Bit 6. Is the dialed number display for AUTOMATIC RECALL in service? 0/1: No/Yes.

System Data 2, Index 2, Bit 5.

Must be programmed as data "1". Attendant Loop Release in service.

A-87   Automatic Number Identification (ANI) - CCIS

General Description

This service is an enhancement from AUTOMATIC NUMBER IDENTIFICATION (ANI), which can be executed only within the self office. This enhanced service allows ANI at the primary office, with respect to an EMERGENCY CALL terminated from the secondary office via the CCIS line.

Operating Procedure

No manual operation is necessary.

Service Conditions

1. The ANI function for Enhanced 911 outgoing connections is applied to:
   - a.) Least-Cost Route (LCR) call from a station by MF signalling.
   - b.) LCR call from an Attendant by MF signalling.
   - c.) LCR call by MF signalling from a station or Attendant Console called via CCIS.
2. ANI sending number by E991-ANI - CCIS is NXX-XXXX, which is the same as that of the previous Enhanced 911-ANI service.
3. Method of obtaining ANI sending number (example):

   Caller's station number: 12345 (closed numbering)
   ANI assigned data:
   RT: XX
   AT: 0 (0 = STA/ATT)
   (1 = not assigned special ATT number)
   CC: 1(0 = Main Central)
   (1 = Satellite Central)
   COC: 826 (Remote Office Code)
   Skip: 4 (Number of digits to be skipped from the top of the STN)
   Add: 3 (Number of digits to be added to ANI information)
   DG: 789 (ANI information)
   - a.) Number of skip digits deleted from STN:
     8 2 6 1 <u>2 3 4 5</u>
   - b.) The number created by combining the ANI information and the above number becomes the ANI sending number:
     <u>7 8 9</u> 2 3 4 5
   - c.) Sending ANI information:
     KP-0-<u>789-2345</u>-ST
4. Sending digit patterns in Enhanced 911 ANI - CCIS:
   - a.) Outgoing call from station/ATTCON of Main Office.
     - • If OG call is from a station and ANI data is assigned:
       KP-<u>0</u>-<u>N**-****</u>-ST

       ┌─────ANI sending number
       └─────Information digit

     - • If OG call is from a station and ANI data is unassigned:
       KP-<u>2</u>-ST

       └─────Information digit

Service Conditions (cont'd)

- If OG call is from an ATTCON and Individual ATT Access Code is assigned, and also ANI data is assigned:

KP - <u>0</u> - <u>N**-****</u>- ST

　　　　　　　└────ANI sending number

　　　　　└────Information digit

- If OG call is from an ATTCON and Individual ATT Access Code is unassigned, and ANI data is assigned:

KP - <u>0</u> - <u>N**-****</u>- ST

　　　　　　　└────ANI sending number

　　　　　└────Information digit

- If OG call is from an ATTCON and ANI data is unassigned:

KP - <u>1</u> - ST

　　　　　└────Information digit

b.) Outgoing call from station/Attendant of Remote office, and call termination via CCIS of Main Office.

- If the outgoing call is from a station and ANI data is assigned:

KP - <u>0</u> - <u>N**-****</u>- ST

　　　　　　　└────ANI sending number

　　　　　└────Information digit

- If the outgoing call is from a station and ANI data is unassigned:

KP - <u>2</u> - ST

　　　　　└────Information digit

- If the outgoing call is from an Attendant and ANI data is assigned:

KP - <u>0</u> - <u>N**-****</u>- ST

　　　　　　　└────ANI sending number

　　　　　└────Information digit

- If the outgoing call is from an Attendant and ANI data is unassigned:

KP - <u>1</u> - ST

　　　　　└────Information digit

c.) Outgoing call from station/Attendant of Remote office, and call termination to a TIE Line of Main Office.

KP - <u>2</u> - ST

　　　　　└────Information digit

5. An independent route is required for Enhanced 911 interface.

6. After caller's number is sent out to the remote office by Enhanced 911-ANI, it takes some time before a speech path is established.

7. Enhanced 911-ANI - CCIS service data are assigned only at Main Office; no specific data are assigned at the remote office

8. Both ANI service and Enhanced 911-ANI UNIFIED NUMBER OF DIGITS [E-18] service must have been assigned.

9. The Central Office Code (COC) consists of 1-5 digits. If office number and station number are used, the maximum total number of digits is still 5.

<u>Example 1:</u>

Office number: 82

Service Conditions (cont'd)

> Station number: 2xxx, 3xxx
> The COC digits are 822 or 823; then assign ANI information.
> <u>Example 2:</u>
> Office number: 82, 826
> Station number: 34xxx, 4xxx
> The COC digits are 823 or 826; then assign ANI information.

10. After digits have been sent out, DDD seizure tone is not sent.

11. Other interactions are the same as those of outgoing call by MF signalling.

12. An 8RST-K circuit card is used for this service.

13. When a D^{term} uses this feature, the calling number transmitted is that of the Prime Line.

Interactions

If "911" is to be exclusively used as an emergency number, then dial "9" access codes cannot be used solely for LCR access. If "9-911" is used exclusively for an emergency call, then no numbering conflict will exist.

Programming

STEP 1: **ARTD** - Assign Route:

RT: 1

1-OSGS	:7	2-ONSG	:4	3-ISGN	:7	4-INSG	:4	5-TF	:3
6-TCL	:5	7-L/T	:1	8-RLP	:2	10-SMDR	:1	13-AC	:1
15-LSG	:5	19-ANI	:1	30-PAD	:4	43-BT	:1	82-RSAX	:13
84-CSEG	:15	70-TCMN	:1							

STEP 2: **ATRK** - Assign trunk LENs.

RT 905 TK1 LEN# (dependent on register location)
RT 905 TK2 LEN# (dependent on register location)
RT 904 TK1 LEN# (dependent on register location)
RT 904 TK2 LEN# (dependent on register location)

STEP 3: **AAND** - Assign ANI data.

RT: 0

AT: 0 (0 = Station;1 = Individual-Attendant)

KT: 0 (0/1 = OFF/ON, expansion of station number lengths)

CC: 1 (0 = Main Central; 1 = Satellite Central)

COC: (Central Office Code, CCIS office code or first digit of CCIS remote station number. ARNP RT0)

STNL: 0 (Number of digits in the caller's number, assign 0)

SKIP: (Number of skip digits. Strips office code from being sent out in front of the station number.)

ADD: 3 (Number of digits to be added to the ANI information.)

DC: 753 (ANI sending number.)

Note: *The Office Code of the Central Office + the first n digits of the Station Number to parameter COC should not exceed five. Combinations of the COC and the first n digits of Station Number must be made in conformity with the numbering plan of the remote office.*
Basic LCR programming and route restrictions are required. Refer to LEAST-COST ROUTING-3/6 DIGIT [L-5].
Programming for Enhanced 911 CCIS is only necessary at the main node.

A-126 ANI-CCIS (16 Digit)

General Description

This feature allows an office receiving ANI information from Central Office through an analog trunk (Caller ID or MF) to extend to another office through CCIS when the tandem connection is established.

Operating Procedure

No manual operation is required.

Service Conditions

1. The maximum digits of ANI information sent to another office through CCIS are 16.
2. When the tandem connection is established through CCIS, the maximum digits of ANI information which the connected office may output to the SMDR port or MCI are 16.
3. In regard to other conditions, refer to the Service Conditions of CALL TRANSFER - ALL CALLS - CCIS [C-50].

Programming

Also see TRUNK LINE APPEARANCE [T-23] for information on how to accommodate C.O. line on a D^{term} line/feature key

STEP 1: **ASYD** - System Data 1, Index 241, Bit 6. 0/1 = When the length of Caller ID exceeds the limit, only the former/latter part of data appears on the LCD.

System Data 1, Index 390, Bit 0. Caller ID display pattern on the LCD. 0/1 = Calling Number/Calling Name has priority.

System Data 1, Index 390, Bit 2. when using D^{term} 2-line LCD, the lower LCD can be used for displaying Caller ID. 0/1 = Out/In service.

When Calling Number is output to SMDR, the following expanded format is used.

				1	2		96	104		129	130	131	162	
S T X	O	!	K	H / I / J			OFFICE CODE STN. NO., RT TRK, CALLED PARTY (FOR CCIS)	AUTH CODE		A		ANI NO.	Z	E T X

H = Origination
I = Termination
J = Station-to-Station

A = ANI Information

Z = End of SMDR Information

Identifier:
0 = Output is not available
1 = Displayed
2 = Display denied
3 = Service is not available
4 = Origination from public pay phone
Note:*For 0, 2 and 3, the ANI number is not output.*

System Data 1, Index 288, Bit 5. Expanded SMDR Output for SMDR A Apparatus. 0/1 = Out/In Service.

Programming (cont'd)

System Data 1, Index 290, Bit 5. Expanded SMDR Output for SMDR B Apparatus. 0/1 = Out/In Service.

System Data 1, Index 292, Bit 5. Expanded SMDR Output for SMDR C Apparatus. 0/1 = Out/In Service.

System Data 1, Index 294, Bit 5. Expanded SMDR Output for SMDR D Apparatus. 0/1 = Out/In Service.

System Data 1, Index 296, Bit 0. Output of Calling Number (ANI Information). 0/1 = Out/In Service. Assign data "1".

System Data 1, Index 300, Bit 0. 0/1 = Billing information is sent to the Main Node in Expanded SMDR format if CENTRALIZED BILLING -= CCIS [C-55].

STEP 2:   **ASFC** - Assign a Service Feature Class that allows SFI 14 to stations allowed STATION MESSAGE DETAIL RECORDING [S-10].

STEP 3:   **ARTD** - Assign route class data for the C.O. trunk.

15-LSG   :3   50-DPLY   :1

When Calling Number is output to SMDR:

10-SMDR   :1

Assign Route Class Expansion Data.

CI: ISDN transmitting information

29-TELP   :1

16-Digit Caller Number Service, Attribute Information Notification Service and Calling Sub-Address Transfer Service.

When My Line is Prime Line, Call Id Change Display Key is effective while terminating or in conversation.

When My Line is not Prime Line, Call Id Change Display Key is effective while in conversation.

However, display pattern returns to the original setting when answering, holding, or transferring the call.

STEP 4:   **ATRK** - Assign trunk data for the C.O. trunk.

STEP 5:   **MBTK** - Cancel the make busy of the C.O. trunk.

STEP 6:   **AKYD** - Assign Call Id Change Display key. Assign Type:Function:Call ID Change Display [113].

B-9 Busy Verification - CCIS

General Description

This service feature allows Inter-Office Attendant BUSY VERIFICATION when the Attendant and the called party respectively belong to a different PBX in the CCIS network.

Operating Procedure

1. Station (a) and (b) are in connection on a station-to-station call.
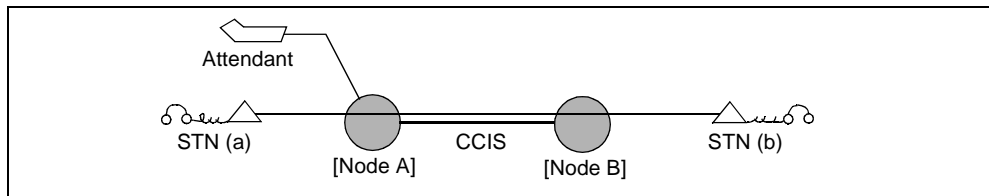
2. The Attendant in Node A presses the loop key; the loop lamp and DEST lamp on the Attendant Console illuminate.

3. The Attendant dials the number for Station (b); receives busy tone.
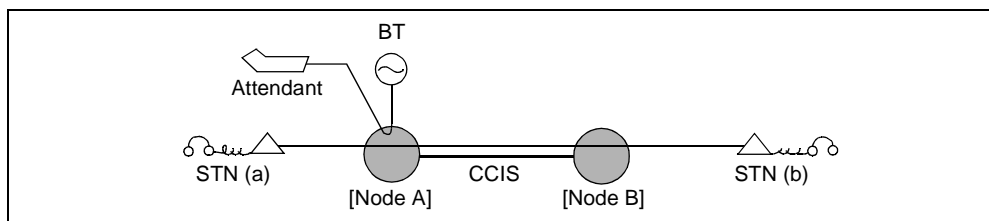
4. The Attendant presses the BUSY VERIFICATION key; the Attendant and both STN (a) and STN (b) receive Warning Tone. STN (a), STN (b) and the Attendant are connected in a 3-Way Connection.
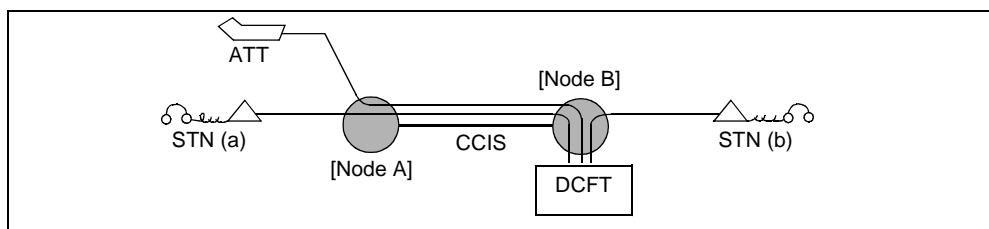
5. The Attendant presses the CANCEL key and can now handle other calls.

Service Conditions

1. This service may be used during Station-to-Station Calls and Station-to-Trunk Calls. (COT, FX, WATS, CCSA, or TIE Lines)
2. BUSY VERIFICATION is performed in the office to which the called station belongs.
3. In a 3-way call in the mode where the conference button is pressed, the Attendant cannot perform BUSY VERIFICATION.

Service Conditions (cont'd)

4. BUSY VERIFICATION cannot be established to a BUSY station when the station is:
    - a.) Dialing
    - b.) Listening to a tone
    - c.) Being rung
    - d.) Protected by DATA LINE SECURITY [D-12] [D-66]
    - e.) Being connected to an BUSY VERIFICATION Loop
    - f.) Activating a conflicting feature, such as:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1][A-45]
BOSS-SECRETARY OVERRIDE-D^{term}	[B-5D]
CALL HOLD	[C-6][C-6D]
CALL TRANSFER	[C-50][C-54][C-11][C-11D]
CALL WAITING-TERMINATING	[C-12]
CONSULTATION HOLD-ALL CALLS	[C-58] [C-58D][C-17]
DATA LINE SECURITY	[D-12]
DATA PRIVACY ON DEMAND	[D-68][D-17]
DIAL ACCESS TO ATTENDANT	[D-71][D-2]
EXECUTIVE RIGHT-OF-WAY	[E-8][E-8D][E-1]
NON-EXCLUSIVE HOLD-D^{term}	[N-7D]
PRIVACY RELEASE	[P-18]
THREE-WAY CALLING	[T-2] in the mode where the conference button is pressed.
VOICE CALL-D^{term}	[V-7D][V-2]

    - g.) In a Modem Pooling connection,
    - h.) In a Data Call through a Data Adapter,
    - i.) In a Data Call through a Data Module.

    In each of the above instances, the Attendant will receive reorder tone.

5. Before the Attendant is added to an existing connection, a tone burst (.08 seconds) is applied to alert the calling parties of the attendant's presence.

6. BUSY VERIFICATION - CCIS and ATTENDANT LOCKOUT [A-5] are mutually exclusive features.

7. BUSY VERIFICATION - CCIS can only be activated by the Attendant Console.

8. It is possible to disable the continuous sending of warning tone during a BUSY VERIFICATION - CCIS connection, via System Data. Normally, the two-burst Warning Tone is repeated approximately every 15 seconds.

Interactions

1. This feature is allowed whenever the destination telephone set is engaged in any state other than:
    - a.) A three-way connection
    - b.) An activated PRIVACY feature
    - c.) Connected to a route programmed to have Line/Trunk, Privacy, CDN 44:PRV
    - d.) Listening to a tone (dial tone, reorder tone, service set tone, busy tone, ringback tone).
2. With ATTENDANT OVERRIDE [A-7], the following trunk types may be verified (busy or idle status):
    - a.) One-way incoming trunks,
    - b.) One-way outgoing trunk,
    - c.) Bothway trunk.
3. Trunks in a station-to-trunk, TRUNK-TO-TRUNK CONNECTION [T-10], and ATTENDANT-CONTROLLED CONFERENCE [A-2] connection may be verified when busy.

Interactions (cont'd)

4. ATTENDANT LOCKOUT [A-5]: The Attendant is prevented from verifying a busy station line that is connected to a loop held at the Attendant Console. Since the LOCKOUT feature applies only to calls held on an Attendant Console loop, BUSY VERIFICATION - CCIS of those station lines will be denied, and the Attendant will hear reorder tone.

5. CALL FORWARDING - CCIS (ALL CALLS [C-45], BUSY LINE [C-46] or DON'T ANSWER [C-47]): If an Attendant attempts to busy-verify an idle or busy station line that has activated the CALL FORWARDING - CCIS feature, BUSY VERIFICATION - CCIS of the forwarded-to station will occur. If an Attendant attempts to busy-verify an idle or busy station that is CALL FORWARDED to the Attendant Console, BUSY VERIFICATION - CCIS will not be allowed.

6. CALL HOLD [C-6]: When two stations have established a connection and one of the stations has a third party on hold, the two talking parties can be busy-verified, but the party on hold cannot be busy-verified.

7. CALL WAITING [C-12] [C-31]: If an Attendant attempts to busy-verify a station line that already has a waiting call, BUSY VERIFICATION will be denied. Also, if an Attendant attempts to busy-verify a station line that is waiting for another station line, BUSY VERIFICATION will be denied.

8. DATA LINE SECURITY - CCIS [D-66]: An Attendant cannot busy-verify a busy station line that has a DATA LINE SECURITY [D-12] Class of Service. If BUSY VERIFICATION - CCIS is attempted, the Attendant will hear reorder tone.

9. DATA PRIVACY ON DEMAND - CCIS [D-68]: An ATTENDANT cannot busy-verify a busy station line that has PRIVACY ON DEMAND - CCIS [D-68] set. If BUSY VERIFICATION - CCIS is attempted, the Attendant will hear reorder tone.

10. DICTATION ACCESS [D-3]: BUSY VERIFICATION - CCIS will be denied to a station that is connected to a dictation trunk, and the Attendant will hear reorder tone.

11. PAGING ACCESS - CCIS [P-28]: BUSY VERIFICATION - CCIS is denied when a station is connected to a Paging trunk.

12. DATA PRIVACY ON DEMAND [D-17]: When this feature is activated by a user, the Attendant Console is denied BUSY VERIFICATION toward that station. This prevents disturbance of any ongoing data transmission.

13. STATION HUNTING (CIRCULAR [S-7], SECRETARIAL [S-8] or TERMINAL [S-9]): If an Attendant attempts to busy-verify a busy station in a Hunt Group, station hunting will take precedence over BUSY VERIFICATION - CCIS and the call will hunt. If all stations in the Hunt group are busy, the called station will be busy-verified.

14. UNIFORM CALL DISTRIBUTION (UCD) [U-1]: An Attendant can busy-verify any station in a UCD group, other than the Pilot, without causing a hunt. However, if BUSY VERIFICATION - CCIS is attempted to the Pilot station, UCD hunting will take precedence over BUSY VERIFICATION - CCIS.

Programming

STEP 1: **ASYD** - System Data 1, Index 60, Bit 6.

Is the two-burst Warning Tone to be disabled? 0/1: No/Yes.

System Data 1, Index 68. Bit 4. Trunk Select (TKSL) key must be enabled.

Assign data "1".

System Data 1, Index 158. ATTCON Busy Verification Warning Tone Timer: the interval between BUSY VERIFICATION tones. ROM data is 14 sec.

System Data 2, Index 0, Bit 3, assign as data "1".

System Data 2, Index 0, Bit 4. On a per-tenant basis, assign data "1" to enable BUSY VERIFICATION.

Programming (cont'd)

STEP 2: **ASFC** - For stations that permit BUSY VERIFICATION, assign a Class of Service that allows SFI 4, EXECUTIVE RIGHT-OF-WAY [E-1] and SFI 11, ATTENDANT CAMP-ON WITH TONE INDICATION [A-45]. SFI: 3 must be allowed for the attendant's Service Feature Class (normally SFC: 0) at all locations allowing the attendant to use this feature.

STEP 3: **ATRK** - Assign the LEN as Route 909, Digital Conference Trunk. A LEN consists of the following:

XX	X	XX	X
Module Group	**Unit**	**Group**	**Level**

Group and Level numbers for the Digital Conference Trunk are 210, 213, 216, 221, 224, 227, 232, and 235.

STEP 4: **ARSC** - When a station is connected to a trunk, CDN 44:PRV of the route must be assigned as data "0" for ATTENDANT OVERRIDE [A-7] to be allowed.

B-10 Brokerage Hotline - CCIS

General Description

This feature provides a hotline function between two stations at different nodes in the CCIS network, using a line/feature key of a D^{term}.

Operating Procedure

To access a BROKERAGE HOTLINE - CCIS from a D^{term}:
1. Lift the handset or press the SPEAKER button.
2. Press the line/feature key associated with a predetermined station in another office. The destination station is automatically dialed; ringback tone is heard; the destination station answers.
3. After conversation is completed, hang up or press the RELEASE key.
4. To immediately make another BROKERAGE HOTLINE - CCIS call, press another line/feature key associated with another station without going off-hook.

Service Conditions

1. A 16-button D^{term} with a 24-button Add-On Module attached is used for applications requiring at least 15 but fewer than 39 destinations. In this case, one of the 16-line buttons of the D^{term} must be assigned as the MY-Line. The RELEASE button on the 24-button Add-On Module can be used as the RELEASE key. Therefore, a maximum of 39 BROKERAGE HOTLINES - CCIS can be used to access distant destinations.
2. Two 16-button D^{term}s connected via a 24-button Add-On Module are used if between 40 and 52 destinations are required. One of the 16 buttons on each D^{term} must be assigned as a MY-Line. One of the remaining 15 buttons on the D^{term}s must be assigned as a RELEASE key. Therefore, a total of 52 BROKERAGE HOTLINES - CCIS can be used to access distant destinations.
3. An AC Adapter is required for the 24-button Add-On Module.
4. A BROKERAGE HOTLINE cannot be assigned to a Hunt group or UNIFORM CALL DISTRIBUTION [U-1] group.
5. When a BROKERAGE HOTLINE - CCIS call is made, the D^{term} display shows the destination telephone number but does not show the SERVICE DISPLAY - CCIS [S-53] of the BROKERAGE HOTLINE.
6. The MY-Line of a D^{term} cannot be assigned as a BROKERAGE HOTLINE - CCIS.
7. The destination, by definition, must be a station or an Attendant Console at a different node in the CCIS network.
8. When the destination is an Attendant Console, the BROKERAGE HOTLINE - CCIS call terminates at an ATND key.
9. ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] [A-45], CALL BACK [C-1] [C-44], and EXECUTIVE RIGHT-OF-WAY [E-1] [E-8] can be prohibited to the BROKERAGE HOTLINE - CCIS connection through CLASS OF SERVICE-INDIVIDUAL [C-15].
10. When a destination station is busy, CALL BACK - CCIS [C-44], CALL WAITING-ORIGINATING [C-31], EXECUTIVE RIGHT-OF-WAY - CCIS [E-8], and MESSAGE REMINDER - CCIS [M-34] [M-34D] can be activated.
11. If the destination station is busy and is a member of a Hunt Group, the appropriate station hunting feature ([S-7] [S-8] [S-9]) will be activated.

Service Conditions (cont'd)

12. If the destination station is busy and is a pilot member of a UCD group, the UCD function will be activated. If all stations in the UCD group are busy, ringback tone will be heard, or if programmed, DELAY ANNOUNCEMENT-UCD [D-31] or OVERFLOW-UCD [O-13] will be invoked.

13. CALL FORWARDING-ALL CALLS [C-5] [C-45], CALL FORWARDING-BUSY LINE [C-2] [C-46], and CALL FORWARDING-DON'T ANSWER [C-3] [C-47] will take place if the destination station has set call forwarding.

Programming

STEP 1: **ASDT** - Assign to a PA-16LC circuit the following data:

TN: Tenant Number

STN: Station Number

LENS: Line Equipment Number (6 digits)

TEC: Telephone Class (1-31)

    1: DP (10pps)

    2: PB

    3: DP/PB

    11: VMM

    12: D^{term}

    13: Data Terminal via D^{term}

⟶   14: Hotline

    15: CAS Line

    16: Data Terminal via Data Module

    18: Virtual Circuit

    19: TMM

    20: PSM

    23: ISDN Terminal

    27: Eight Conference Equipment

RSC: Route Restriction Class (0-15)

SFC: Service Feature Class (0-15)

STEP 2: **AHLS** - Assign the station number programmed above for the following parameters:

HOT TN: Hotline Tenant

STN: Hotline Station

TYPE: 2

ADC: Abbreviated Digit Code.

STEP 3: **AKYD** - Assign to a D^{term} a line appearance of the Hotline station number.

TN: 1

STN: Station Number

TP: Type of D^{term} 0/1:

RING:

    0: No Ringing

    1: Ringing All Lines

    2: Ringing on Prime Line Only

    3: Flexible Ring Assignment, enables RG parameter.

Programming (cont'd)

           KYN: Key Number (1-16)

           KYI: Service Index

                  0:   Key Not Used

                  1:   Feature Key

⟶   2:   Multi-line Key

           KD: 0

           RG: Ringing Assignment per Multi-line Appearance

                  0:   No Ringing.

                  1:   Ringing in Day Mode Only.

                  2:   Ringing in Night Mode Only.

                  3:   Ringing Day and Night.

STEP 4:   **ASPD** - Assign the tenant Abbreviated Digit Code (ADC), and Digit Code (DC).

STEP 5:   **ASFC** - Primary station and Hotline must be allowed access to ASPD, SFI = 12.

C-44 Call Back - CCIS

General Description

This service feature allows an Inter-office Call Back when the calling station and the called station respectively belong to a different PBX in the CCIS network.

Operating Procedure

To set from a Single-Line Telephone:
1. Dial the desired telephone number; receive busy tone.
2. Switch hook flash; receive special dial tone.
3. Dial the CALL BACK - CCIS code; receive service set tone.
4. Hang up.
5. When the called station becomes idle, the calling and called stations will ring simultaneously.

To cancel from a Single-Line Telephone:
1. Lift the handset; receive dial tone.
2. Dial the CALL BACK - CCIS cancellation code; receive service set tone.

To set from an 8-button or 16-button D^term, or a D^term Executive Terminal:
1. Dial the desired telephone number; receive busy tone.
2. Press the CALL BACK line/feature key; receive service set tone. The LCD will display:

Called Station

CALL BACK SET	XXXX
(Time Display)	

3. Hang up.
4. When the called station becomes idle, the calling and called stations will ring simultaneously. The LCD of the calling station will display:

Called Station

CALL BACK	XXXX
(Time Display)	

5. The called station's LCD will display:

Called Station

CALL BACK	XXXX
(Time Display)	

To cancel from an 8-button or 16-button D^term, or a D^term Executive Terminal:
1. Lift the handset or press the SPEAKER key; receive dial tone.
2. Press the CALL BACK line/feature key; receive dial tone. CALL BACK - CCIS is then cancelled.

Operating Procedure (cont'd)

3. The LCD will display:

```
CALL BACK              CANCEL
    (Time Display)
```
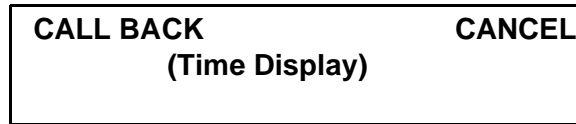
Service Conditions

1. If CALL BACK is not answered within 30 seconds, or the timer interval in ASYD index 139, ringing will stop and the CALL BACK will automatically be cancelled.
2. CALL BACK to a busy station cannot be established if the station is in the LINE LOCKOUT [L-3] mode.
3. There is no time limit for CALL BACK once activated. It will remain in status memory until it is manually cancelled or it ends normally.
4. CALL BACK can be set only to one station at a time.
5. A station cannot set CALL BACK and OUTGOING QUEUING [O-2] at the same time.
6. When the calling station is called back, STATION HUNTING [S-7, S-8, S-9] and CALL PICKUP [O-7] programming will be ignored.
7. CALL BACK activation is denied if a call is waiting at the calling or called station line (CALL WAITING FEATURE [C-12, C-31]).
8. CALL BACK [C-1] is assigned via CLASS OF SERVICE [C-15].
9. There is no limit to the number of stations that can access this feature simultaneously.
10. A station that has set CALL BACK - CCIS can originate and receive calls while this feature is active.
11. Reorder tone will be returned to a station attempting to set CALL BACK - CCIS if:
    a.) The calling or called station has set CALL BACK - CCIS, OUTGOING TRUNK QUEUING [O-2, O-12], or has a call waiting or camped-on.
    b.) The calling or called station is activating CALL HOLD [C-6].
12. If the calling party waits off-hook after setting CALL BACK - CCIS, service set tone will be heard until the called party becomes idle. Ringback tone will then be heard until the called party answers.
13. If the called party goes on-hook while the calling station is busy, both parties will be rung simultaneously when the calling station becomes idle.
14. If the calling party goes on-hook while the called station is busy, both parties will be rung simultaneously when the calling station becomes idle.
15. If any of the following features has been activated by the calling or called party, CALL BACK - CCIS is denied:

CALL BACK	[C-1][C-44]
ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1][A-45]
CALL HOLD	[C-6][C-6D]
CALL WAITING-TERMINATING	[C-12]
BUSY VERIFICATION	[B-3][B-9]
BOSS-SECRETARY OVERRIDE	[B-5]
DATA LINE SECURITY	[D-12][D-66]
DATA PRIVACY ON DEMAND	[D-17][D-67]
EXECUTIVE RIGHT-OF-WAY	[E-1][E-8]
OFF-HOOK QUEUING	[O-7][O-11]
OUTGOING TRUNK QUEUING	[O-2][O-12]

Interactions

1. OUTGOING TRUNK QUEUING [O-2] and CALL BACK - CCIS cannot be accessed simultaneously.

2. System Data 1, Index 139. No Answer Timer is also used for station-to-station call, DID, or TIE Line call for CALL FORWARDING-DON'T ANSWER [C-47] and CALL HOLD [C-6].

3. CALL WAITING-ORIGINATE [C-31] automatic setting and CALL BACK - CCIS are mutually exclusive.

4. CALL BACK - CCIS cannot be activated toward the Attendant Console.

5. CALL BACK - CCIS cannot be activated when using CONSULTATION HOLD [C-17].

6. CALL HOLD [C-6]: Activation of CALL BACK - CCIS is not allowed if the calling or called station has a party on CALL HOLD [C-6]. CALL BACK - CCIS can be activated to a D^{term} that is holding a call or is being held via EXCLUSIVE HOLD [E-4D] or NON-EXCLUSIVE HOLD [N-7D].

Programming

STEP 1:   **ASYD** - System Data 1, Index 139. No Answer Timer for CALL BACK - CCIS. Assign 00H. (RAM data is 3FH = 30 seconds.)

              System Data 2, Index 0, bit 0. Is CALL BACK - CCIS enabled on a per-tenant basis? 0/1: No/Yes.

              System Data 2, Index 4, bit 0. Are CALL BACK - CCIS and OUTGOING TRUNK QUEUING - CCIS [O-12] access codes the same or separate? 0/1: Separate/Same.

              System Data 3, Index 3, bit 5. Enable Ringer pattern 5 for CALL BACK - CCIS. See DISTINCTIVE RINGING [D-10].

              System Data 3, Index 7. Assign data 42H for four seconds on, two seconds off.

STEP 2:   **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and BUSY (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to CALL BACK - CCIS entry, SRV = SSC (Service Code), SID = 3 and a Connection Status Index (CI) for Busy (B) service. For CALL BACK CCIS cancel, SRV = SSC (Service Code), SID = 6. Assign a CI for Normal (N) service.

STEP 4:   **ASFC** - Assign a Service Feature Class: SFI = 2 to stations allowed CALL BACK- CCIS.

STEP 5:   **AKYD** - For some D^{term} sets, CALL BACK - CCIS may be assigned to a programmable line/feature key. Assign Type:Function:CALL BACK [5].

STEP 6:   **ADSL** - Assign CB key; Assign SN=3 (Called Station Busy) and FKY=5 (Call Back).

              This command is used for assigning a function to each soft key.

STEP 7:   **ATNR** - Allow Tenant Restriction Index (TRI) 0, station-to-station calling for Inter and Intra-tenant connections.

C-45   Call Forwarding - All Calls - CCIS

General Description

This service feature allows Inter-Office CALL FORWARDING-ALL CALLS when the transferring station and the transferred station, respectively, belong to a different PBX in the CCIS network.

Operating Procedure

When setting Call Forwarding-All Calls Service:

1.   Station A goes off-hook; receives dial tone.
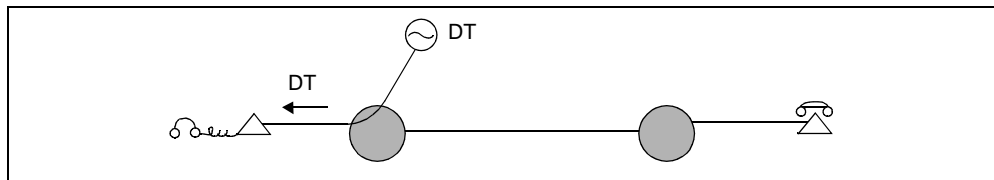
2.   Station A dials the Access Code for CALL FORWARDING-ALL CALLS; receives special dial tone.
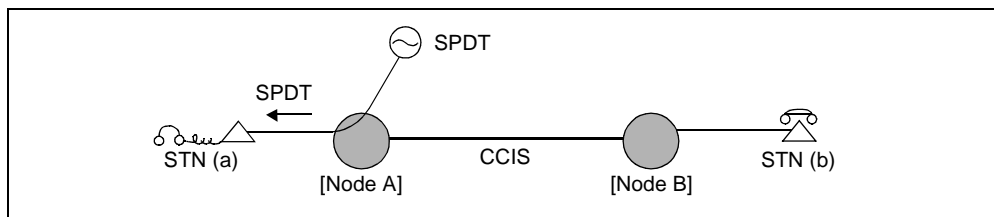
3.   Station A dials the number for the designated Station B; receives service set tone.
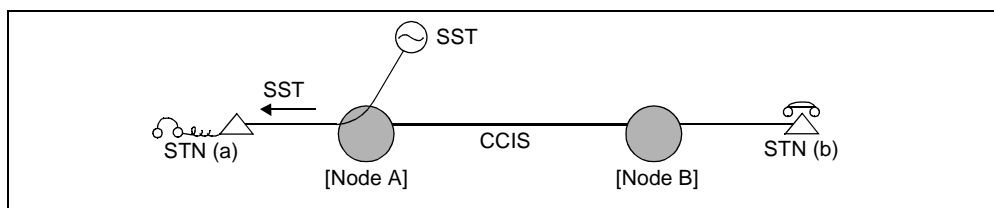
4.   Station A hangs up.
5.   Station A is called from Station C. The call is automatically transferred to Station B, which Station A has designated as the call destination. Station C receives ringback tone; Station B is rung.
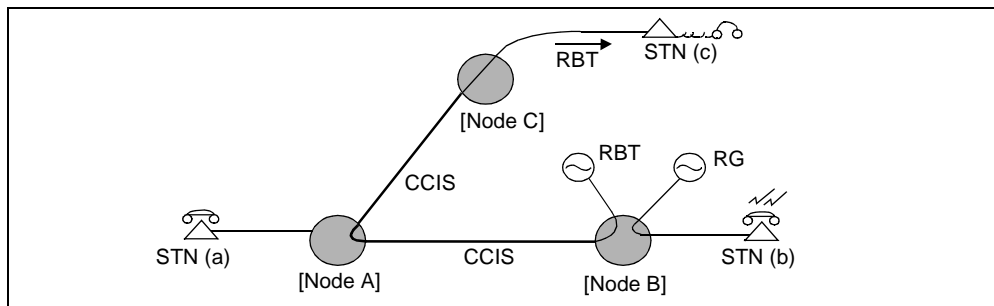
Operating Procedure (cont'd)

6.   Station B answers; Stations B and C are connected with each other.
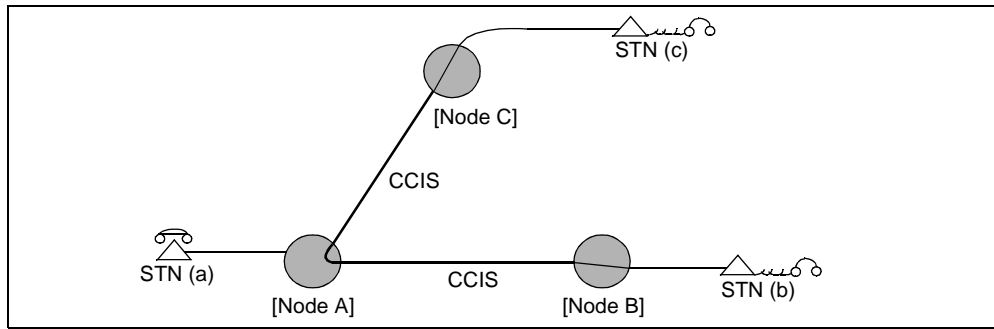
When cancelling Call Forwarding-All Calls Service:

1.   Station A goes off-hook; receives dial tone.
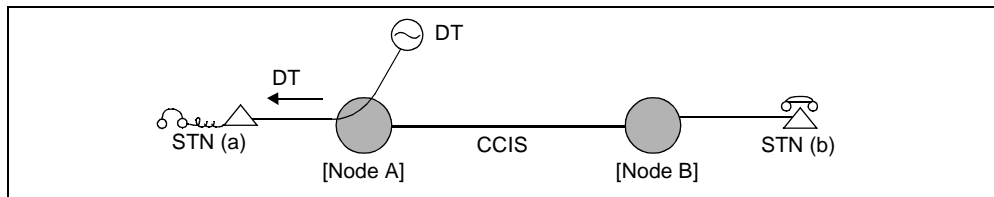
2.   Station A dials the Cancel Code of Call Forwarding-All Calls; receives service set tone.
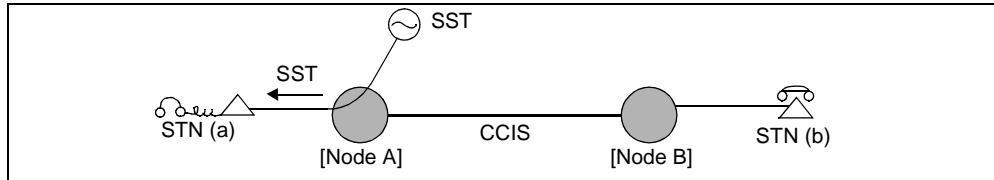
3.   Station A hangs up.

Service Conditions

1.   Stations with this feature set may originate calls and access the CALL FORWARDING-ALL CALLS Cancel Code.

2.   There is no limitation to the number of stations which can set CALL FORWARDING-ALL CALLS simultaneously.

3.   When a call is directed to a FORWARDED station, a one-burst ringing signal will be sent to the station to indicate that it is CALL FORWARDED.

4.   Stations activating CALL FORWARDING-ALL CALLS may be restricted from placing any calls except to the Attendant. (This is an optional, programmable feature). ASYD, System Data 2, Index 6, Bit 4.

5.   When the operator answers a FORWARDED call, System Data programming can provide a called telephone number display on the ATTENDANT CONSOLE [A-3].

6.   CALL FORWARDING-ALL CALLS- CCIS is assigned to a station via CLASS OF SERVICE-INDIVIDUAL [C-15] programming.

Service Conditions (cont'd)

7. When CALL FORWARDING-ALL CALLS - CCIS is used, the following conditions exist:

   a.) Station A calls Station B. Station B is set to CALL FORWARDING-ALL CALLS - CCIS to Station C. Station C is set to CALL FORWARDING-ALL CALLS to Station D. CALL FORWARDING-ALL CALLS occurs to Station D.
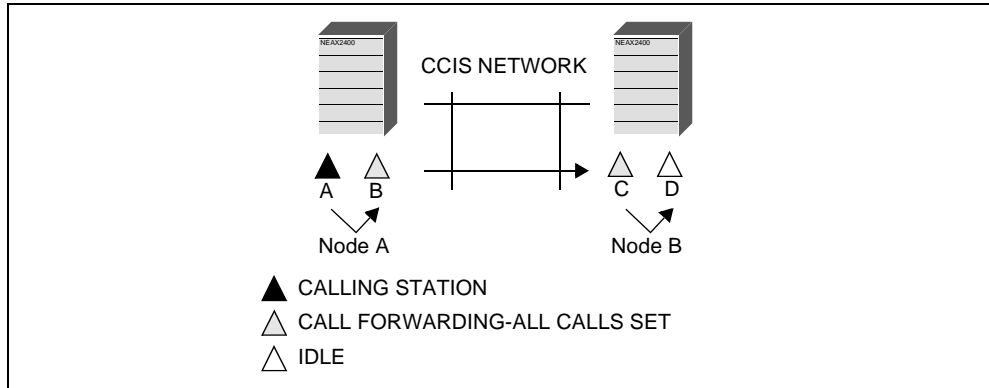
   b.) Station A calls Station B. Station B is set to CALL FORWARDING-ALL CALLS - CCIS to Station C. Station C is set to CALL FORWARDING-ALL CALLS - CCIS to Station D. CALL FORWARDING-ALL CALLS - CCIS does not occur to Station D. If Station C is idle, Station C will ring.
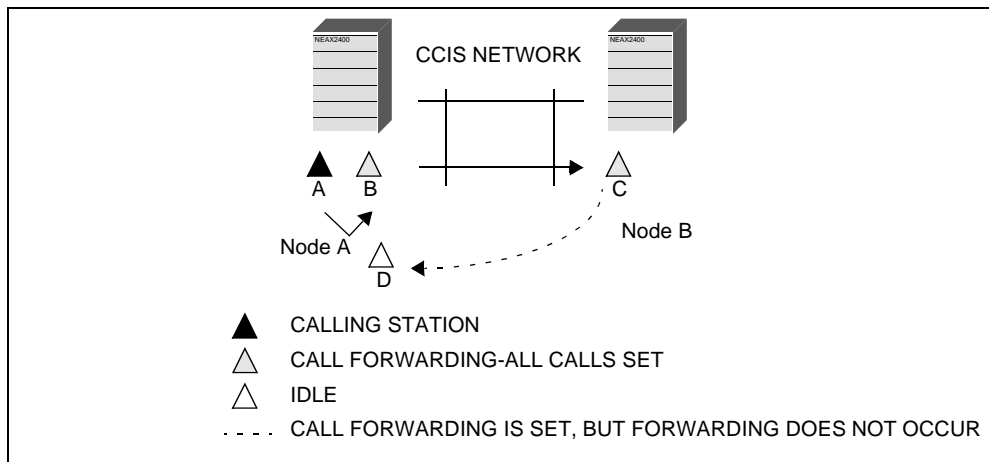
Service Conditions (cont'd)

c.) A Central Office call is directed to Station B. Station B is set to CALL FORWARDING-ALL CALLS - CCIS to Station C. Station C is set to CALL FORWARDING-ALL CALLS to Station D. CALL FORWARDING-ALL CALLS occurs to Station D.
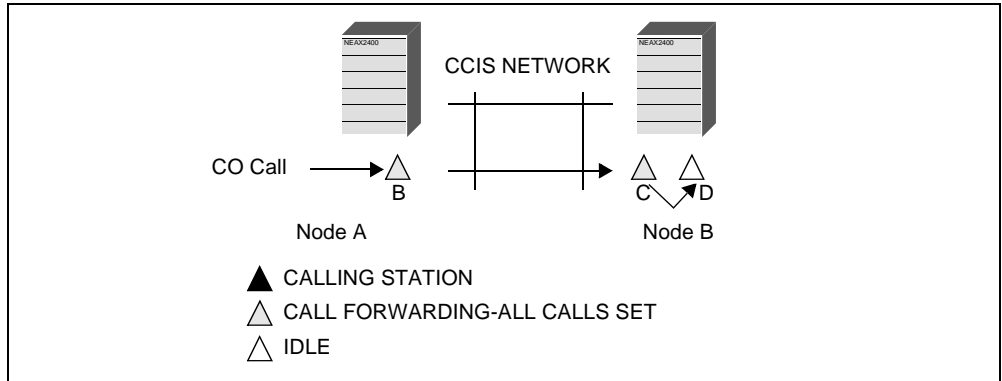
d.) A Central Office call is directed to Station B. Station B is set to CALL FORWARDING-ALL CALLS - CCIS to Station C. Station C is set to CALL FORWARDING-ALL CALLS - CCIS to Station D. CALL FORWARDING-ALL CALLS - CCIS does not occur to Station D. If Station C is idle, Station C will ring.
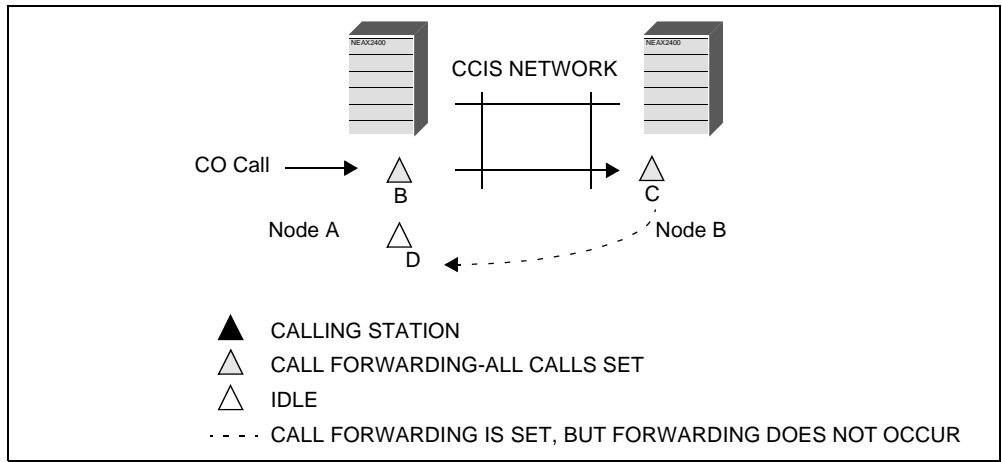
8. CALL FORWARDING-ALL CALLS - CCIS can be set or cancelled by a user or an Attendant.

9. Any number of stations can set CALL FORWARDING-ALL CALLS - CCIS to the same forwarded-to station.

10. The display of the forwarded-to telephone number on the LCD panel of the forwarding D^{term} can be allowed or denied in system programming, on a system-wide basis.

11. When a call is directed to a forwarded-to station, one burst of ringing can be sent to the forwarding single-line station to indicate that it is call forwarded.

12. When calls are forwarded to the Attendant Console, the INCOMING CALL IDENTIFICATION [I-2] feature allows the Attendant to identify the call as a forwarded call.

13. If ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] [A-45] is directed to a station that is forwarded to a busy station in a Hunt Group, the call hunts for an idle station. If all stations in the Hunt Group are busy, the call is camped-on to the forwarded-to station.

Service Conditions (cont'd)

14. CALL FORWARDING-ALL CALLS - CCIS can be overridden, allowing the forwarded-to station to initiate or transfer calls to the forwarding station.
    - a.) The idle forwarding station can be reached by the forwarded-to station, using CALL FORWARDING OVERRIDE - CCIS [C-49].
    - b.) A busy forwarding station receives call waiting treatment when the designated station calls directly or when EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] is used.
    - c.) When CALL FORWARDING-ALL CALLS - CCIS is set to the Attendant Console, the Attendant cannot reach the forwarding station using the override capability

15. When EXECUTIVE RIGHT-OF-WAY [E-1] [E-8] is initiated to a station, which has set CALL FORWARDING-ALL CALLS - CCIS, EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] terminates at the forwarded-to station.

16. If a called station has set call forwarding, and the forwarded-to station is listening to a tone being rung, or has set CALL WAITING [C-12], CALL BACK [C-44], OUTGOING TRUNK QUEUING [O-2] [O-12], or THREE-WAY CALLING [T-2], the calling station cannot use EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] to access the forwarded-to station. If attempted, the calling station will receive reorder tone.

17. When OUTGOING TRUNK QUEUING - CCIS [O-12] is provided, the forwarding station can use one of the call forwarding features and OUTGOING TRUNK QUEUING - CCIS [O-12] at the same time. Ringback tone is sent to the forwarding station and not to the forwarded-to station.

18. A call forwarded to a busy station that is allowed CALL WAITING [C-12] waits at the forwarded-to station, provided that the forwarded-to station is in a two-way conversation and no other call is waiting.

19. When a station that is call forwarded uses the CALL BACK - CCIS [C-44] feature, the automatic call back rings to the forwarding, not the forwarded-to, station.

20. If any of the following restrictions are in effect at a forwarded-to station, incoming trunk calls to the forwarding station will not be call forwarded (intercept arrangements will apply):
    - a.) Fully Restricted Station
    - b.) Station Restricted from Outgoing Calls
    - c.) Toll Restricted Station

21. When a station in a Hunt Group sets CALL FORWARDING-ALL CALLS - CCIS, it is temporarily removed from the Hunt Group.

22. When the Pilot station of a UNIFORM CALL DISTRIBUTION (UCD) [U-1] group sets CALL FORWARDING-ALL CALLS - CCIS, only calls to the Pilot number are forwarded.

23. If the forwarding station is the Pilot station of a UCD group and the forwarded-to station is idle, a call to the UCD group is routed immediately to the forwarded-to station. If the forwarded-to station is busy, the calling station will receive busy tone.

24. If a station in a UCD group sets CALL FORWARDING-ALL CALLS - CCIS, it is temporarily removed from the group.

25. When a call is forwarded, the telephone number recorded in the STATION MESSAGE DETAIL RECORDING [S-10] is the forwarded-to station.

Interactions

1. Users are unaccustomed to hearing ringback tone when responding to their own station's ring. Be sure to inform them when providing ringback tone with CALL FORWARDING-ALL CALLS - CCIS in System Data 1, Index 69, Bit 1.
2. Call forwarding can only be activated from an idle station.

Interactions (cont'd)

3. When CALL WAITING [C-12, 31], ATTENDANT CAMP-ON WITH TONE INDICATION [A-45], and CALL BACK [C-44] is directed toward Station A with call forwarding set to Station B, Station B will receive Call Waiting Tone.

4. When a station in a Hunt Group initiates CALL FORWARDING-ALL CALLS - CCIS, calls normally destined for this station will not be received. The Hunt Group operates as if the station were busy.

5. A non-controlling UCD station is allowed to activate call forwarding. With this station call forwarded, only directly-dialed calls to this station are call forwarded. The member station is removed from the UCD group under the conditions of this call forwarding feature.

6. When CALL FORWARDING-ALL CALLS - CCIS is in effect, the activating station may be used to originate calls. See System Data 2, Index 6, Bit 4.

7. When a station is call forwarded, the destination station is recorded STATION MESSAGE DETAIL RECORDING [S-10].

8. CALL FORWARDING-ALL CALLS - CCIS can be overridden allowing Station B to initiate or transfer calls back to Station A.

Programming

STEP 1: **ASYD** - System Data 1, Index 4, Bit 6. One burst of ringing at forwarding station when CALL FORWARDING-ALL CALLS - CCIS is in service? 0/1: No/Yes.

System Data 1, Index 69, Bit 1. A burst of ringback tone to alert the person receiving a call that this is a CALL FORWARDING-ALL CALLS - CCIS call. In service? 0/1: No/Yes. Normally assigned as data "0".

System Data 2, Index 6, Bit 4. Enable stations set for CALL FORWARDING-ALL CALLS - CCIS be allowed to use their phones normally. If data "0" is assigned, the station will only be able to call the Attendant Console. Assign on a per-tenant basis.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-ALL CALLS - CCIS entry, SID = 8 and to CALL FORWARDING-ALL CALLS cancel SID = 9. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allows SFI = 7 to the stations that activate CALL FORWARDING-ALL CALLS - CCIS.

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-ALL CALLS - CCIS may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-ALL CALLS [2].

STEP 6: **ADSL** - Assign FDA key; Assign SN=1 (Originating; DT Connection) and FKY=2 (Call Forwarding - All Calls).

This command is used for assigning a function to each soft key.

STEP 7: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set by the Attendant Console, assign Inter and Intra-Tenant connection via the Attendant Console. TRI = 3.

STEP 8: **ACFS** - CALL FORWARDING can also be assigned in this command.

C-46 Call Forwarding - Busy Line - CCIS

General Description

This service feature allows Inter-Office Call Forwarding-Busy Line for a case where the transferring station and the transferred station respectively belong to a different PBX in the CCIS network.
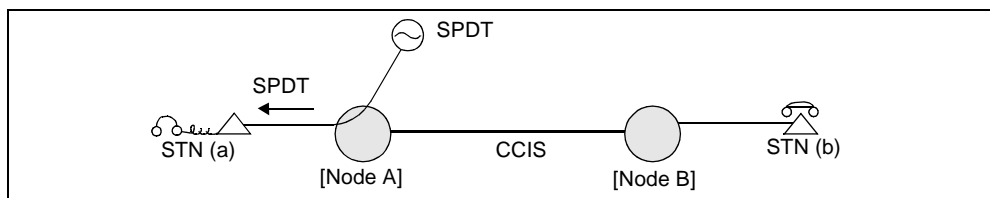
Operating Procedure

When setting call Forwarding-Busy Line Service.

1. Station A goes off-hook; receives dial tone.
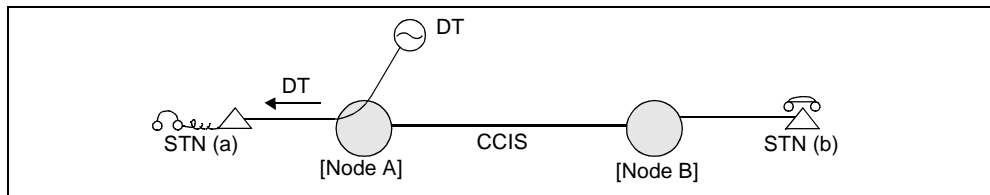
2. Station A dials the Access Code for Call Forwarding-Busy Line; receives special dial tone.
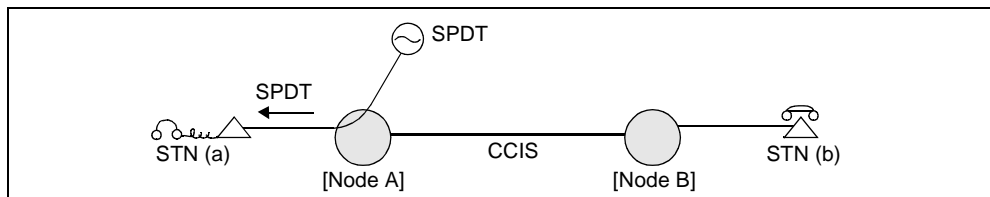
3. Station A dials the number for the designated Station B; receives service set tone.
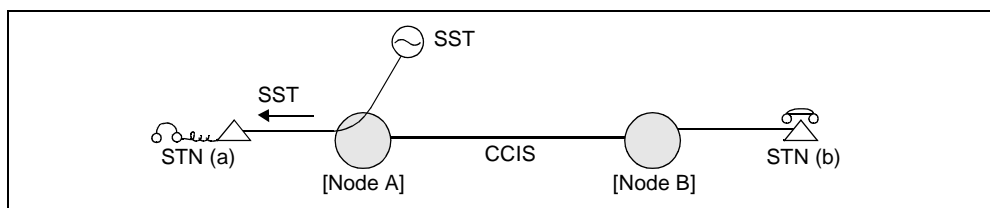
4. Station A hangs up.
5. Station A is engaging in a call with Station C through a CCIS line.
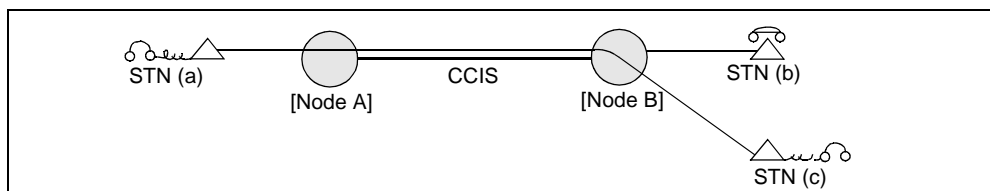
Operating Procedure (cont'd)

6. Station A is called from Station D through a CCIS line. The call is automatically transferred to Station B which Station A has designated as the call destination. Station D receives ringback tone; Station B is rung.
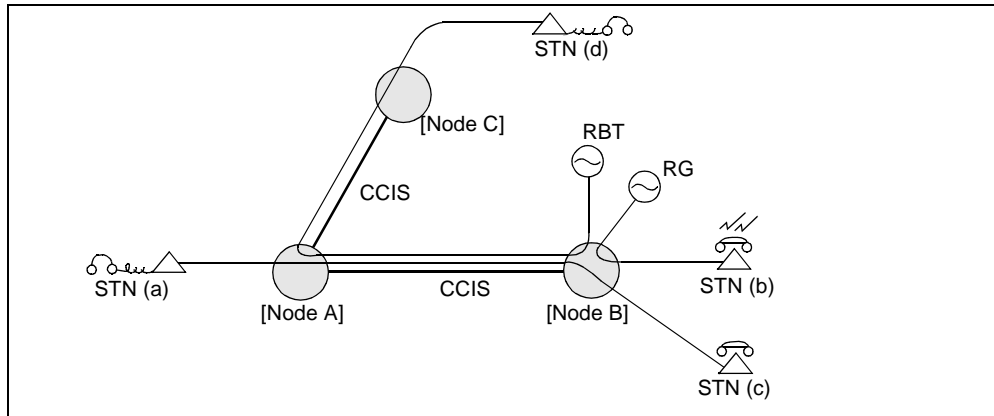

7. When Station B answers, Stations B and D are connected with each other.
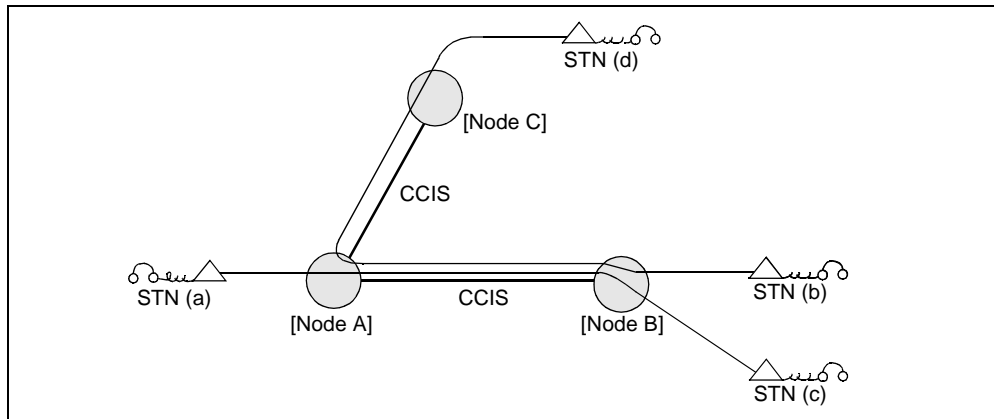
When cancelling CALL FORWARDING-BUSY LINE service:

1. Station A goes off-hook; receives dial tone.
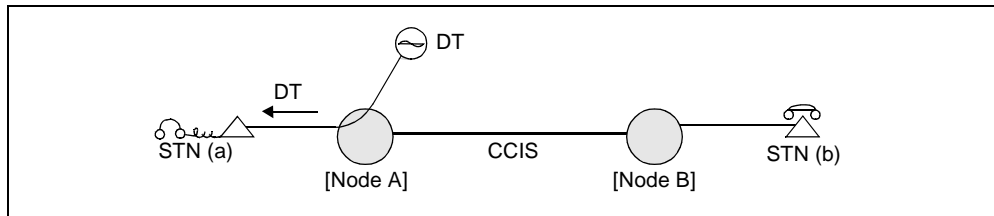
Operating Procedure (cont'd)

2. Station A dials the Cancel Code of CALL FORWARDING-BUSY LINE; receives service set tone.
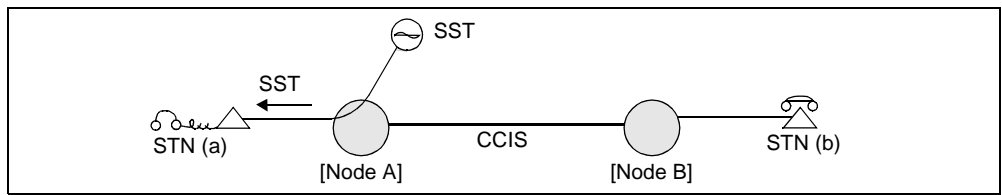
Service Conditions

1. When CALL FORWARDING-BUSY LINE - CCIS is used, the following conditions exist:

    a.) Station A calls station B. Station B is call forwarded to Station C. Station C is call forwarded to Station D. Call forwarding does occur to Station D. CALL BACK - CCIS [C-44], CALL WAITING-TERMINATING [C-12], or EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] can be set from Station A to Station C.
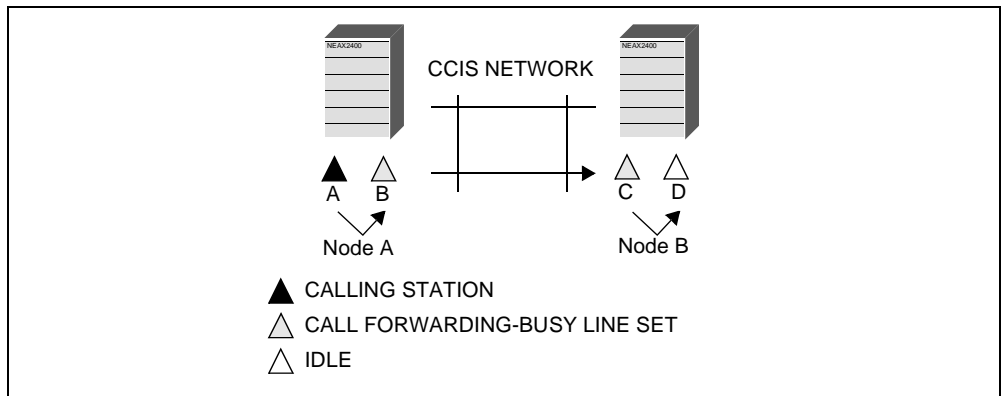
Service Conditions (cont'd)

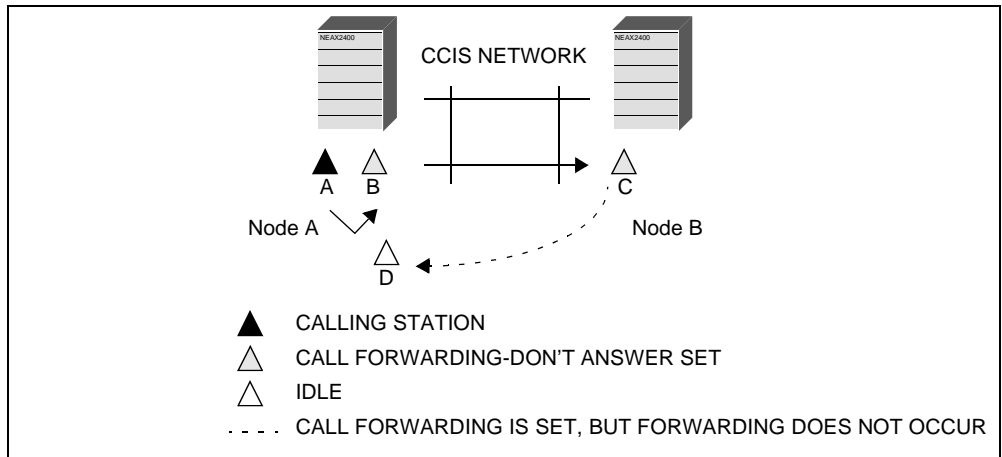b.) Station A calls station B. Station B is call forwarded - CCIS to Station C. Station C is call forwarded - CCIS to Station D. Call forwarding does not occur to Station D. If Station C is idle, Station C will ring. If Station C is busy, busy tone is returned from Station C. CALL BACK - CCIS [C-44], CALL WAITING-TERMINATING [C-12], or EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] can be set from Station A to Station C.
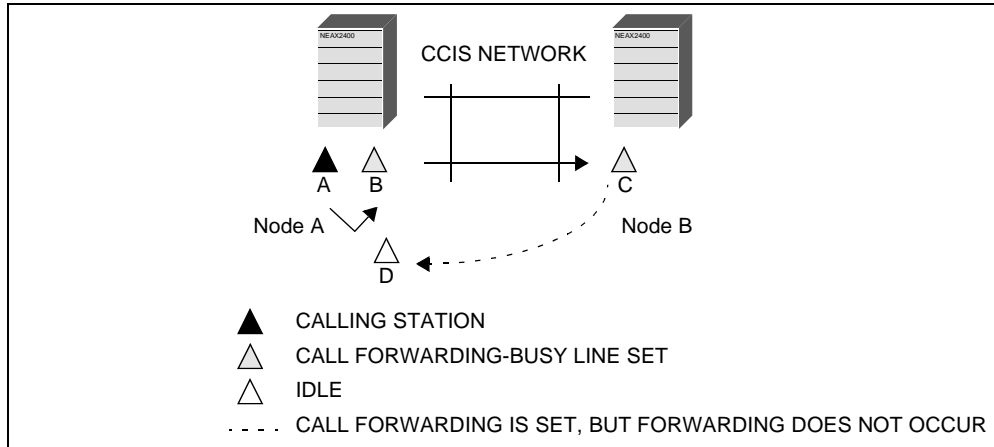
c.) A Central Office call is directed to Station B. Station B is call forwarded to Station C. Station C is call forwarded to Station D. Call forwarding does occur to Station D. If Station C is idle, Station C will ring. If Station C is busy, Station D will ring.
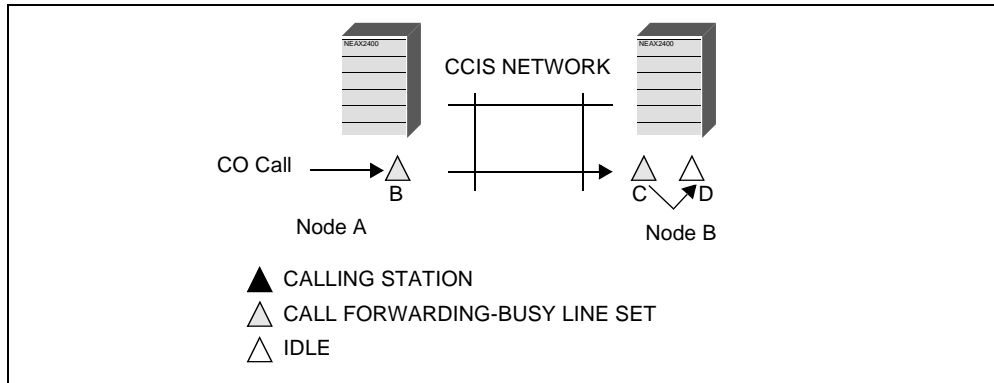
Service Conditions (cont'd)

    d.) A Central Office call is directed to Station B. Station B is call forwarded to Station C. Station C is call forwarded - CCI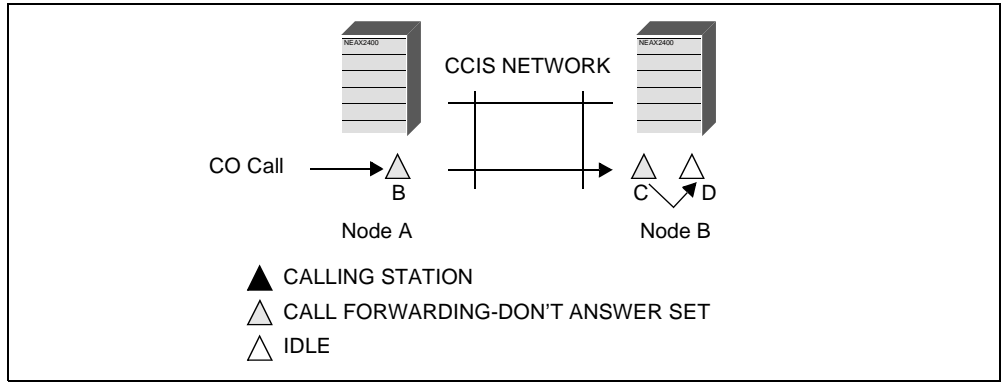S to Station D. Call forwarding does not occur to Station D. If Station C is idle, Station C will ring. If Station C is busy, busy tone is returned from Station C.
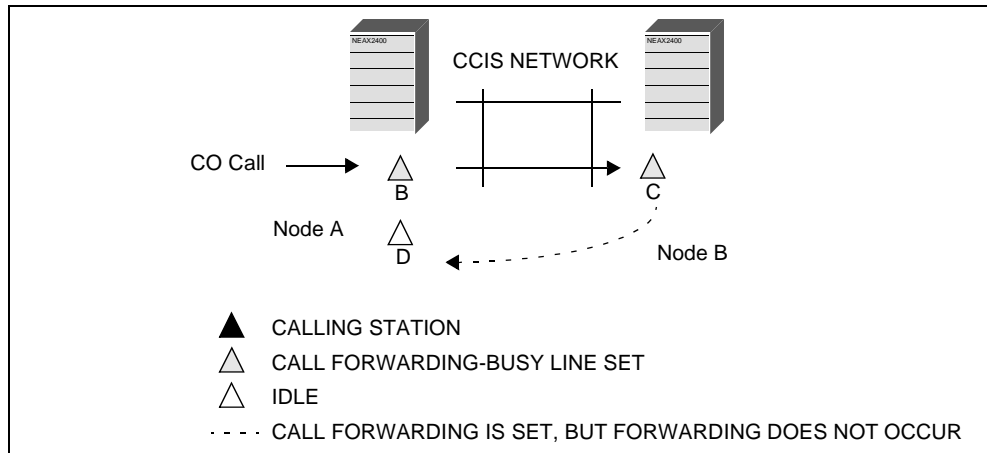
2. Registration memories for CALL FORWARDING-BUSY LINE and CALL FORWARDING-DON'T ANSWER [C-3] are common. Changing System Data will enable separation of the two, permitting separate access codes to be assigned.

3. CALL FORWARDING-BUSY LINE can be provided on a system and/or an individual basis.

4. CALL FORWARDING on a system basis allows any incoming calls which encounter a BUSY condition to be forwarded to a predetermined station or ATTENDANT CONSOLE [A-3].

5. Individual CALL FORWARDING-BUSY LINE supersedes system CALL FORWARDING.

6. If all the stations in the terminating hunt group are busy, the forwarding call will hear busy tone and will not return to the calling party's Hunt group.

7. When MULTIPLE CALL FORWARDING-BUSY LINE [M-24] service is activated, hunting will be performed at the last destination of the forwarded call, even though the multiple jumped stations are in a hunt group.

8. When the pilot station of a Pilot Hunt Group activates CALL FORWARDING - BUSY LINE to a station (not a member of a hunt group) and system parameters specify that call hunting will be activated at the forwarded station, the NEAX2400 IMX will send busy tone if the forwarded station is busy. If the system parameters specify hunting at the forwarding station, and the forwarded station is busy, the call will hunt in the forwarding station's hunt group.

9. When a station activates CALL FORWARDING-ALL CALLS [C-5] to a pilot in a hunt group, and the pilot activates CALL FORWARDING-BUSY LINE to another pilot hunt group, if system parameters define the call to hunt to the forwarded hunt group and the pilot station is busy, the calling party will hunt at the called station's hunt group. If system parameters define the call to hunt to the forwarding hunt group and the pilot station is busy, the calling party will then hunt to the forwarding station's hunt group.

10. If the called station is the pilot of a UCD group and activates CALL FORWARDING-BUSY LINE the calling station will queue to the UCD group and will not Call Forward.

11. CALL FORWARDING-BUSY LINE - CCIS is assigned to a station via CLASS OF SERVICE-INDIVIDUAL [C-15] programming.

12. There is no limit to the number of stations that can simultaneously set CALL FORWARDING-BUSY LINE - CCIS.

Service Conditions (cont'd)

13. CALL FORWARDING-BUSY LINE - CCIS can be set by any number of stations to the same forwarded-to station.

14. The display of the forwarded-to telephone number on the LCD panel of the forwarding D^{term} can be allowed or denied in system programming on a system-wide basis.

15. When calls are forwarded to the Attendant Console, INCOMING CALL IDENTIFICATION [I-2] allows the Attendant to identify the call as a forwarded call.

16. When a call is call forwarded to the Attendant Console, the Attendant can identify the called station at the Attendant Console.

17. When a station sets CALL FORWARDING-BUSY LINE - CCIS to the Attendant Console, and the system is in the Night mode, the calling party will receive reorder tone, or transfer to the ATTENDANT NIGHT TRANSFER [A-19] station, if provided.

18. When ATTENDANT CAMP-ON WITH TONE INDICATION [A-45] is directed to a station which has set CALL FORWARDING-BUSY LINE - CCIS, and the forwarded-to station is busy, the call is camped-on to the called station.

19. If ATTENDANT CAMP-ON WITH TONE INDICATION [A-45] is directed to a station which is forwarded to a busy station in a Hunt group, the call hunts for an idle station. If all stations in the Hunt group are busy, the call is camped-on to the forwarded-to station.

20. If a calling station, Attendant Console, or trunk receives busy tone after dialing a station which has set CALL FORWARDING-BUSY LINE - CCIS because both the called and forwarded-to stations are busy, and if the calling station activates BUSY VERIFICATION - CCIS [B-9], CALL BACK - CCIS [C-44], CALL WAITING-TERMINATING [C-12], or EXECUTIVE RIGHT-OF-WAY - CCIS [E-8], these services will be activated to the forwarded-to station.

21. If any of the following restrictions are in effect at a forwarded-to station, incoming trunk calls to the forwarding station will not be call forwarded (intercept arrangements will apply):
    a.) Fully Restricted Station
    b.) Station Restricted from Outgoing Calls
    c.) Toll Restricted Station

22. CALL FORWARDING-BUSY LINE - CCIS supersedes the station Hunting features [S-7, S-8, S-9].

23. If a forwarded-to station is a member of a UCD group and that station is busy, the call will ring at an idle station within the group. If all members of the group are busy, the call remains in queue waiting for a member to become available; or (if programmed), until DELAY ANNOUNCEMENT-UCD [D-31] or OVERFLOW-UCD [O-13] is invoked.

24. If a member of a UCD group, other than the Pilot station, sets CALL FORWARDING-BUSY LINE - CCIS, only calls to that extension number are forwarded.

25. When a call is forwarded, the number recorded in the STATION MESSAGE DETAIL RECORDING [S-10] is the forwarded-to telephone number.

26. CALL FORWARDING-BUSY LINE - CCIS data remains programmed even if the system is reinitialized without data memory clear or should a power failure occur.

27. CALL FORWARDING-BUSY LINE - CCIS can also be accessed from a D^{term} via the dial pad or SPEED CALLING-ONE TOUCH [S-26D]. If this feature is accessed via the dial pad, it must also be cancelled via the dial pad.

28. If separate access codes are programmed into System Data for CALL FORWARDING-BUSY LINE - CCIS and CALL FORWARDING-DON'T ANSWER - CCIS [C-47], separate feature keys must be programmed on each D^{term} to equip it for both features.

29. If the station is in a Hunt Group, the call will hunt.

Service Conditions (cont'd)

30. SPLIT CALL FORWARDING [S-99] is available only when the calling party is the station or the CCIS line.

31. When a call terminates to a busy station setting CALL FORWARDING-BUSY LINE - CCIS, depending on the calling station service restriction class, it can be selected to make the station busy (not to activate Calling Forwarding-Busy Line) and to activate services as ATTENDANT CAMP-ON [A-1], BUSY VERIFICATION [B-3], CALL WAITING - TERMINATING [C-12], STEP CALL [S-13], etc.

32. This service is not available when the called party is the attendant console, monitoring station, or the paging station. However, the service is available when these stations are designated as the transfer destination of Call Forwarding - Busy Line service.

33. This service is available only when the called party is busy and has set Call Forwarding - Busy Line. In case Call Forwarding - Busy Line is set as the second jump or later in the Multiple Call Forwarding link, this service is not available.

34. This service is available in the following occasions:
    a.) when the destination of the Call Forwarding - Busy Line service is the calling station,
    b.) when the calling party is the attendant console or the night station, and the destination Call Forwarding - Busy Line service is also the attendant console or the night station.

Interactions

1. If access codes for CALL FORWARDING-BUSY LINE - CCIS and CALL FORWARDING-DON'T ANSWER - CCIS [C-47] are the same, only one key needs to be assigned in AKYD.

2. When CALL WAITING [C-12, 31], ATTENDANT CAMP-ON WITH TONE INDICATION [A-45], or CALL BACK [C-44] is directed toward Station A with call forwarding set to Station B, Station B will receive Call Waiting Tone.

3. A non-controlling UCD station is allowed to activate CALL FORWARDING-BUSY LINE - CCIS. When this station sets CALL FORWARDING-BUSY LINE - CCIS, only calls dialed directly to this station are call forwarded.

4. If an Attendant attempts BUSY VERIFICATION [B-9] to station A that has CALL FORWARDING-BUSY LINE - CCIS set to Station B and Station B is busy, BUSY VERIFICATION proceeds again with Station A. If Station A has set call forwarding to the Attendant Console, BUSY VERIFICATION [B-9] is allowed at Station A.

5. When CALL FORWARDING - BUSY LINE - CCIS is in effect, the activating station may be used to originate calls.

6. When a call is forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

Programming

STEP 1: **ASYD** - System Data 1, Index 5, Bit 0. Access codes for CALL FORWARDING-BUSY LINE - CCIS and CALL FORWARDING-DON'T ANSWER - CCIS [C-47] are same or separate? 0/1: Same/ Separate.

System Data 1, Index 69, Bit 5. Hunting Group when target station is busy (Station Hunting after C.F.- Busy Line) 0/1: Hunt in Transferring Party's Group/Hunt in Transferred Party's Group.

System Data 1, Index 69, Bit 7. Is Multiple-Jump CALL FORWARDING-BUSY LINE - CCIS in service? 0/1: No/Yes.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

Programming (cont'd)

STEP 3:   **ASPA** - Assign an access code to CALL FORWARDING-BUSY LINE - CCIS entry, SID = 10 and to CALL FORWARDING-BUSY LINE - CCIS cancel SID = 11. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4:   **ASFC** - Assign a Service Feature Class that allows SFI = 9 to the stations receiving CALL FORWARDING-BUSY LINE - CCIS.

STEP 5:   **AKYD** - For D^{term} sets, CALL FORWARDING-BUSY LINE - CCIS may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARDING-BUSY LINE [1].

STEP 6:   **ADSL** - Assign FDB key; Assign SN=1 (Originating; DT Connection) and FKY=1 (Call Forwarding - Busy Line).

This command is used for assigning a function to each soft key.

STEP 7:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set by the Attendant Console, assign Inter and Intra-Tenant connection via the Attendant Console, TRI = 3. This allows a phone in one tenant to be forwarded to a phone in the same or different tenant.

STEP 8:   **ACFO** - For tenant-wide CALL FORWARDING-BUSY LINE - CCIS of an incoming DID and DIT calls, assign CF = 1 for a destination (CFI) of either the Attendant Console or a station.

C-47 Call Forwarding - Don't Answer - CCIS

General Description

This service feature allows Inter-Office Call Forwarding-Don't Answer for a case where the transferring station and the transferred station respectively belong to a different PBX in the CCIS network.

Operating Procedure

When setting call FORWARDING-DON'T ANSWER Service:

1. Station A goes off-hook; receives dial tone.
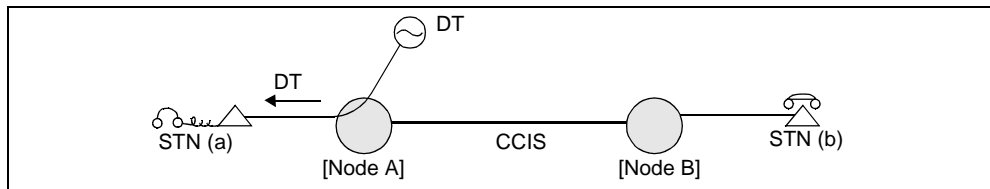
2. Station A dials the Access Code for CALL FORWARDING-DON'T ANSWER; receives special dial tone.

3. Station A dials the number for the designated Station B; receives service set tone.
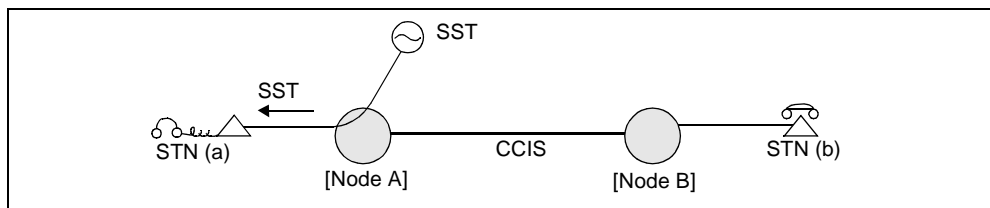
4. Station A hangs up.
5. Station A is called from Station C; Station C receives ringback tone; Station A is rung.
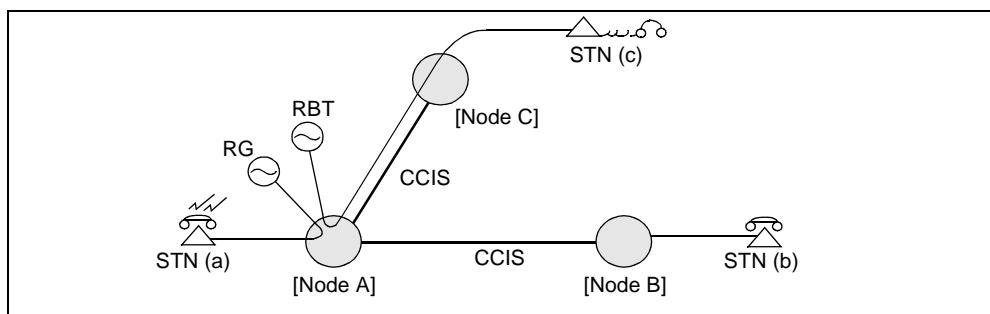
Operating Procedure (cont'd)

6. Station A does not answer the call within a predetermined amount of time. The ringing at Station A stops and the call is automatically transferred to Station B, which A has designated as the transfer destination; Station B is rung.
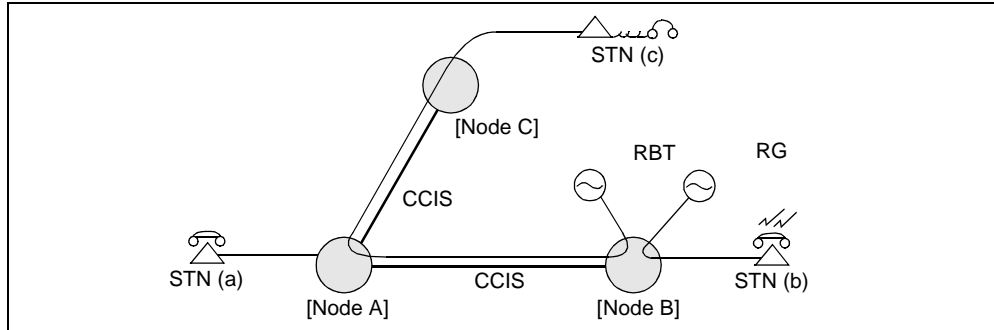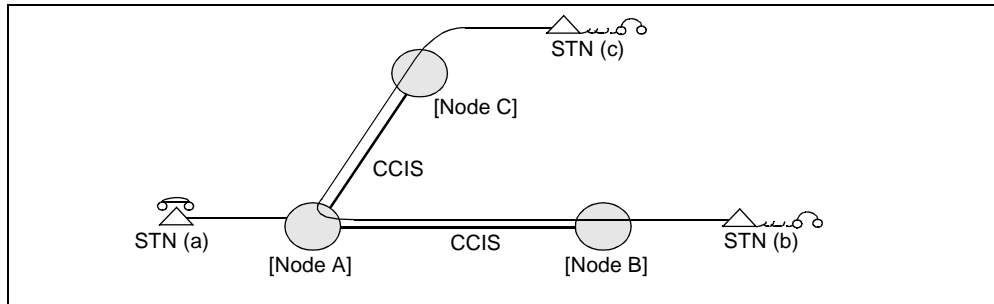
7. Station B answers the call; Stations B and C are connected with each other.

When cancelling CALL FORWARDING-DON'T ANSWER Service:

1. Station A goes off-hook; receives dial tone.
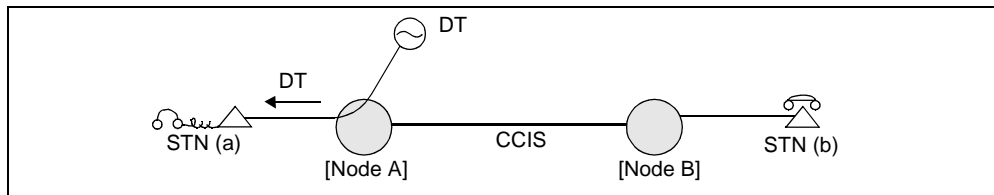
2. Station A dials the Cancel Code of CALL FORWARDING-DON'T ANSWER; receives service set tone.
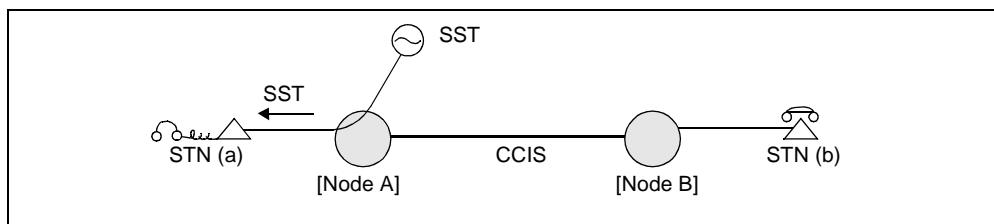
3. Station A hangs up.

Service Conditions

1. When CALL FORWARDING-DON'T ANSWER - CCIS is used, the following conditions exist:

    a.) Station A calls Station B. Station B is call forwarded to Station C. Station C is call forwarded to Station D. Call forwarding does occur to Station D.
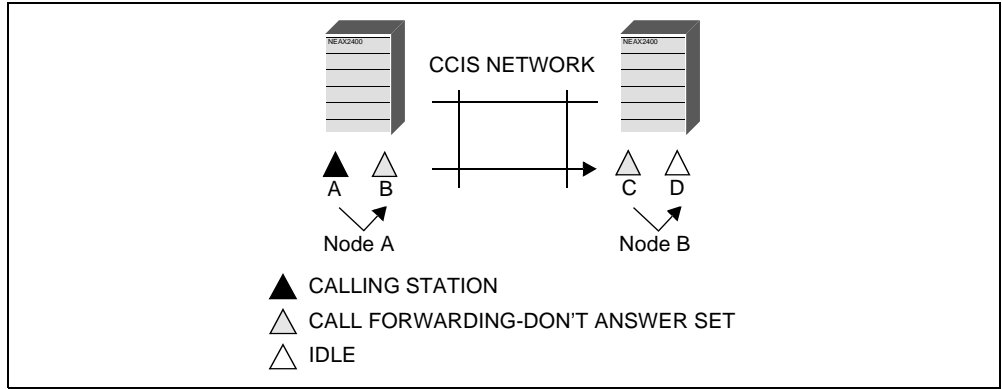
    b.) Station A calls Station B. Station B is call forwarded to Station C. Station C is call forwarded to Station D. Call forwarding does not occur to Station D. If Station C is idle, it will ring beyond the Don't Answer timer.

Service Conditions (cont'd)

    c.) A Central Office call is directed to Station B. Station B is call forwarded to Station C. Station C is call forwarded to Station D. Call forwarding does occur to Station D.

    d.) A Central Office call is directed to Station B. Station B is call forwarded to Station C. Station C is call forwarded to Station D. Call forwarding does not occur to Station D. If Station C is idle, Station C will ring beyond the Don't Answer timer.
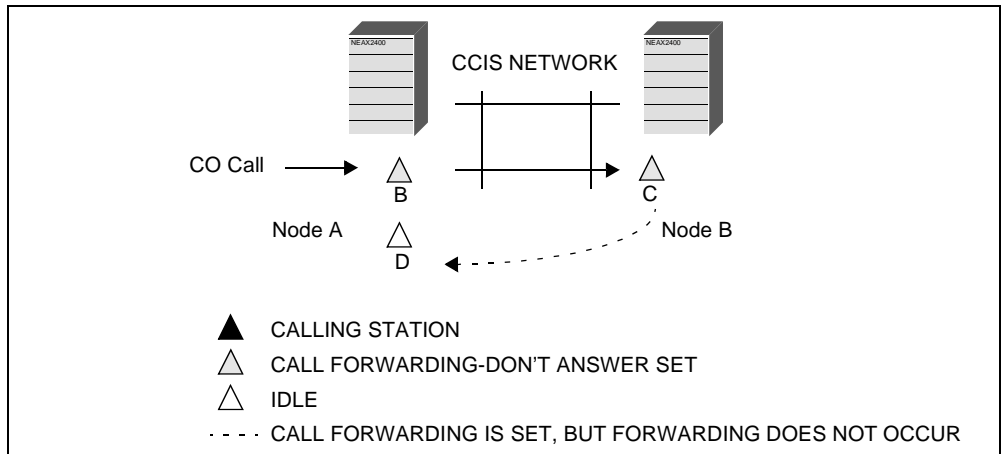
2.   CALL FORWARDING-DON'T ANSWER can be provided on either a system or an individual basis.

3.   Individual CALL FORWARDING-DON'T ANSWER supersedes system CALL FORWARDING.

4.   CALL FORWARDING on a system basis allows direct incoming trunk calls that encounter a DON'T ANSWER condition to be forwarded to a predetermined station or the ATTENDANT CONSOLE [A-3].

5.   The operator answering a CALL FORWARDING call can identify the called telephone number on the ATTENDANT CONSOLE [A-3] display.

6.   CALL FORWARDING-DON'T ANSWER - CCIS is assigned to a station via CLASS OF SERVICE-INDIVIDUAL [C-15] programming.

7.   There is no limit to the number of stations that can simultaneously set CALL FORWARDING-DON'T ANSWER - CCIS.

8.   CALL FORWARDING-DON'T ANSWER - CCIS can be set from any number of stations to the same forwarded-to station.

9.   The display of the forwarded-to telephone number on the LCD panel of the forwarding D^{term} can be allowed or denied in system programming on a system-wide basis.

Service Conditions (cont'd)

10. If a station transfers a call to another station that has set CALL FORWARDING-DON'T ANSWER - CCIS and releases from the call, recall service will override CALL FORWARDING-DON'T ANSWER - CCIS if the call is unanswered after a predetermined time period (unless Blind Transfer station is in service).

11. When calls are forwarded to the Attendant Console, the INCOMING CALL IDENTIFICATION [I-2] feature allows the Attendant to identify the call as a forwarded call.

12. When a station-to-station call within the same node is CALL FORWARDING-DON'T ANSWER [C-3] to the Attendant Console, the call terminates on the NANS key. When the call is CALL FORWARDING-DON'T ANSWER - CCIS to the Attendant Console, it terminates on the NANS key.

13. When the system is in Night mode, CALL FORWARDING-DON'T ANSWER - CCIS to the Attendant Console will continue ringing at the called station, or transfer to the ATTENDANT NIGHT TRANSFER [A-19] station, if provided.

14. When an Attendant extends a call to a station in another node in the CCIS network, and that station has set CALL FORWARDING-DON'T ANSWER - CCIS, the call will be forwarded if the called station does not answer within a predetermined time period.

15. If separate access codes are programmed into system data for CALL FORWARDING-DON'T ANSWER - CCIS and CALL FORWARDING-BUSY LINE - CCIS [C-46], separate feature keys must be programmed on each D^{term} to equip it for both features.

16. When OUTGOING TRUNK QUEUING - CCIS [O-12] is provided, a station can use this feature and one of the other call forwarding features at the same time. When a trunk becomes available, ringback tone will be to the forwarding, not the forwarded-to, station.

17. If any of the following restrictions are in effect at a forwarded-to station, incoming trunk calls to the forwarding station will not be forwarded (intercept arrangements will apply):
    a.) Fully Restricted Station
    b.) Station Restricted from Outgoing Calls
    c.) Toll Restricted Station

18. If a member of a UNIFORM CALL DISTRIBUTION (UCD) [U-1] group sets CALL FORWARDING-DON'T ANSWER - CCIS, only UCD calls to that extension number are forwarded.

19. When a call is forwarded, the number recorded in the STATION MESSAGE DETAIL RECORDING [S-10] is the forwarded-to telephone number.

20. CALL FORWARDING-DON'T ANSWER - CCIS can also be accessed from a D^{term} via the dial pad or SPEED CALLING-ONE TOUCH [S-26D]. If this feature is accessed via the dial pad, it must also be cancelled via the dial pad.

21. When an Attendant extends a call to a station in the same node which has set CALL FORWARDING-DON'T ANSWER - CCIS, the called station will ring for 30 seconds. If the call is not answered, it will forward across CCIS.

Interactions

1. If access codes for CALL FORWARDING-BUSY LINE - CCIS and CALL FORWARDING-DON'T ANSWER - CCIS are the same, only one key needs to be assigned in AKYD.

2. ACFO is applicable to DID, DIT, and TIE Line calls only.

3. A non-controlling UCD station is allowed to activate CALL FORWARDING-DON'T ANSWER - CCIS. When this station sets call forwarding, calls directed to this station will be forwarded. The member station is not removed from the UCD group under the conditions of the call forwarding feature used. When it is the station's turn to ring, that call is affected by CALL FORWARDING-DON'T ANSWER - CCIS.

Interactions (cont'd)

4. CALL FORWARDING-DON'T ANSWER - CCIS to an Attendant Console will not operate when the system is in Night Mode. If ATTENDANT NIGHT TRANSFER [A-19] is provided, the call is forwarded to the ATTENDANT NIGHT TRANSFER station.

5. If the CALL FORWARDING-DON'T ANSWER - CCIS target station is a D^{term} which has activated DO NOT DISTURB [D-21D], call forwarding is not activated. The forwarding station will ring beyond the timer set in System Data 1, Index 145.

6. When the CALL FORWARDING-DON'T ANSWER - CCIS feature is set from Station A to Station B, and if Station A is idle and Station B is busy, Station A will ring beyond the timer set in System Data 1, Index 145.

7. When a call is call forwarded, the destination station is recorded for STATION MESSAGE DETAIL RECORDING [S-10].

Programming

STEP 1: **ASYD** - System Data 1, Index 5, Bit 0. Access codes for CALL FORWARDING-BUSY LINE - CCIS and CALL FORWARDING-DON'T ANSWER - CCIS are same or separate? 0/1: Same/Separate.

System Data 1, Index 69, Bit 2. Is there a short tone to alert person receiving the call that this is a CALL FORWARDING-DON'T ANSWER - CCIS call? 0/1: No/Yes.

System Data 1, Index 139. Assign the No Answer time for station-to-station, DID, and TIE Line calls. For 30 seconds, assign 00H (RAM data is 3FH).

System Data 1, Index 141. Assign the No Answer timer for incoming calls via the Attendant Console. It will then be forwarded to the next station according to System Data 1, Index 145 timer. For 10 seconds, assign 00H (RAM data is 35H).

System Data 1, Index 145. Assign the time an incoming call via the Attendant Console will ring at the CALL FORWARD-DON'T ANSWER - CCIS station before recalling to the Attendant Console. For 30 seconds, assign 00H (RAM data is 9FH).

System Data 2, Index 6, Bit 7. Enable CALL FORWARDING-DON'T ANSWER - CCIS via Attendant Console Transfer.

STEP 2: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3: **ASPA** - Assign an access code to CALL FORWARDING-DON'T ANSWER - CCIS entry, SID = 12, and to CALL FORWARDING-DON'T ANSWER - CCIS cancel SID = 13. Assign Connection Status Index (CI) for Normal (N) service.

STEP 4: **ASFC** - Assign a Service Feature Class that allow SFI = 8 to the stations receiving CALL FORWARDING-DON'T ANSWER - CCIS.

STEP 5: **AKYD** - For D^{term} sets, CALL FORWARDING-DON'T ANSWER - CCIS may be assigned to a programmable line/feature key. Assign Type:Function:CALL FORWARD-DON'T ANSWER [22].

STEP 6: **ADSL** - Assign FDN key; Assign SN=1 (Originating; DT Connection) and FKY=22 (Call Forwarding - Don't Answer).

This command is used for assigning a function to each soft key.

STEP 7: **ATNR** - Allow tenant-to-tenant connection for Inter- and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1. For this feature to be set by the Attendant Console, assign Inter-and Intra-Tenant connection via the Attendant Console, TRI = 3.

STEP 8: **ACFO** - For tenant-wide CALL FORWARDING-DON'T ANSWER - CCIS, assign CF = 2 for a destination (CFI) of either the Attendant Console or a station.

C-48 Call Forwarding - Intercept - CCIS

General Description

This feature allows calls to an inoperative number, through a CCIS trunk, to be intercepted and routed to a recorded announcement. This announcement will inform the caller that an inoperative number was dialed and will give the Listed Directory Number for information.

Operating Procedure

This feature is set in system programming and no manual operation is required.

Service Conditions

1. This feature requires an announcement trunk and an announcement machine at each node.
2. Only one call at a time can be connected to each announcement trunk. If a second call arrives while the first call is being processed, the caller will receive ringback tone until the trunk becomes idle. This is when AAED - M = 1.
3. If disconnect timing is programmed in System Data and the calling party forgets to hang up, the system will automatically disconnect from the call after 30 seconds. If no disconnect timing is programmed, the calling party will control disconnect.
4. This feature is provided on a per-tenant basis.
5. Calls to restricted numbers will receive reorder tone.
6. Only one common message can be provided for all intercept conditions.
7. The following call conditions are routed to CALL FORWARDING-INTERCEPT - CCIS:
   - Vacant level
   - Unassigned telephone number

Interactions

1. The trunk number will only be required when a multiple connection is assigned.
2. The COT trunk circuit is used to interface a customer-provided announcement machine.
3. The Digital Announcement Trunk (DAT) card may be used for announcements instead of an external announcement machine. In this case, the COT card is not required.
4. The type of connection to the announcement machine depends on whether the machine provides a battery reversal at the end of the message. Battery reversal allows for the recycling of the message so that a calling station will always be connected to the beginning of the message. Therefore, the calling party will continue to hear ringback tone until connected to the beginning of the announcement.
5. See ANNOUNCEMENT SERVICE [A-15].

Programming

STEP 1: **ARTD** - Assign the announcement route as shown below:

RT: 1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:1	7-L/T	:1
8-RLP	:2	15-LSG	:4	44-PRV	:1					

STEP 2: **ATRK** - Assign the LEN, Announcement Trunk Route Number (1-255), Trunk Number (1-255), and Tenant Number (1-15).

Programming (cont'd)

STEP 3:   **MBTK** - Assign the Make Idle status to the Announcement Trunk.

Note: *If supervision is required, use the first two circuits of the COT card. Move the switch on the COT card to PGT.*
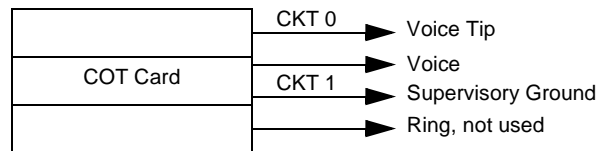
STEP 4:   **ARRC** - If TIE Line or REMOTE ACCESS TO PBX [R-2] connection to the Announcement Service Trunk is required, allow trunk-to-trunk connection using ARI-D-RES, Direct Connection.

STEP 5:   **AAED** - Used to assign Announcement equipment.

DEAD LEVEL

Assign:

TN: Tenant Number;

EQP: (Announcement Equipment Number) = 0 (Dead Level). Example: If level 6 is not assigned, an announcement is heard instead of reorder tone.

RT, TK: Route & Trunk number of the trunk connected to the announcement equipment:

C: Duration of Connection, 0/1: Disconnection occurs in 30 seconds / the connection is held until the station releases. See the requirements of the announcement equipment.

R: Sending RBT, 0/1: Sending RBT/Not sending RBT. Normally assign data "0".

A: Answer Signal Sending, 0/1: No answer from Incoming trunk/Answer from Incoming trunk. Normally assign data "0". No answer signal is sent to the CO. Therefore calling party will not be billed for the call.

M: Multiple Connection 0/1: Single Connection/Multiple Connection. See the requirements of the announcement equipment.

UNUSED NUMBER

Assign:

TN: Tenant Number;

EQP: (Announcement Equipment Number) = 1 (Unused Number).

Example: If ext.-7836 is not in the system, the announcement is heard instead of reorder tone.

RT, TK: Route & Trunk number of the trunk connected to the announcement equipment:

C: Duration of Connection, 0/1: Disconnection occurs in 30 seconds/the connection is held until the station releases. See the requirements of the announcement equipment.

R: Sending RBT, 0/1: Sending RBT/Not sending RBT. Normally assign data "0".

A: Answer Signal Sending, 0/1: No answer from Incoming trunk/Answer from Incoming trunk. Normally assign data "0". No answer signal is sent to the CO. Therefore calling party will not be billed for the call.

M: Multiple Connection 0/1: Single Connection/Multiple Connection. See the requirements of the announcement equipment.

STEP 6:   **ACFR** - Assignment of Call Forwarding Restriction. Upon determining which types of Call Class Indexes (CCI) will be answered via CALL FORWARDING-INTERCEPT - CCIS (i.e., CCSA and DID calls), allow those CCIs a Transfer Service Feature Index of 1, Call Forward-All Calls, Don't Answer, Busy.

STEP 7:   **ARSC** - Assign RSC 0 for the Attendant. Allow stations to access the announcement trunks.

C-49 Call Forwarding - Override - CCIS

General Description

This feature allows a forwarded-to station (Station A) to ring the station (Station B), which has set CALL FORWARDING - ALL CALLS - CCIS [C-45] to it. If the called station (Station B) has set CALL FORWARDING - BUSY LINE - CCIS [C-46] to the calling station (Station A), the calling station will receive busy tone and can activate CALL BACK - CCIS [C-44].

Operating Procedure

No manual operation is required.

Service Conditions

1. This service feature is allowed to all stations in the CCIS network, except the ATTENDANT CONSOLES [A-3].
2. Any station that has set CALL FORWARDING - ALL CALLS [C-5] can activate any feature if the station is allowed the feature in Class of Service.

Programming

No Programming Required. This is inherent to the system when CALL FORWARDING is programmed.

C-50   Call Transfer - All Calls - CCIS

General Description

This service feature allows Inter-Office CALL TRANSFER-ALL CALLS when the transferring station and the transferred station respectively belong to a different PBX in the CCIS network.

Operating Procedure

1.   Station A and C are in connection on a station-to-station call.
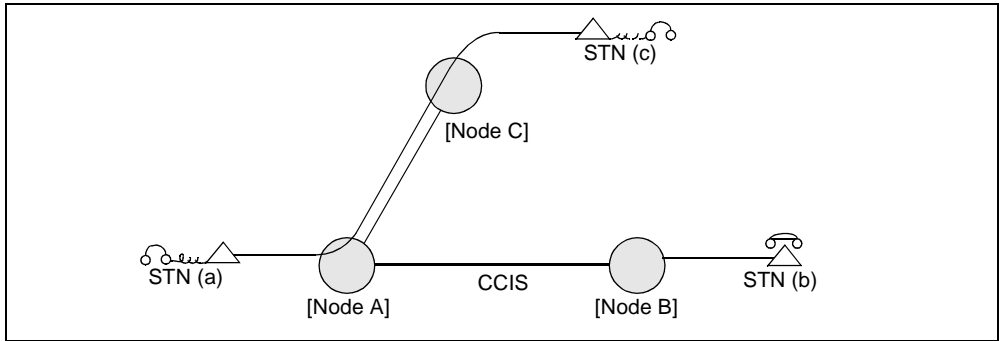
2.   Station A switch hook flashes; receives special dial tone. Station C receives Hold Tone.
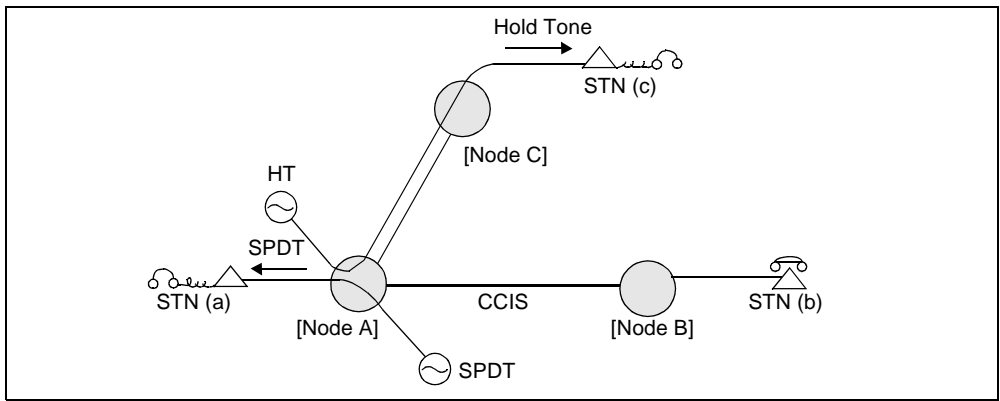
Operating Procedure (cont'd)

3.   Station A dials the number for B; receives ringback tone. Station B is rung. **(Note 1)**
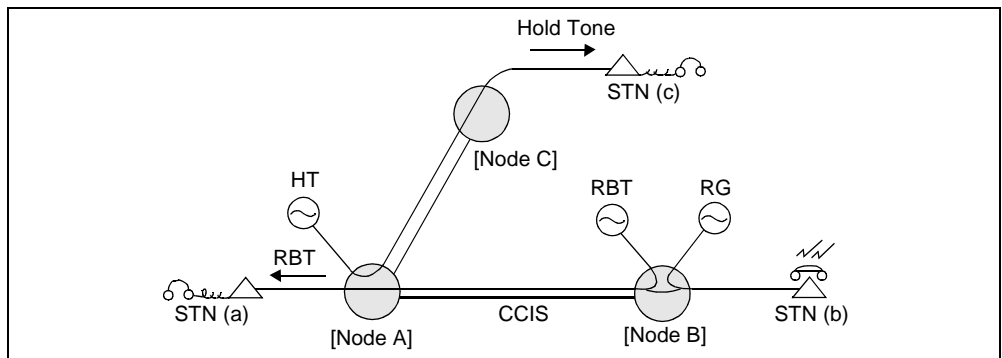
Note 1: *The status of Station A can be restored to normal with a switch hook flash in one of the following cases:*
When Station A has received busy tone.
When Station B is under a call restriction or when Station A cannot access Station B for some other reasons.
When Station B does not answer the call.

4.   Station B answers the call **(Note 2)**; Stations B and A are connected with each other. Station A tells Station B that a call is being transferred to B.
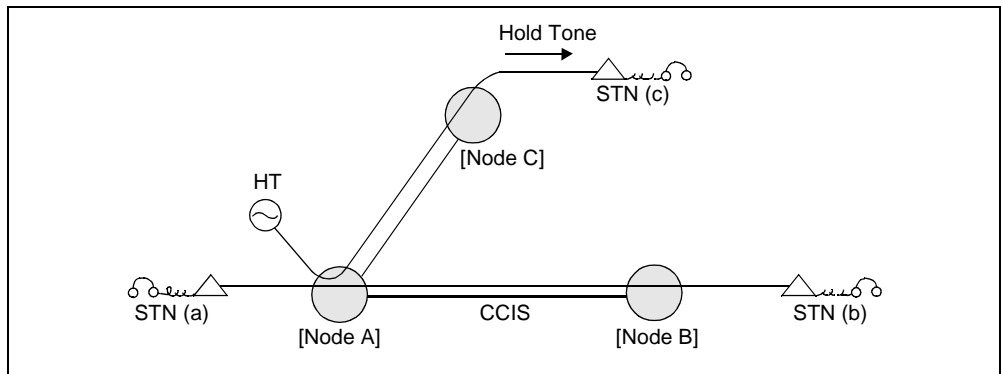
Note 2: *(i) If Station A hangs up before Station B answers the call; Station B is rung continuously; Station C receives ringback tone.*
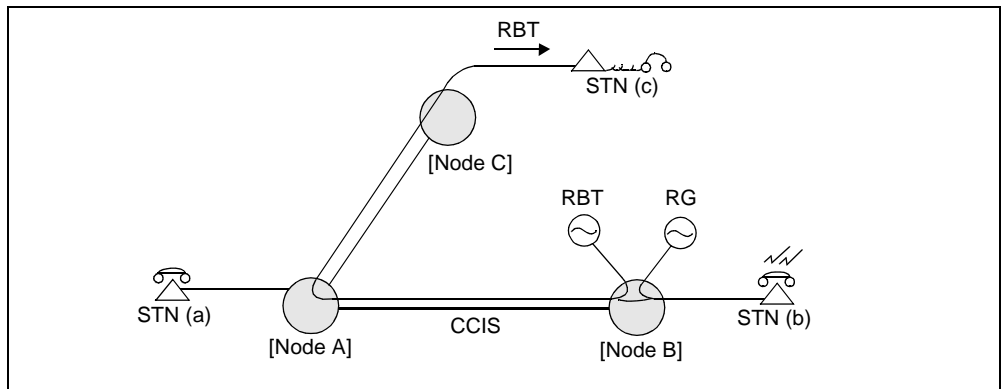
(ii) Station B answers the call; Stations B and C are connected with each other.

Operating Procedure (cont'd)
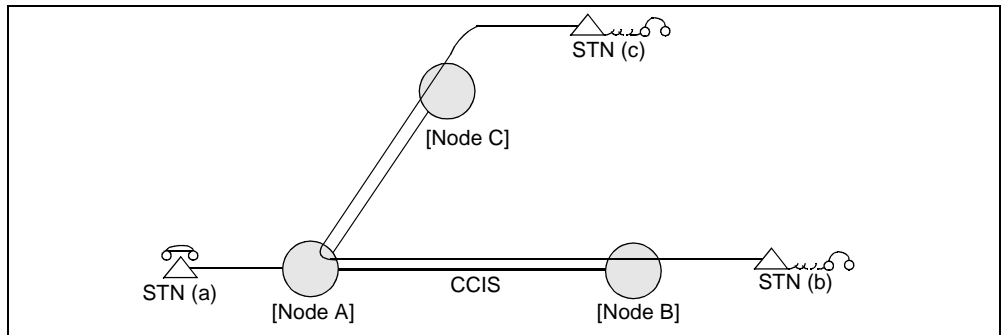
5. Station A hangs up **(Note 3)**; Stations B and C are connected with each other.
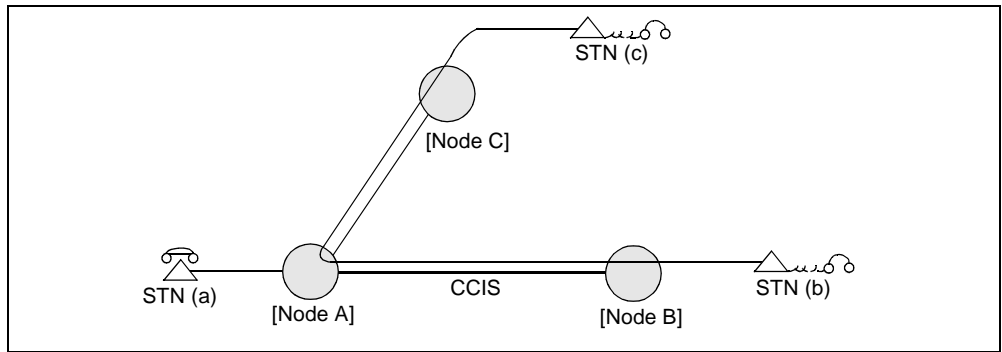
Note 3: *If Station A switch hook flashes instead of hanging up, a three-way connection is set up.*
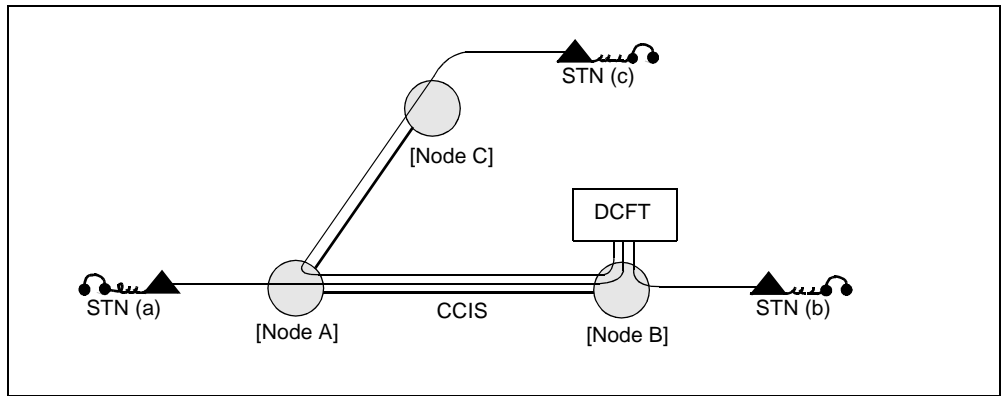
Service Conditions

1. When TRUNK-TO-TRUNK CONNECTION [T-10] is provided, an incoming or outgoing network or TIE Line call may be transferred to an outgoing network trunk, provided that the trunk is ground-start. The user who transfers the call gives line control to the two remaining parties upon hanging up. Therefore, if the trunk is loop-start, CALL TRANSFER-ALL CALLS - CCIS from trunk-to-trunk will not function.

Service Conditions (cont'd)

2. The THREE-WAY CALLING [T-2] feature allows a maximum of three parties on one connection. The three parties can be:
   - Three stations,
   - Two stations and one trunk, or
   - One station and two trunks.

3. The maximum number of simultaneous THREE-WAY CALLING [T-2] connections is dependent upon the quantity of conference trunks (Route 909s) programmed in the system.

4. Reorder tone is returned to the transferring station under the following conditions:
   a.) The transferring station is restricted.
   b.) The transferring station dials an unequipped number or the route is restricted.
   c.) The transferring station dials an invalid first digit.

5. If a station is in an established THREE-WAY [T-2] conference, it cannot activate any features. If the station switch hook flashes to activate a feature, the switch hook flash is ignored and the THREE-WAY conference remains connected.

6. The user who has transferred the call can hang up before the called party answers the call. The called party will continue to ring and recall is not effected.

7. Outgoing calls with answer supervision may be transferred immediately after the call answered (no time delay).

8. Outgoing calls with no answer supervision can be transferred only after the time periods assigned in ASYD, Indexes 156 or 157 have elapsed since the last digit was dialed.

9. If a station is in CONSULTATION HOLD [C-58] or in an established THREE-WAY connection, any attempt to override the connection using one of the following features will be denied:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1] [A-45]
BOSS-SECRETARY OVERRIDE	[B-5]
BUSY VERIFICATION	[B-3] [B-9]
CALL WAITING-TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1] [E-8]

10. A station engaged in either a SERIAL CALL - CCIS [S-52] or SUPERVISORY CALL - CCIS [S-73] is not allowed CALL TRANSFER-ALL CALLS - CCIS.

Interactions

1. This feature is denied whenever the transferring station is engaged in any state other than a simple two-party connection.

2. See TRUNK-TO-TRUNK CONNECTION [T-10] for additional programming if the call is to be transferred off network.

3. Features that cannot be activated while a user has a party in CONSULTATION HOLD [C-58] are:

EXECUTIVE RIGHT-OF-WAY	[E-1][E-8]
TRUNK ANSWER FROM ANY STATION (TAS)	[T-8]
CALL BACK (Activate or Cancel)	[C-1] [C-44]
CALL PICKUP-DIRECT	[C-30]
CALL FORWARDING (Activate or Cancel)	[C-2,3,5] [C-45,46,47]
OUTGOING TRUNK QUEUING Cancel	[O-2] [O-12]
SPEED CALLING-STATION Entry	[S-21]
MESSAGE REMINDER	[M-19D] [M-34]

Interactions (cont'd)

4.   Upon establishing a CONSULTATION HOLD [C-58] connection and dialing a third party, if the user receives busy or reorder tone instead of ringback tone, the user flashes once to disconnect the tone and reconnect the second party.

5.   Upon establishing a CONSULTATION HOLD [C-58] connection and dialing a MISCELLANEOUS TRUNK ACCESS [M-2] code, if no dial tone is given (after the trunk is seized), if a mistake is made in dialing, or if intercept announcement or a permanent tone is given, the user must go on-hook and is rung back.

6.   The user who establishes CONSULTATION HOLD [C-58] will be reconnected to the party in soft hold when the third party disconnects.

7.   Reorder tone is returned to the user when the user's line is restricted via Route CLASS OF SERVICE [C-15] or the user dials the number of an unassigned station or of a station residing in an inaccessible tenant via TENANT SERVICE [T-12].

8.   A CALL TRANSFER to a station with call forwarding set will forward according to the conditions of the forwarding feature set.

9.   A CALL TRANSFER to a station in a station Hunt [S-7, 8, 9] group will hunt according to the conditions of the Hunt group.)

10. A CALL TRANSFER to a D^{term} that has DO NOT DISTURB [D-21D] set, will receive reorder tone, or follow CALL FORWARDING-BUSY LINE or ALL CALLS if set.

11. A CALL TRANSFER call may be answered by CALL PICKUP-GROUP/DIRECT [C-7, 30].

Programming

STEP 1:   **ASYD** - System Data 1, Index 69, Bit 0. Return transferred call to origin of Call Transfer after the elapse of the Recall Timer.

System Data 1, Index 69, Bit 2. Short tone on recall of CALL TRANSFER. Ringback tone is briefly heard by the person answering the recall.

System Data 1, Index 140. Assign the Recall Timer for a station-to-station CALL TRANSFER. For 30 seconds, assign data 00H. (TC 3 = 2 sec., TC 7 = 8 sec.) ROM data 3FH for 30 seconds.

System Data 2, Index 1, Bits 0 & 1. Assign data "11" to allow CONSULTATION HOLD [C-58].

STEP 2:   **ATNR** - Allow tenant-to-tenant connection for Inter-and Intra-tenant connections. Assign Tenant Restriction Index (TRI) 0 and 4 on an Intra-and Inter-tenant basis.

STEP 3:   **ARSC** - The station receiving the call must be assigned a Route Restriction Class (RSC) that will allow the station to be connected to the trunk, if a trunk is involved in the transferred connection.

C-51 Called Station Status Display - CCIS

General Description

This feature provides for the status of a called station to appear on the LCD display of a calling D^{term} using CCIS.

Operating Procedure

Lift the handset or press the SPEAKER key and dial the desired station. The LCD display indicates the status of the called station.

Service Conditions

1. If the called station is idle, the display flashes its number until the call is answered.
2. If the called station is busy, the LCD displays:

```
┌─────────────────────────────────────┐
│  BUSY                        XXXX    │
│             (Time Display)           │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

3. If the called station is in DO NOT DISTURB [D-21D], the LCD displays:

```
┌─────────────────────────────────────┐
│  REST                        XXXX    │
│             (Time Display)           │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

4. If the calling station encounters a restricted station, the LCD displays:

```
┌─────────────────────────────────────┐
│  REST                        XXXX    │
│             (Time Display)           │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

Programming

No programming is needed.

C-52   Calling/Called Number Display - CCIS

General Description

This service feature allows an Inter-Office calling/called number display when the Attendant Console and the calling/called party belong to different offices within the CCIS network.

If the Attendant dials a telephone number, the dialed telephone number is displayed on the Console (Calling Number Display). If a station calls an Attendant, the telephone number is displayed on the Console (Called Number Display).

Operating Procedure

Calling Number Display:
1.   The Attendant in Node A dials the number for Station B in Node B through a CCIS line; the Attendant receives ringback tone and Station B is rung.
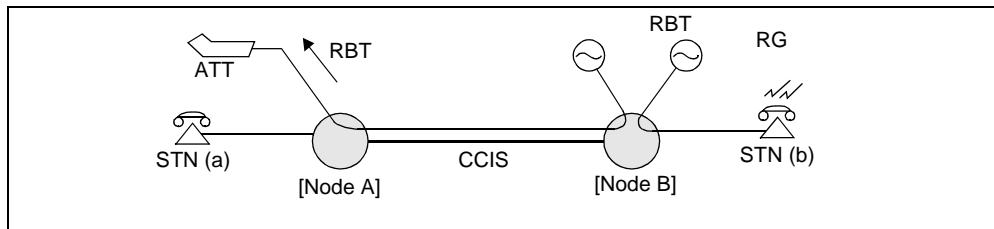
2.   Station B goes off-hook and answers the call; the Attendant and Station B are connected; the number of Station B is displayed on the Attendant Console.
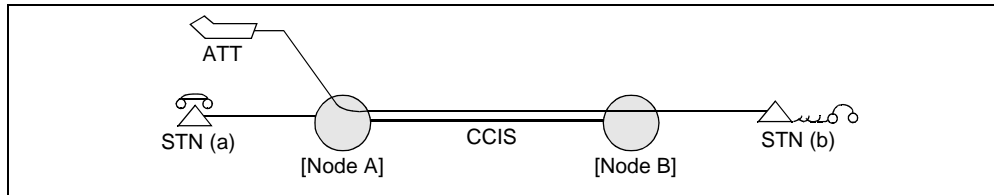
Called Number Display:
1.   Station B dials the LDN of Node A; receives ringback tone. The Attendant receives an audible tone.
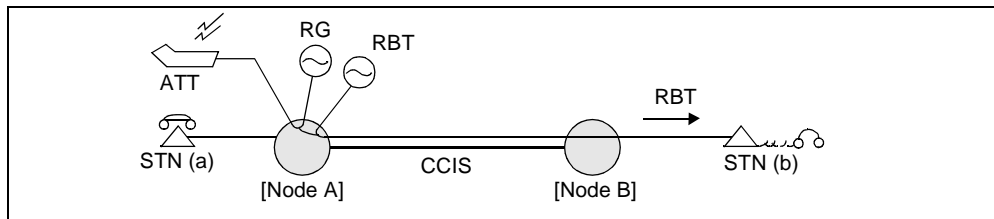
Operating Procedure (cont'd)

2. The Attendant presses the ANSWER key; Station B and the Attendant are connected. The number of Station B is displayed on the Attendant Console.
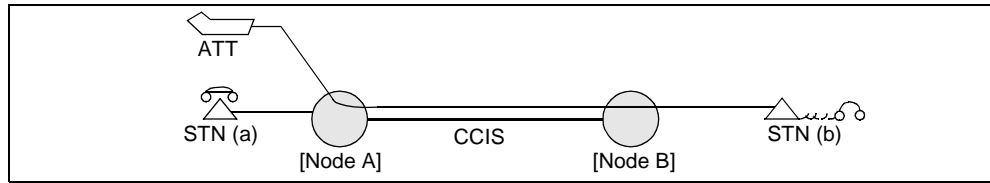
Service Conditions

For the Attendant Console:
1. At the time of call origination:

   a.) The called number is displayed (last 6 digits) only when the called party has answered the call.
2. At the time of call termination:

   a.) The calling number is displayed (last 6 digits) only when the Attendant has answered the terminated call.
3. The display of the telephone number of the station that has answered the call routed by the Attendant has priority over this service. This is not applicable to Inter-office telephone number display in the above case.
4. Even if the communicating party has changed during a call, the display of the telephone number remains unchanged.
5. As stated in the preceding paragraph, the telephone number display is made only for the station that has first engaged in a call with the Attendant.

For the D^{term}:
1. Call origination: The called number is displayed (8 digits).
2. Call termination: The calling number is displayed while the called side is being rung.
3. Display of the telephone number of the station which has answered the call routed by the Attendant has priority over this service. This is not applicable to inter-office telephone number display in the above case.
4. Even if the communicating party has changed during a call, display of the telephone number remains unchanged.

Programming

ASYD - System 1, Index 82. Assign Number Display Pattern (b_4-b_7).

C-53   Call Processing Indication - CCIS

General Description

This feature provides a visual indication at the ATTENDANT CONSOLE [A-3] of all CCIS calls being handled by the ATTENDANT CONSOLE [A-3] through the CCIS network.

Operating Procedure

Refer to the operation guide of the Attendant Console.

Service Conditions

1. The status of calls being processed by the Attendant is indicated by the status lamps (BUSY, ATND, or HOLD) corresponding to the particular loop key.

2. The ATTENDANT CONSOLE [A-3] is equipped with six dedicated switched loop keys. Each loop key has five associated indicator lamps (HOLD, ATND, BUSY, RING, ANSWER) which display the status of the call on that loop. The indicator lamps may be on, off or flashing (400 ms. On and 400 ms. Off).

3. When the ATTENDANT LOOP RELEASE [A-6] feature is activated, the status of the call is removed from the ATTENDANT CONSOLE [A-3] until alerted by the AUTOMATIC RECALL [A-8] feature.

Interactions

The ATTENDANT CONSOLE [A-3] must first be provided.

Programming

> No Programming Required. These indications are inherent in the system. These indications are enabled when the ATTENDANT CONSOLE [A-3] is programmed. Also, see DIGITAL DISPLAY - STATION [D-5] and DIGITAL DISPLAY - TRUNK [D-6] and ATTENDANT LOOP RELEASE [A-6].

C-54   Call Transfer - Attendant - CCIS

General Description

This feature allows a user to transfer a call through the CCIS network to an Attendant Console located in a Main or Satellite node, while connected to a CCIS network call.

Operating Procedure

To transfer a call to an Attendant Console:
1.   While engaged in a Central Office trunk call, switch hook flash; receive special dial tone.
2.   Dial the Operator Access Code.
3.   The Attendant Console ATND lamp flashes and the buzzer sounds. The station receives ringback tone.

To answer from the Attendant Console:
1.   Refer to the operation guide of the Attendant Console.

If the station wishes to return to the Central Office trunk call while the Attendant Console is being called:
1.   Switch hook flash; the ATND lamp is extinguished at the Attendant Console and the buzzer stops.
2.   The station returns to the Central Office trunk call.

Service Conditions

1.   This feature is available when the Attendant Console is in a different node in the CCIS network.
2.   This feature is available for incoming or outgoing C.O. trunk calls and station-to-station calls.
3.   When the Attendant Console is in NIGHT CONNECTION - CCIS mode, the transferring station will receive reorder tone.
4.   When a HOTLINE - CCIS [H-12] set is equipped with a dial, the user can switch hook flash to get the special dial tone, then dial "0". Ringback tone is provided and the Attendant Console is notified of the call.
5.   This feature cannot be used when NIGHT CONNECTION-FIXED - CCIS [N-15] or NIGHT CONNECTION-FLEXIBLE - CCIS [N-16] is activated. In this case, CALL TRANSFER-ALL CALLS - CCIS [C-50] would be used to transfer a call. If CALL TRANSFER-ATTENDANT - CCIS is attempted, reorder tone will be returned.
6.   If the SPLITTING [S-4, S-4D] or ATTENDANT LOCKOUT [A-5] feature is activated, CALL TRANSFER-ATTENDANT - CCIS can be implemented.
7.   A station-to-station or station-to-trunk connection, within the same node as the NIGHT ATTENDANT TRANSFER [A-19] station, cannot be transferred to the NIGHT ATTENDANT TRANSFER [A-19] station. However, a station-to-station or station-to-trunk connection, in which one party is located in the same system as the NIGHT ATTENDANT TRANSFER [A-19] station, can be transferred to the NIGHT ATTENDANT TRANSFER [A-19] station.

Interactions

1.   A HOTLINE [H-1] station may transfer a call to the Attendant Console.
2.   A call transferred to a station with a call forwarding feature set will forward according to the conditions of the feature, unless the station is CALL FORWARDING-ALL CALLS - CCIS to the Attendant Console. CALL FORWARDING-OVERRIDE [C-26] supersedes CALL FORWARDING-ALL CALLS - CCIS.
3.   A call transfer to a station in a station Hunt Group will hunt according to the conditions of the station hunting feature used.

Interactions (cont'd)

4. A call transfer to a D^{term} that has DO NOT DISTURB [D-21D] set will receive reorder tone, or follow CALL FORWARDING-BUSY LINE or ALL CALLS if set.

Programming

STEP 1:   **ASYD** - System Data 2, Index 1, Bits 0 & 1. Assign data "11" to allow CONSULTATION HOLD [C-58] for all types of connections.

STEP 2:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) 0, and 4 on an Inter- and Intra-tenant basis.

C-55 Centralized Billing - CCIS

General Description

This service is used for collecting billing information from each office within the network and directing it to associated offices, thus providing the billing information to the CENTRALIZED BILLING CENTER via an RS-232C interface.

**(Series 7400 software enhancement)** This feature may be provided through multiple FCCS groups (networks where multiple NEAX2400 IMXs are connected via FCCS link) and the NEAX2000 IVS, using CCIS link.

Note: *NEAX2400 IMX - NEAX2000 IVS connection is available only if the NEAX2000 IVS is the satellite office (requires NEAX2000 IVS Series 2000 or later software).*

Operating Procedure
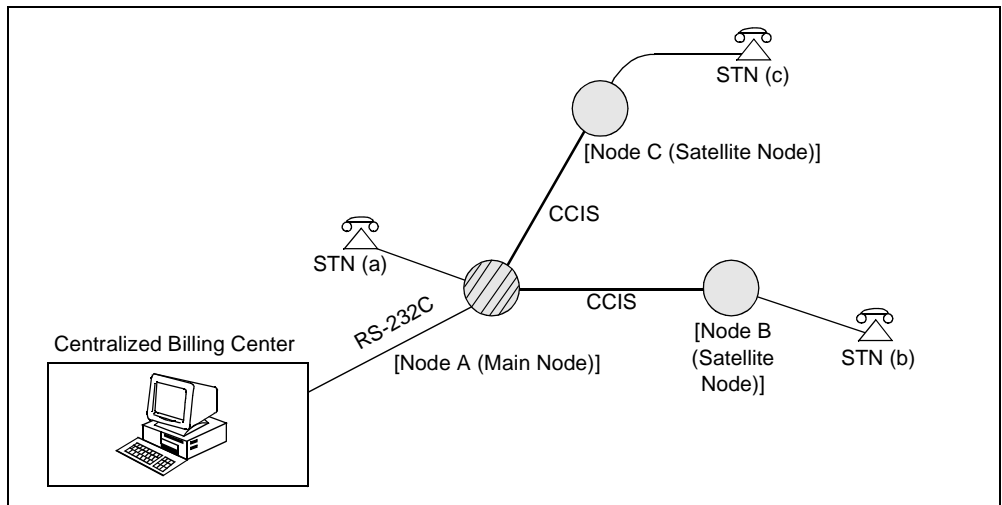
1. Station A in Node A (Main Node) dials Station C in Node C; Station A receives ringback tone and Station C is rung.
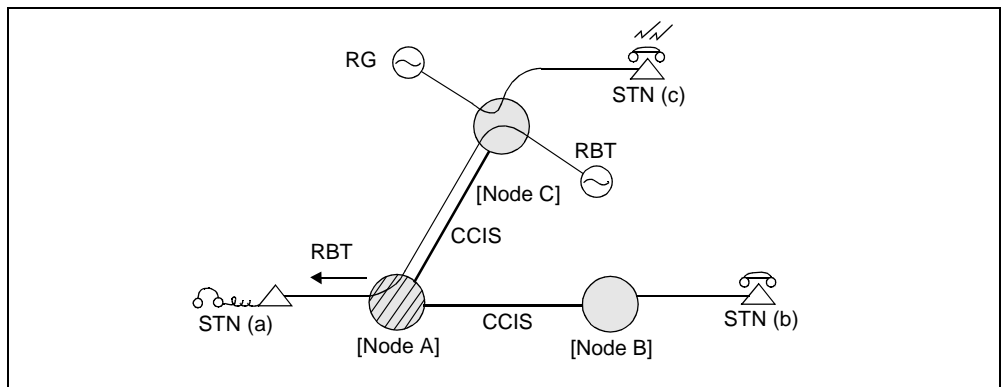
Operating Procedure (cont'd)

2.   Station C goes off-hook; Stations A and C are connected with each other in conversation.
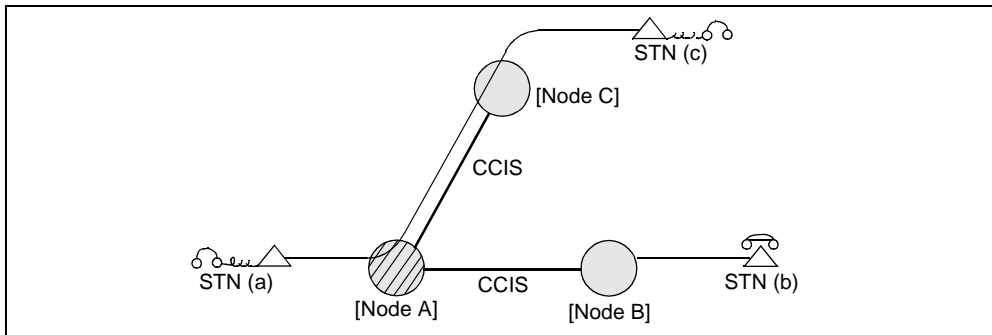
3.   Stations A and C go on-hook; SMDR information is sent out to the CENTRALIZED BILLING CENTER.
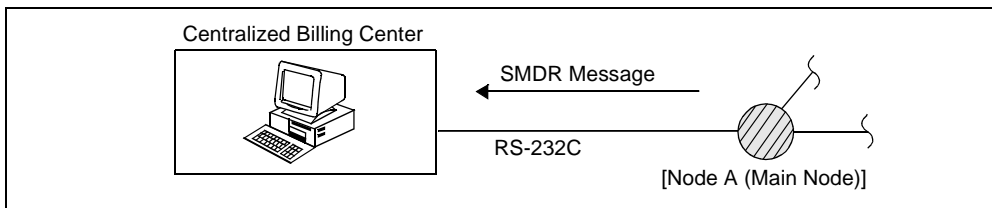
4.   Station B dials Station C in Node C; Station B receives ringback tone and Station C is rung.
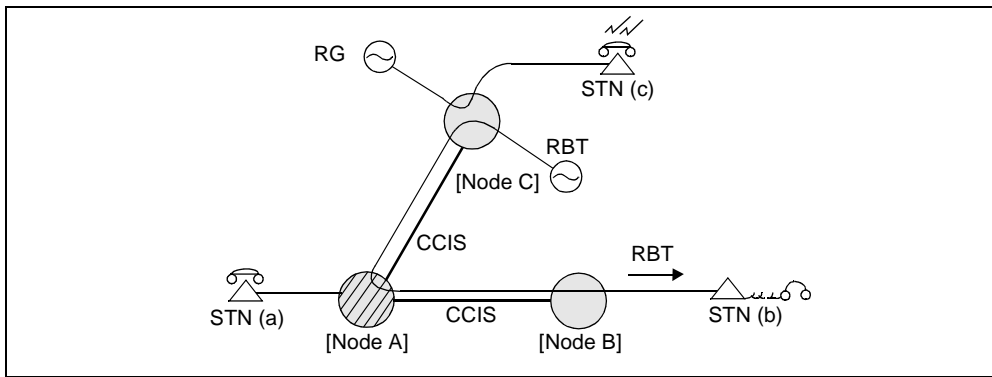
5.   Station C goes off-hook; Stations B and C are connected in conversation.
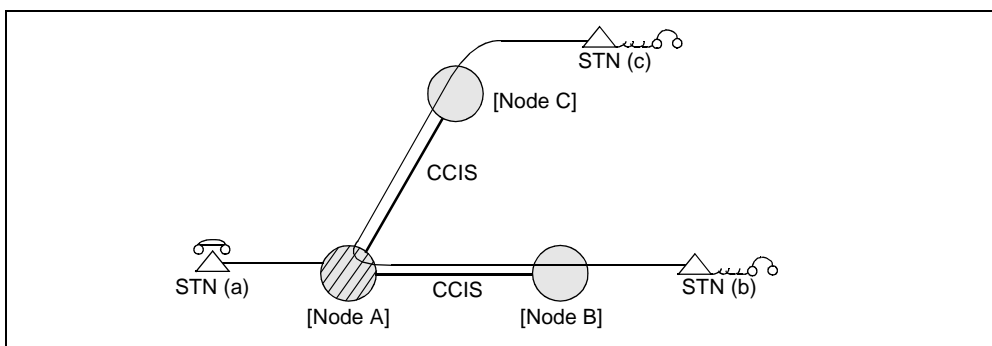
Operating Procedure (cont'd)

6. Stations C and B go on-hook; SMDR information is sent to the Billing Center through the CCIS line.
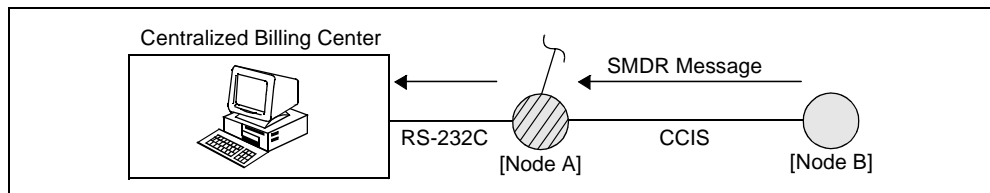
Service Conditions

1. The maximum number of billing information output ports at the Center Office is 2.
2. Information storage capacity of the office should be 700 calls.
3. If billing information in excess of the above mentioned storage capability is generated at a time when the billing information cannot be transmitted to the associated Center Office because of a fault condition, the newly generated billing information cannot be processed.
4. The number of billing information output ports at a local office is 1.
5. When using CENTRALIZED BILLING - CCIS, it is recommended that the speed of the CCIS signalling link be higher than 9600 bps.

(Series 7400 software enhancement) Service Conditions when this service is provided in the network through FCCS groups and NEAX2000 IVS:

1. **(Series 7400 software enhancement)** The way to administrate the Centralized Billing information is to be selected either by CCIS billing method or by FCCS billing method.
2. **(Series 7400 software enhancement)** When a 7 or 8 digit telephone number is used in the network for the NEAX2000 IVS system, it is output to the station number field and the office code field of the originating party. The telephone number is not used in ICS text format, therefore, when the 7 or 8 digit telephone number is used in the network, it is converted to office code and station number, then the station number is output to the station number field of the originating party, and the office code is output to office code field of the originating party.
3. **(Series 7400 software enhancement)** When the Centralized Billing Office adopts the CCIS billing method, the receiving message field is output as it is.
4. **(Series 7400 software enhancement)** When the Centralized Billing Office adopts the FCCS billing method, the information field of the originating call is also output to the telephone number field.
5. **(Series 7400 software enhancement)** Number Portability depends on which node requires data programming or data change for Number Portability. See the following figure and table.

Service Conditions (cont'd)

LEGEND:
——— :FCCS   FPC: FCCS Point Code
=== :CCIS   NCN: Network Control Node
◯ :FCCS Group

No.	Pattern (telephone number is moved from A to B)	Node Requiring Data Change
1.	Moving number within the same FCCS group.	NCN in Center FCCS group
2.	Moving number in FCCS group to another FCCS group.	NCN in Center FCCS group
3.	Moving number in FCCS group to NEAX2000 IVS	NCN in Center FCCS group + NEAX2000 IVS *
4.	Adding new number to FCCS group	NCN in Center FCCS group + NEAX2000 IVS **
5.	Moving number in NEAX2000 IVS to FCCS group	NCN in Center FCCS group + NEAX2000 IVS ***
6.	Moving number from NEAX2000 IVS to another NEAX2000 IVS	NCN in Center FCCS group + NEAX2000 IVS *** + another NEAX2000 IVS *
7.	Moving number within the same NEAX2000 IVS	NEAX2000 IVS *, ***
8.	Adding new number in NEAX2000 IVS	NCN in Center FCCS group + NEAX2000 IVS *

Legend:
*   Destination node
**   Node to be connected to the FCCS group where the new number is added
*** Node where the telephone number is located before the Number Portability activation

Programming

STEP 1: **ASYD** - System 1, Index 32, Bit 0: At the time of SMDR processor trouble, outgoing call is not restricted/restricted = 0/1. Bit 1: Tenant information is recorded (1). Bit 2: Route information is recorded (1). Bit 7: SMDR services are provided (1).

System 1, Index 33, Bits 3 & 4: Designation of a total of parties to be billed. Bit 5: Designation of billing system for a transferred incoming call. Bit 6: Designation of billing system for a transferred outgoing call.

System 1, Index 34, Bit 0: RS-232C non-procedure output function is provided. Bits 1 & 2: Designation of RS-232C Output Code. Bit 3: Designation of the number of RS-232C Stop Bits.

System 1, Index 95, Bits 0-6: SMDR RS-232C Variable Timer setting for the case where computer output cannot be provided. Billing data are stored until this timer times out. Bit 7: Valid/Invalid Variable Timer (0/1).

System 1, Index 180/181: Assignment of the Self Office Point Code (OPC).

System 1, Index 182/183: Assignment of the Center Office Point Code (DPC) (when the self office is the Center Office, DPC = 0).

System 1, Index 288: Designation of RS-232C non-procedure output port (SMDR).

System 2, Index 3, Bit 0: SMDR Service (1). Bit 7: SMDR Station-to-Station Connection Data (1).

STEP 2: **ASFC** - With respect to SFC of the billing subject stations, clear the restriction of SFI = 14 (SMDR - Trunk Basis) and, if necessary, SFI = 58 (SMDR STN to STN).

STEP 3: **ARTD** - With respect to the Route Class of Outgoing and Incoming Trunks, assign SMDR = 1, SMDR3 = 0. The parameters for SMDR2 are pertaining to incoming call billing processing service. Assign data to the parameters on an as required basis.

STEP 4: **AMND** - Assign necessary maximum number of digits for the number to be dialed on origination of an outgoing call. As many digits as assigned are given out as the Called No. of SMDR information.

STEP 5: **AIOC** - Assign Baud Rate, Parity Bit, Stop Bit etc. of the designated Output Port for SMDR. (See STATION MESSAGE DETAIL RECORDING (SMDR) [S-10].)

C-56   Centralized Day/Night Mode Change - CCIS

General Description

This service feature switches the DAY/NIGHT mode of Satellite Nodes which are linked to the Main Node via CCIS, in accordance with the DAY/NIGHT mode switching [A-3] at the Main Node.

Operating Procedure
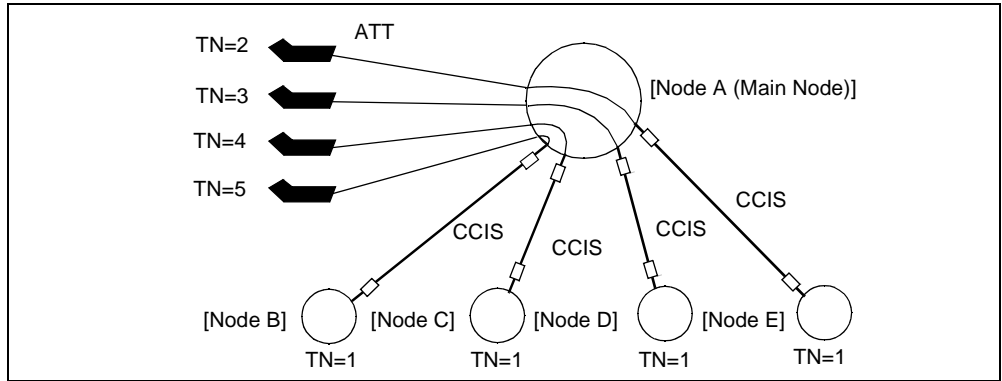
Note: *Node B - Node E are Satellite Nodes.*

1.   Press the NIGHT key on the Attendant Console for each Tenant; the NIGHT lamp illuminates. The mode of Satellite Node for each Tenant changes from Day mode to Night mode.
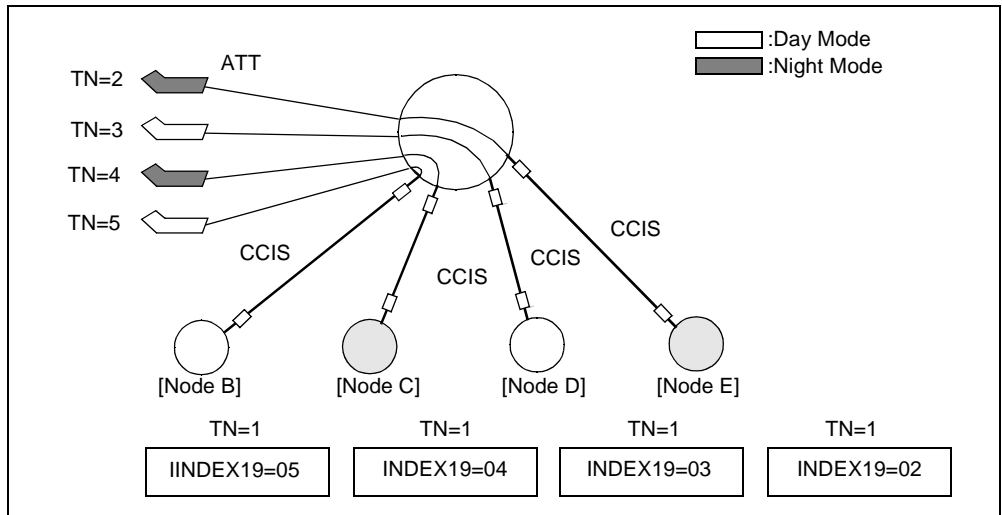
Note: *To confirm Night Mode, see Night Connection-Fixed - CCIS [N-15].*

Service Conditions

1.   A Main Node can control DAY/NIGHT mode changeover for a maximum of 16 remote nodes.
2.   DAY/NIGHT mode changeover will be performed in one-minute increments. If consistency between the DAY/NIGHT mode at the Main and Satellite Nodes is lost, the status is restored to that of the Main Node within 16 minutes.
3.   At the Main Node, from 1 to 15 tenants can use the system.

Service Conditions (cont'd)

4. At a Satellite Node, only TN = 1 is possible.

5. When a Satellite Node is equipped with DAY/NIGHT mode changeover features, changeover of the Satellite Node DAY/NIGHT mode is not performed from the Main Node.

6. The Satellite Node cannot have an Attendant Console programmed.

7. Selecting DAY/NIGHT option from the NEAX2400 IMX does not change the NEAX2000 IVS DAY/NIGHT status.

Programming

STEP 1: **ASYD** - System Data 1, Index 18, Bit 6: Day/Night change of Satellite Node (for Main Node only). Assign data "1" at the Main Node.

System Data 1, Index 18, Bit 7: Day/Night change is executed by the Main Node (for Satellite Node only). Assign data "1" at the Satellite Node whose Day/Night mode is to be changed in accordance with key operation at the Main Node.

System Data 1, Index 19, Bits 0-3. Tenant Number (TN1-15) of the Main Node to which the Satellite Node belongs (for Satellite Node only).

System 1, Index 75, Bit 0: Route Restriction Pattern (ARSC). Bit 1: Service Feature Restriction Pattern (ASFC).

System Data 1, Index 75. Assign 1 (Day/Night Data) to Bit 0 (Route Restriction Pattern (ARSC)), Bit 1 (Service Feature Restriction Pattern (ASFC)), Bit 2 (Tenant Restriction Pattern (ATNR)), Bit 3 (Toll Restriction Pattern (ATDP), and Bit 4 Class Restriction Pattern (AEFR).

System Data 1, Index 229 = 09 (for Main and Satellite Nodes).

STEP 2: **ARDN** - Assign Point Code of Satellite Node (Index = 0-15, PC = 1-16367). (Main Node only.)

STEP 3: **ARSC** - Assign data on Day/Night Mode basis.

STEP 4: **ASFC** - Assign data on Day/Night Mode basis.

STEP 5: **ATDP** - Assign data on Day/Night Mode basis.

STEP 6: **ATNR** - Assign data on Day/Night Mode basis.

STEP 7: **AEFR** - Assign data on Day/Night Mode basis (EPN Version).

Note: *To list up Day/Night information, use the LDNI command.*

C-57 Centralized System Management Report - CCIS

General Description

This service feature provides automatic reporting of fault information of Satellite Nodes to the CENTRALIZED MANAGEMENT CENTER with an external indication of the detected fault.

(Series 7400 software enhancement) This feature may be provided through multiple FCCS groups (networks where multiple NEAX2400 IMXs are connected via FCCS link) and the NEAX2000 IVS, using CCIS link.

Note: *NEAX2400 IMX - NEAX2000 IVS connection is available only if the NEAX2000 IVS is the satellite office (requires NEAX2000 IVS Series 2000 or later software).*

Operating Procedure
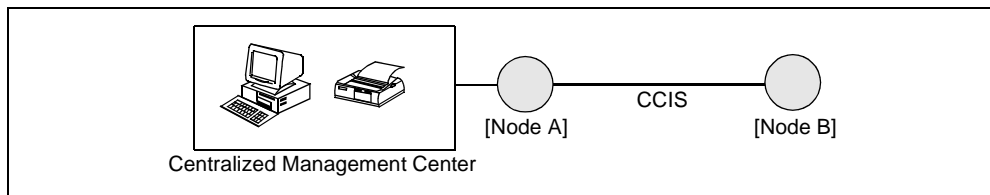
1. On the ACT side CPU of Node B, set the MBR switch up (ON); system messages are sent out to Node A, and the CPU is changed over.
2. Return the MBR switch down (OFF); system messages are sent out to Node A.
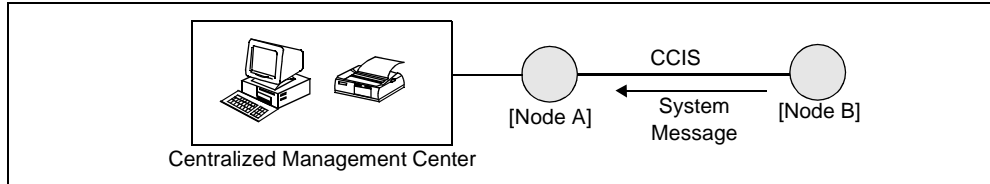
3. The system messages of Node B are printed out from the printer in Node A.

Note: *If System Data (INDEX 188) is assigned in such a way that MJ/MN alarm at a local office is to be displayed on the Display Panel at the Center Office, an MJ/MN alarm that is generated in Node B is indicated as an MJ/MN alarm on the Display Panel in Node A and the corresponding system message is given out.*

Service Conditions

1. When the fault information cannot be sent from the Satellite Node to the Main Node, fault information buffer capacity is 64 messages.
2. An alarm lamp indication of a fault that occurs at a Remote Node is made only at the local office. At the Center Office, fault indication is made to the MAT and to the external equipment. However, no frametop alarm indication is given.
3. At the Main Node, the system message will be printed automatically, when the command is executed.
4. When the Center Node provides the printer for Fault Data Automatic Printout Function (SYS1, Index86, bit4) and the printer directly connected to the MAT together, the former printer has priority over the latter. At that time, the printer connected to the MAT is used to print the collected fault data when the printer for Fault Data Automatic Printout Function cannot print for any reason.

Service Conditions (cont'd)

(Series 7400 software enhancement) Service Conditions when this service is provided in the network through FCCS groups and NEAX2000 IVS:

1.   **(Series 7400 software enhancement)** The Centralized System Message Report feature for this network may be controlled only by the Centralized MAT.

Note: *See Centralized Maintenance - CCIS [C-167] for explanation of the Centralized MAT.*

2.   **(Series 7400 software enhancement)** By polling from the Centralized MAT connected to the Center Office, the information regarding faults occurring at all nodes (NEAX2400 IMX and NEAX2000 IVS) can be collected.

3.   **(Series 7400 software enhancement)** When a fault occurs in the NEAX2000 IVS, only the basic fault information is collected from the Center Office using polling method. To collect detailed information, log-in to the system where the fault occurred.

4.   **(Series 7400 software enhancement)** The buffer for fault information of the NEAX2400 IMX and that of the NEAX2000 IVS are separate. A maximum of 64 calls can be stored in the buffer at each system. Therefore, a fault occurring when the buffer capacity is full cannot be stored, and the system receives the NACK signal. At that time, the system sends the information.

5.   **(Series 7400 software enhancement)** The table below shows the controllability of fault information received from the NEAX2000 IVS:

	Connection Method	SMJ/SMN Lamp on TOPU	Menu Display on MAT	DFTD command
NEAX2000 IVS to IMX	CCIS	Not Controllable	Not Controllable **(Note)**	Not Controllable
IMX (A) to IMX (B) within an FCCS group	FCCS	Not Controllable	Controllable	Controllable
FCCS Group (A) to FCCS Group (B)	CCIS	Controllable	Controllable	Controllable

Note: *Available when the alarm grade is changed by system data.*

6.   **(Series 7400 software enhancement)** When the information of faults occurring at all FCCS groups is managed by the Centralized MAT, the destination of fault massage output must be changed to the designated Center Office (for example, NCN) at each Local Node (including NEAX2000 IVS).

7.   The NEAX2400 IMX message structure and the NEAX2000 IVS message structure are different formats. This feature is applicable in a NEAX2400 IMX network.

Programming

STEP 1:   **ASYD** - System 1:

System 1, Index 38. Designation of mounting the printer.

System 1, Index 39. Designation of System Message Output Port.

System 1, Index 86, Bit 0. Assign Routine Diagnostic Normal End Information Indication (1).

System 1, Index 86, Bit 1. Assign Routine Diagnostic Fault Information Indication (1).

System 1, Index 86, Bits 2 & 3. When Trunk Ineffective Hold has been detected.

  00:   All calls other than the basic calls are released an all the information print out.

  01:   Only All Printout

  10:   All Release & All Printout

Programming (cont'd)

System 1, Index 86, Bit 4. Assign Fault Data Automatic Printout Function (Automatic output to the Printer) (1).

System 1, Index 86, Bit 7: Assign Fault Message-0/1: Simplified Registration/Detailed Registration.

System 1, Index 91, Bits 2 & 3: Assign System Message Output Grade.

   0:      All
   2:      Higher than Grade 2 (MN, MJ)
   3:      Higher than Grade 3 (MJ)

System 1, Index 116-123: Designation of IOC Port of the Printer (1 = Printer) (Assigned via AIOC.)

System 1, Index 180 & 181: Assignment of the Local Office Point Code (OPC).

System 1, Index 184 & 185: Assignment of the Center Office Point Code (DPC) (When the self office is the Center Office, (DPC = 0).

System 1, Index 186, Bit 5: Clearing of the buffer memory for use in the centralized System Management Report CCIS. 0/1: Not necessary/necessary.

System 1, Index 188, Bit 1: MJ/MN lamp on the Display Panel in the Center Office is controlled per fault information from a local office (1).

STEP 2:   **AIOC** - Assign the function and attribute data of the IOC ports.

C-58 Consultation Hold - All Calls - CCIS

General Description

This feature permits a user within the CCIS network to hold any incoming or outgoing public network, intra-office, or CCIS call while originating a call to another station within the CCIS network.

Operating Procedure

To hold the original call and place a second call from a single-line telephone:
1. Switch hook flash; receive special dial tone.
2. The original call is placed on hold.
3. Dial the second telephone number; receive ringback tone.
4. The second station answers; CONSULTATION HOLD is established.

To return to the original call from a single-line telephone:
1. Under any of the following conditions, the calling station can return to the original call by pressing the switch hook:
   a.) The second station called for CONSULTATION HOLD is busy.
   b.) The calling station cannot gain access to the second station because of a restriction, or for any other reason.
   c.) The second station does not answer.
2. If a CONSULTATION HOLD call is established and the second party hangs up, the calling station will automatically be returned to the original call.
3. If the originating station switch hook flashes, a THREE-WAY CALL [T-2] will be established.

To hold the original call and place a second call from a D^{term}:
1. Press the TRANSFER key; receive special dial tone.
2. The original call is placed on hold.
3. Dial the second telephone number; receive ringback tone.
4. The second station answers; CONSULTATION HOLD is established.

To return to the original call from a D^{term}:
1. Under any of the following conditions, the calling station can return to the original call by pressing the TRANSFER key.
   a.) The second station called for CONSULTATION HOLD is busy.
   b.) The calling station cannot gain access to the second station because of a restriction, or for any other reason.
   c.) The second station does not answer.
2. If the second station hangs up, the calling station will automatically be returned to the original call.
3. If the originating station presses the TRANSFER key while connected to the second station, the second station is put on hold and the calling party returns to the original call.

Service Conditions

1. When TRUNK-TO-TRUNK CONNECTION [T-10] is provided, an outgoing exchange network or TIE Line call can be made by the user.
2. The party placed in CONSULTATION HOLD-ALL CALLS - CCIS will hear MUSIC ON HOLD [M-7], if provided.

Interactions

1. This feature is denied whenever the destination telephone set is engaged in any state other than simple two-party connection.

2. CONSULTATION HOLD-ALL CALLS - CCIS must always be made available when features require hooking services.

3. Indexes 156 and 157 also are used for SMDR, establishing an arbitrary connection timing when no answer supervision is used.

4. If a party is involved in a CONSULTATION HOLD-ALL CALLS - CCIS state or in an established THREE-WAY CALLING [T-2] connection, attempts to override the connection are denied. These features are:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1][A-45]
ATTENDANT OVERRIDE	[A-7]
BUSY VERIFICATION	[B-3][B-9]
CALL WAITING-TERMINATING	[C-12]
EXECUTIVE RIGHT-OF-WAY	[E-1][E-8]

5. Features that cannot be activated while a user has a party in CONSULTATION HOLD-ALL CALLS - CCIS are:

CALL BACK, Activate or Cancel	[C-44]
CALL PICKUP-DIRECT	[C-30]
CALL FORWARDING, Activate or Cancel	[C-45,46,47]
EXECUTIVE RIGHT-OF-WAY	[E-1]
MESSAGE REMINDER	[M-34D]
OUTGOING TRUNK QUEUING, Cancel	[O-12]
SPEED CALLING-INDIVIDUAL, Entry	[S-21]
TRUNK ANSWER FROM ANY STATION (TAS)	[T-27]

    All other features may be activated as long as the user's line CLASS OF SERVICE-INDIVIDUAL [C-15] allows that feature.

6. If the user receives busy or reorder tone instead of ringback tone upon establishing a CONSULTATION HOLD-ALL CALLS - CCIS connection and dialing a third party, the user flashes once to disconnect the tone and reconnect the second party.

7. Upon establishing a CONSULTATION HOLD-ALL CALLS - CCIS connection and dialing a MISCELLANEOUS TRUNK ACCESS [M-2] code, if no dial tone is given (after the trunk is seized), if a mistake is made in dialing, or if an intercept announcement or a permanent is given, the user must go on-hook and is rung back.

8. A user who established CONSULTATION HOLD-ALL CALLS - CCIS is reconnected to the party in soft hold when the third party disconnects.

9. When using CALL TRANSFER-ALL CALLS - CCIS [C-50] from a station (second party) to another station or trunk (third party), the control station can transfer the call during ringing (blind transfer). When the control station goes on-hook, the station in soft hold is connected to the third party's connection and hears ringback tone. A 30-second timer is set when the controlling station goes on-hook. If the timer times out before the third party answers, the control station is rung back.

Programming

ASYD - System Data 1, Index 156. Trunk Soft Hold Timer A, used with second dial tone trunks. Assign data 00H for 30 seconds. (Data 31H may be used for a value of two seconds if CALL TRANSFER-ALL CALLS [C-50] is to be used immediately after connecting to the trunk.) This is the time between trunk connections when switch hook flash is allowed on a non-senderized trunk connection.

System Data 1, Index 157. Trunk Soft Hold Timer A, used with senderized trunks. Assign data 00H for a value of 18 seconds. (Data 31H may be used for a value of 2 seconds if CALL TRANSFER-ALL CALLS [C-50] is to be used immediately after connecting to the trunk.) This is the time between trunk connection and when switch hook flash is allowed on a senderized trunk connection. It is also used to determine when SMDR billing will begin.

System Data 2, Index 1, bits 0 & 1. CONSULTATION HOLD allowed or denied. 00: Denied; 01: Originating and Terminating Calls allowed, Tandem Call Denied; 11: All calls allowed. Normally assign data "11".

System Data 3, Index 2, bits 0-3. Switch hook flash begin timer. To calculate this value: (1-FH) x 120 msec = Timer.

System Data 3, Index 2, bits 4-7. Switch hook flash end timer. To calculate this value: (1-FH) x 120 msec = Timer. For both begin and end timers, assign 91H for 120-1080 msec.
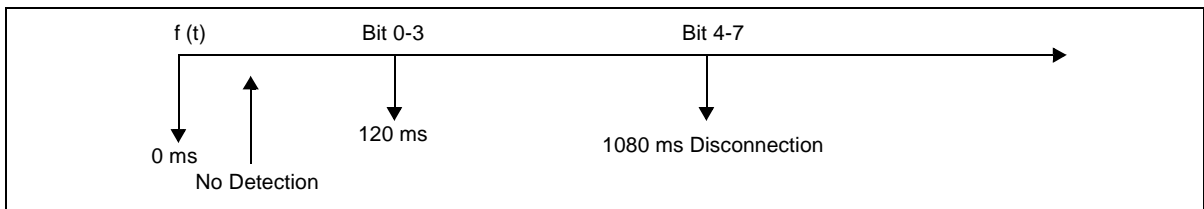
C-94 Call Forwarding Assignment - Attendant - CCIS

General Description

This feature allows the attendant of an Attendant Console to set/cancel the following Call Forwarding services to a station within the CCIS network.

CALL FORWARDING-ALL CALLS	[C-5]
CALL FORWARDING-ALL CALLS - CCIS	[C-45]
CALL FORWARDING-BUSY LINE	[C-2]
CALL FORWARDING-BUSY LINE - CCIS	[C-46]
CALL FORWARDING-DON'T ANSWER	[C-3]
CALL FORWARDING-DON'T ANSWER - CCIS	[C-47]
CALL FORWARDING-ALL CALLS-OUTSIDE	[C-28]
CALL FORWARDING-DON'T ANSWER-OUTSIDE	[C-74]

Operating Procedure

To set Call Forwarding:
1.   Attendant presses an idle loop key.
2.   Attendant dials the CF-All Calls, CF- Busy Line, or CF-Don't Answer entry code; receives special dial tone.
3.   Attendant dials the Tenant Number of the transferring station.
4.   Attendant dials the office code (including access code) of the transferring station and the telephone number of the transferring station.
5.   Attendant dials the telephone number of the target-station. **(Note)**
6.   Attendant dials "#"; receives service set tone.
7.   Attendant presses the RELEASE key.

Note: *When the transfer target station is in the CCIS network, dial the office code (including access code and the station number of the target station.*

To cancel Call Forwarding:
1.   Attendant presses an idle loop key.
2.   Attendant dials the CF-All Calls, CF- Busy Line, or CF-Don't Answer entry code; receives special dial tone.
3.   Attendant dials the Tenant Number of the transferring station.
4.   Attendant dials the office code (including access code) of the transferring station and the telephone number of the transferring station; receives service set tone.
5.   Attendant presses the RELEASE key.

Service Conditions

1.   A transferring station, accommodated in the CCIS network, dials the office code inclusive of access code and the telephone number. A method for setting a Call Forwarding by this service can be selected from the following patterns on each tenant basis by the system data. (ASYD, SYS2, INDEX 15, b4).

Service Conditions (cont'd)

a.) Pattern 1 (ASYD, SYS2, INDEX 15, b4= 0)

<u>XX</u> - <u>XX</u> - <u>XXXXX</u> - <u>XXXXX</u>

— Transfer target station

— Transferring station

— Tenant number of transferring station

— Access Code for Call Forwarding
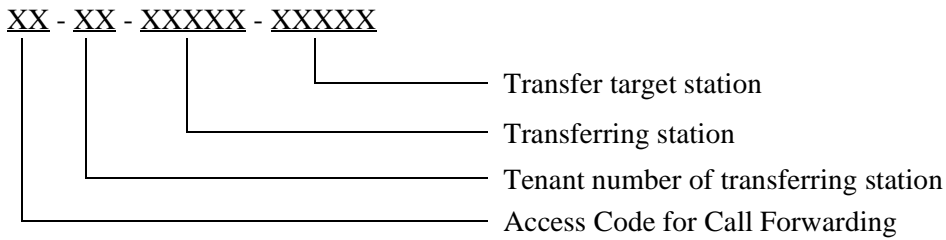
This pattern is used when a unified numbering plan is in use within the CCIS network.

b.) Pattern 2 (ASYD, SYS2, INDEX 15, b4 = 1)

<u>XX</u> - <u>XX</u> - <u>XXXXX</u> - <u>XXXXX</u> - <u>#</u>

— Digit receive completion ID code

— Transfer target

— Transferring station

— Tenant number of transferring station

— Access Code for Call Forwarding
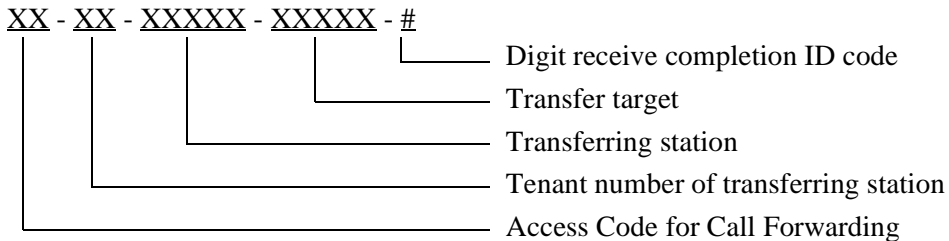
This pattern is used when a unified numbering plan is not in use within the CCIS network.

2. Since the numbering plan at the transfer destination cannot be identified in this case, dialing the digit receive completion ID code (#) must be dialed.

3. If the transferring telephone number of the transfer target telephone number dialed by the attendant is a wrong number, the attendant receives Reorder tone. For example:

   a.) When an unobtainable number has been dialed.
   b.) When the transferring station or the transfer target station is restricted from the service.
   c.) When the number dialed is double registered.

4. A transferring telephone number is a maximum of 8 digits.

5. When the transferring station is an ATTCON, service can be set by its individual Attendant Number but the call is not transferred to the designated target station.

Programming

STEP 1: **ASYD** - System 2, Index 15, bit 4: The office which determines the target number. 0/1: Service executing office/office accommodating the transferring station.

STEP 2: **ASAT** - Assign an individual Attendant access number for each Attendant Console.

STEP 3: **ANPD** - Assign the minimum necessary number of digits for the first number of the access code for Call Forwarding.

STEP 4: **ASPA** - Assign the access code for Call Forwarding.

CI = N, SRV = SSC (Service Code), SID = 8, Call Forwarding - All Calls (Entry)

CI = N, SRV = SSC (Service Code), SID = 9, Call Forwarding - All Calls (Cancel)

CI = N, SRV = SSC (Service Code), SID = 10, Call Forwarding - Busy Line (Entry)

CI = N, SRV = SSC (Service Code), SID = 11, Call Forwarding - Busy Line (Cancel)

CI = N, SRV = SSC (Service Code), SID = 12, Call Forwarding - Don't Answer (Entry)

CI = N, SRV = SSC (Service Code), SID = 13, Call Forwarding - Don't Answer (Cancel)

STEP 5: **ARNP** - RT0: Self Office Identification Code for CCIS. If RT0 is assigned, service set tone will not be heard.

C-163 CCIS Networking via IP
(Series 7400 software feature)

General Description

This feature allows the system to utilize the CCIS network over Internet/Intranet. To establish or release a call, an IPTRK card is used for both speech and signal channels.
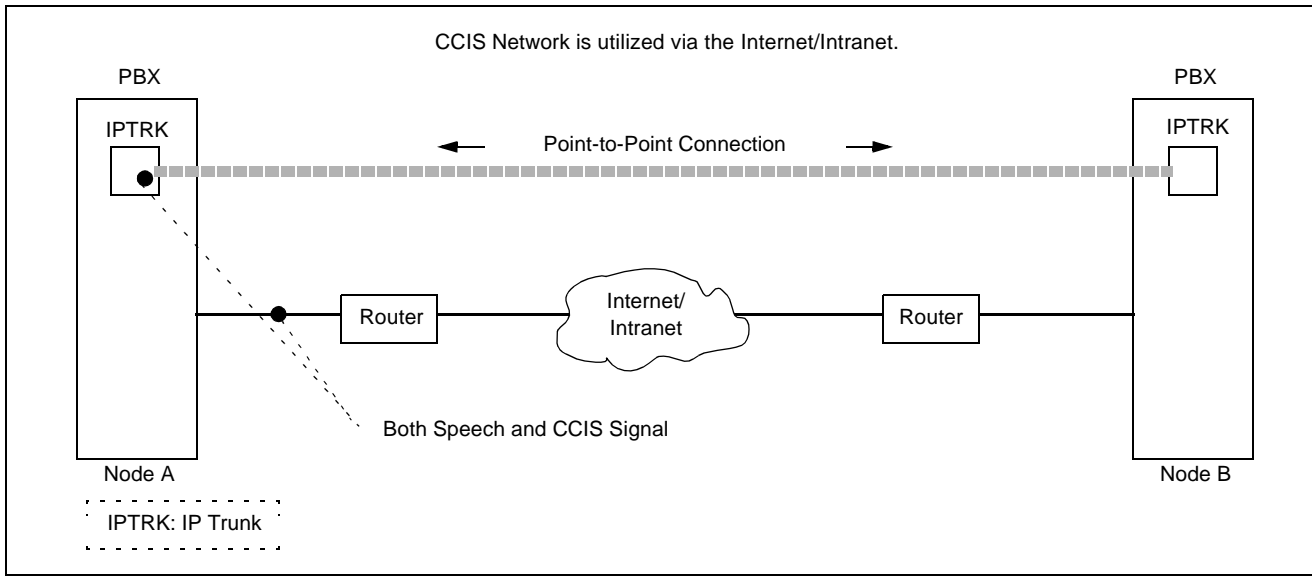
Operating Procedure

No manual operation is required.

Service Conditions

1. To send or receive speech and CCIS signals, each node shall use an IPTRK circuit card(s). At this time, the IPTRK cards in the self-node and each of its connected node must be in 1-to-1 ratio, respectively (point-to-point connection).

2. Two IPTRK cards per unit are the maximum. Accordingly, a total of 16 IPTRK cards can be accommodated per IMG.

3. Only voice and FAX (G3) information can be sent or received via IPTRK card.

4. The port, assignable for CCIS signaling, is only the 1st LEN of each HW block. Other ports are to be used for speech channels.

5. A D-channel, assigned on an IPTRK card, can control the B-channels of the same card, and also those of a maximum of 7 other IPTRK cards.

6. Tandem Path through function is not provided.

7. This feature supports QoS (Quality of Service) function.

8. When a system message indicates "TCP link failure" due to data congestion on the router or IP network, a call cannot be made via an IPTRK circuit card. When a call is attempted despite this, the caller hears busy tone.

9. When a system message related to "TCP link failure", is created during call origination or speech, that call's speech channel is automatically restored via patrol function.

Service Conditions (cont'd)

10. The table below shows CCIS service features to be provided beyond the nodes:

	Service Feature Name	Condition
A-45	Attendant Camp-On with Tone Indication - CCIS	Provided
B-9	Busy Verification - CCIS	Provided
C-44	Call Back - CCIS	Provided
C-45	Call Forwarding - All Calls - CCIS	Provided
C-46	Call Forwarding - Busy Line - CCIS	Provided
C-47	Call Forwarding - Don't Answer - CCIS	Provided
C-50	Call Transfer - All Calls - CCIS	Provided
C-54	Call Transfer - Attendant - CCIS	Provided
C-55	Centralized Billing - CCIS	Provided
C-57	Centralized System Management Report - CCIS	Provided
D-68	Data Privacy on Demand - CCIS	Provided
D-71	Dial Access to Attendant - CCIS	Provided
D-74	Direct Termination - CCIS	Provided
D-75	Distinctive Ringing - CCIS	Provided independently
E-8	Executive Right of Way - CCIS	Provided
H-12	Hot Line - CCIS	Provided independently
I-17	Individual Attendant Access - CCIS	Provided
M-34	Message Reminder - CCIS	Provided
M-34D	Message Reminder - D^{term} - CCIS	Provided
M-35	Message Waiting Lamp Setting - Attendant - CCIS	Provided
M-36	Message Waiting Lamp Setting - Station - CCIS	Provided
N-37	Name Display - System - CCIS	Provided independently
O-11	Off-Hook Queuing - CCIS	Provided
S-52	Serial Call - CCIS	Provided
S-59	Step Call - CCIS	Provided
S-73	Supervisory Call - CCIS	Provided
V-7	Voice Call - CCIS	Provided

11. This feature does not support Broad Band Services H0/H1.

12. This feature can use Link Re-connection function. At this time, service conditions are the same as those for the normal CCIS network.

13. PAD can be provided for "receive" control only.

14. IPTRK-related tandem connection is not provided.

Programming

STEP 1:   Referring to the No. 7 CCIS System Manual, assign the entire basic data (such as ASYD, ARTD, ATRK, ADPC, ACSC, ACIC1, ACIC2, MBTK, etc.) necessary for the establishment of a CCIS Tie Line.

            Enter IPTRK = 1 for both D-channel and B-channel routes on the ARTI command.

            For the port assignment (B-ch) of the IPTRK card, see the IPTRK Circuit Card System Manual.

            The CCIS signal controlling channel is determined in accordance with the CIC numbers of speech channel. To provide multiple interfaces which vary from a single point code (taking CCIS and CCIS network via IP services together within one network), CIC numbers and CICG (CIC Group) must be assigned on the same interface. For further information, see the IPTRK Circuit Card System Manual.

STEP 2:   **AGIP** - Assign the IP addresses of IPTRK card and connected router.

Kind:	IPTRK (CCIS)
IPTEN:	Assign the 1st LEN of IPTRK accommodated HW block
IPTK_IP:	Assign IP address of the IPTRK card
DG_IP:	Assign IP address of the router
ARP:	Select DIX
CLINK_NUM:	Default value
SLINK_NUM:	Default value
NETMSK:	Assign IP address of the Net Mask
MULT:	Select Point-to-Point
DST_IP:	Assign IP address of the Destination Node IPTRK card
QoS1:	0-7
QoS2:	0-7
NETID:	0-15

            For further information, see the IPTRK Circuit Card System Manual.

C-167 Centralized Maintenance - CCIS
(Series 7400 software feature)

General Description

This FCCS service allows all nodes (NEAX2400 IMX systems) in the multiple FCCS groups (networks where multiple NEAX2400 IMXs are connected via FCCS link) and NEAX2000 IVS systems, connected via CCIS link, to be maintained from a single MAT. The MAT used for this feature is called Centralized MAT.

Note: *Requires NEAX2000 IVS Series 2000 or later software.*

Operating Procedure

Refer to CCIS No.7 System Manual.

Service Conditions

- • NEAX2000 IVS
1. The data transmission speed between a NEAX2000 IVS and a NEAX2400 IMX is 64 kbps maximum.
2. Internal MAT software for NEAX2400 IMX and NEAX2000 IVS are installed in a MAT and start up the software at the node to be logged in to.
3. See the manual describing NEAX2400 IMX for the method of checking the log-in user.
- • NEAX2400 IMX
1. All the systems in the network can be maintained by a single MAT (Centralized MAT).
2. The existing system (not NEAX2400 IMX) cannot be maintained via the Centralized MAT.
3. Time required for transmitting the 1 mbyte data (1 block of Data Memory) is 2 hours at 64 kbps data speed/ 1 hour at 128 kbps data speed/15 minutes at 512 kbps data speed.
4. The number of MATs to be installed may vary depending on the customer specification (one or two MATs can be used to centralize the MAT operation, and three or more MATs can be used to separate the MAT operation).
5. By user ID and password written in the NDM of each FCCS group, the log-in user is checked when logging in to the NEAX2400 IMX. This data is decided by the AUIDN command.
6. When on e of the conditions below are applied, the MAT is logged in to the node designated by the FPC, but within the FCCS group where the MAT is installed, regardless of the designated FUG number (FCCS group number) data.
    - a.) When no data is assigned to the SELF_FUG (FUG number in the self-FUG) in the AFUGN command.
    - b.) When the FUG requested by the MAT is "0".
    - c.) When the FUG requested by the MAT is the FUG number of the self-FUG.
7. The traffic information of the NEAX2000 IVS may be collected from the Centralized MAT by logging into the NEAX2000 IVS node, and using the traffic information collecting command dedicated to the NEAX2000 IVS.
8. The function to collect traffic information of the NEAX2400 IMX is activated by logging into the NCN (Network Center Node) of each FCCS group.

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

Assign the following data at the NCN in each FCCS group (FUG)

STEP 1: **AFUGN** - Assign the data related to FUG number

SELF_FUG: Assign the self-FUG number (0-4)

CENTER: Checkbox is indicated for the self-FUG is the center FUG or not

CON_FUG: 0 = Delete Data

1 - 4, FUG number connected to self-FUG

Assign all the FUGs to be controlled by the Centralized MAT

NCN FPC: 0 = Delete Data

1 - 253, FPC of NCN in the connected FUG

Note: *One FCCS group (FUG) number cannot be allocated to some FUGs in duplicate.*
When a number other than "0" is entered to CON_FUG, "0" cannot be entered to the corresponding NCN_FPC.
A single FUG is to be designated as the Center FUG in one network through FCCS groups and a NEAX2000 IVS.

STEP 2: **AEXFN** - Assign the Point Code data for connecting to each FPC in FUG.

FUG: Destination FUG number connected to self-FUG (1-4)

FPC: Fccs network Point Code assigned at CON_FUG (1-253)

PC: Point Code of node assigned at CON_FUG and connected to the node in remote FUG via CCIS (PC assigned at ACSC) (1-16367)

Note: *This command is not valid when the self-FUG number has not been allocated by the AFUGN command.*
The self-FUG number cannot be entered in FUG parameter.

STEP 3: Confirm that the data assignment is correct by logging in to each node via the Centralized MAT. Re-examine the assigned system data if log-in cannot be activated.

For example: The network connection where this service is provided is classified in to three types.

• To connect FUG and FUG:
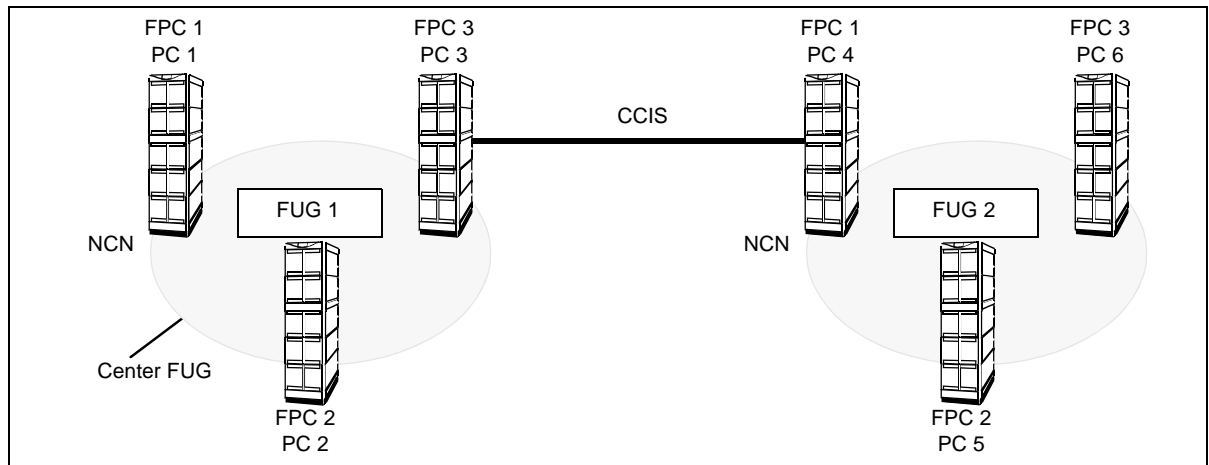
FCCS Programming (cont'd)

- To connect FUG and a NEAX2000 IVS (refer to the manuals for the NEAX2000 IVS for data programming on the NEAX2000 IVS side):
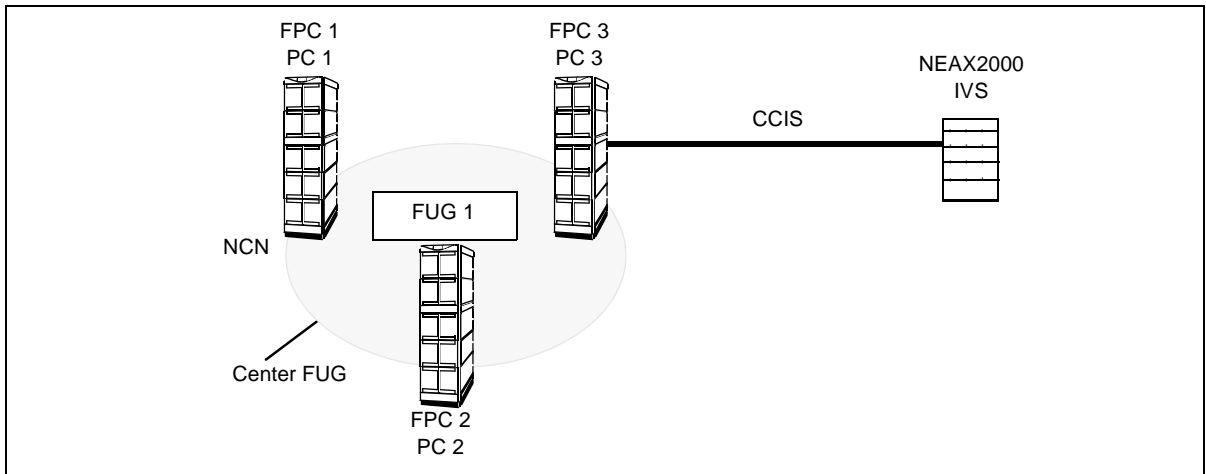
- To connect a NEAX2400 IMX and a NEAX2400 IMX (NEAX2400 IMX stands for the FCCS node working alone in an FCCS network):
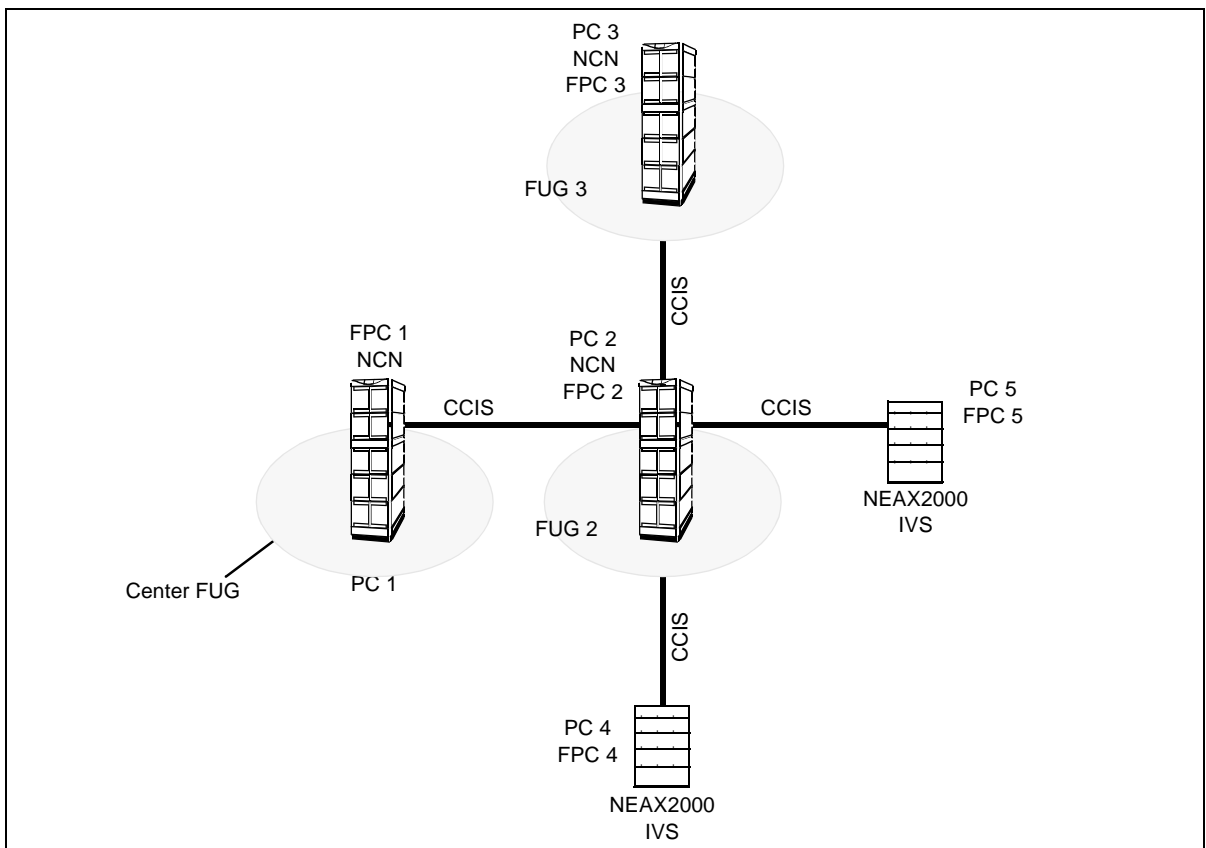
D-41   Data Communication - CCIS

General Description

This service allows Inter-Office data communication service where the Digital Interface (DTI) is used as the CCIS Line over a T1 channel (Digital Link Channel).

With this service, the data communication line between synchronous and asynchronous terminals can be directly connected to the DTI without using the MODEM Pooling or a DST card.

Operating Procedure

When transmitting data from Data Adapter:
1. Press the DATA key on D^{term} (a); the LCD displays

> **DATA**
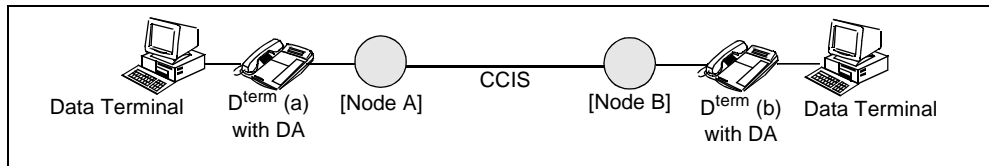
2. D^{term} (a) dials the number for D^{term} (b); the LCD displays:

> **DATA XXXX**

3. D^{term} (b) is being rung; the LCD displays:

> **WAIT DATA XXXX**
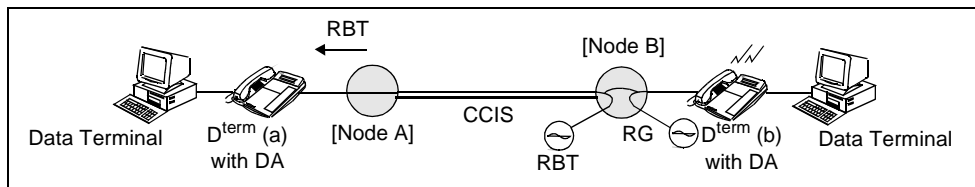
4. D^{term} (b) answers; the LCD displays:

> **READY D YYY XX**
>   TRK Name   TRK Number
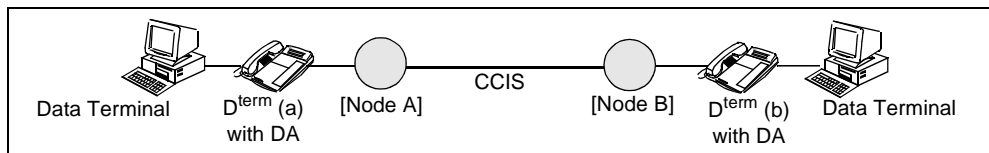
5. Data communication ends.

Operating Procedure (cont'd)

When cancelling the data connection:
1. Press the DATA key on D^{term} (a); the LCD of D^{term} (a) restores the display of Time and Date.

Note: *If the opposite DTE is released, the buzzer on the Data Module/Data Adapter sounds three times.*
Enter Release command RLS RETURN from the keyboard of the DTE. RLS and RELEASED are displayed on the monitor screen. The data connection has been released.

Service Conditions

1. In Tandem Operation, the second T1 link does not have CCIS, so that a digital end-to-end connection cannot be digital because no control signals are passed. In this case, MODEM Pooling (or use of DST cards if installed) is necessary.

2. A data call originated from a DTE via the digital data line is valid only when the call is an LCR call. This is also applicable to a tandem connection.

3. For 56 kbps synchronous data, a separate T1 channel with no voice capability is required.

Programming

STEP 1: **AMND** - The communication lineup to the office concerned is set up on an office code basis.

Note: *When originating a call from a DTE, whether a digital line is to be seized or an analog line is to be seized must be determined.*

STEP 2: **ARTD** - Assign the designation of an analog line or digital line. A/D = 0/1: Analog/Digital Line Data.
Assign the designation of multiple connection or non-multiple connection.
GW = 0/1: -/Non-Multiple Connection

Note: *For all the routes that may possibly be used in a call origination from a DTE, assign GW= 1 in advance. Normally, GW is 0.*

STEP 3: **AKYD** - Assign Feature Key data. Type:Function:DATA [29].

STEP 4: **AMND** - Assign A/D = 1.

D-65   Data Interface - Automatic Answer - CCIS

General Description

This feature allows a data terminal to automatically answer an incoming CCIS call without manual operation, therefore, providing the capability of receiving electronic mail.

Operating Procedure

To activate AUTOMATIC ANSWER for terminating data calls, Automatic Answer Mode can be set by any of the following methods:

1. Set the Data Module DIP switch to the proper setting.
2. Press the DISP/AUTO key of the D^{term} to set the Data Adapter to Auto Answer ON.
3. Set Automatic Answer when assigning attribute data via the D^{term}/Data Adapter or MAT.

Service Conditions

1. This feature can be cancelled at the data terminal by changing the DIP switch setting to Manual Answer or by pressing the DISP/AUTO button of the D^{term} again (the associated LED is extinguished).
2. This feature can be activated even if the D^{term} station is in the DO NOT DISTURB - CCIS [D-76] mode.

Interactions

1. DATA INTERFACE-AUTOMATIC ANSWER for a Data Module is set via switch settings on the outside of the Data Module.
2. DATA INTERFACE-AUTOMATIC ANSWER may be programmed from the D^{term} via attribute data, thus saving a programmable line/feature key.
3. When a Data Module is used between a Data Terminal and the PBX, certain character string sequences relating to status are exchanged as call set up progresses.
4. After a call connection is made, the Data Module looks for the ESC character followed by RELEASE as a disconnect request from the DTE. The Data Module requests a disconnect from the PBX.

Programming

STEP 1:   **ASDT** - Assign a Telephone Equipment Class (TEC) of 13 to an LEN associated with a DLC, Data Adapter. An associated LEN will also be assigned as a TEC 12, D^{term}. Assign a TEC of 16 to an LEN associated with a DTL, Data Module.

STEP 2:   **AKYD** - Assign the following data to an available key:

      TN: 1
      STN: Station Number
      TP: Type of D^{term} 0/1:
      RING:

            0:   No Ringing
            1:   Ringing All Lines
            2:   Ringing on Prime Line Only
            3:   Flexible Ring Assignment, enables RG parameter.

      KYN: Key Number (1-40)

Programming (cont'd)

KYI: Service Index

       0:   Key Not Used

$\longrightarrow$ 1:   Feature Key

       2:   Multi-line Key

KD: Not assigned for Feature Key

FKY: Feature Key Number

$\longrightarrow$ FKY = 30, AUTOMATIC ANSWER

D-66 Data Line Security - CCIS

General Description

This feature allows line circuits used for data transmission to be protected from interruptions, such as, ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS [A-45], BUSY VERIFICATION - CCIS [B-9], EXECUTIVE RIGHT-OF-WAY - CCIS [E-8], and ATTENDANT OVERRIDE [A-7].

Operating Procedure

No manual operation is required.

Service Conditions

1. If an Attendant or user attempts to set ATTENDANT CAMP-ON WITH TONE INDICATION [A-1] [A-45], BUSY VERIFICATION [B-3, B-9], EXECUTIVE RIGHT-OF-WAY [E-1, E-8], or ATTENDANT OVERRIDE [A-7], reorder tone will be received.
2. This feature is activated through System Data programming (see CLASS OF SERVICE-INDIVIDUAL [C-15]).

Interactions

1. This feature is usually programmed on a per-station basis.
2. The DATA LINE SECURITY feature functions both when calls are originated and when calls are terminated.
3. CALL PICK-UP [C-7, C-30]: Calls directed to a station assigned a DATA LINE SECURITY feature can be picked-up by another station.
4. DIRECT OUTWARD DIALING: If the Attendant Console extends a C.O. trunk to a station, the DATA LINE SECURITY feature is not effective until after the Attendant Console has released from the connection.

Programming

STEP 1: PER-ROUTE BASIS
      ARTD - Assign CDN 44:PRV as data "1", Line Privacy.
STEP 2: PER-STATION BASIS
      ASFC - Assign data "0" to SFI-4 and SFI 11 to SFC programmed to the stations.
STEP 3: PER-TENANT BASIS
      ASYD - System Data 2, Index 0, Bits 1, 3, & 4. Assign as data "0".

D-67 Data Line Privacy - CCIS

General Description

This feature automatically prevents interruptions from features such as ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS [A-45], BUSY VERIFICATION - CCIS [B-9], and EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] during data transmission through the CCIS network.

Operating Procedure

Data Connection (D^{term}-Data Adapter/Data Module): No manual operation is required. When a data call is activated (Data Adapter/Data Module), DATA PRIVACY - CCIS is set automatically. When the data transmission has finished, DATA PRIVACY is automatically cancelled.

Service Conditions

1. The following connections are restricted when DATA PRIVACY - CCIS is active because transmitted tones are involved in their operation.

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1, A-45]
BUSY VERIFICATION	[B-3, B-9]
EXECUTIVE RIGHT-OF-WAY	[E-1, E-8]

   If these features are attempted, a reorder tone will be received.
2. DATA PRIVACY - CCIS cannot prevent disruptions in data transmission generated from outside the CCIS network.
3. When the data call disconnects, DATA PRIVACY - CCIS is automatically cancelled.
4. When DATA PRIVACY - CCIS is activated, the circuit cannot be accessed by any PBX feature.
5. This feature cannot be activated at a Tandem Office in the CCIS network.
6. DATA PRIVACY - CCIS must be set at both communicating offices in the CCIS network.

Interactions

DATA PRIVACY - CCIS is the disallowing of the EXECUTIVE RIGHT-OF-WAY [E-1, E-8], BUSY VERIFICATION [B-3, B-9], and ATTENDANT OVERRIDE [A-7] features. All of the above options will provide the desired effect.

Programming

STEP 1: PER-ROUTE BASIS

    ARTD - Assign CDN 44:PRV as data "1", Line Privacy.

STEP 2: PER-STATION BASIS

    ASFC - Leave data "0" to SFI 4 and SFI 11 to the SFC assigned to the stations.

STEP 3: PER-TENANT BASIS

    ASYD - System Data 2, Index 0, Bits 2, 3, & 4. Assign data "0".

D-68 Data Privacy on Demand - CCIS

General Description

This feature allows a user to prevent interruptions by features such as ATTENDANT CAMP-ON - CCIS [A-45], BUSY VERIFICATION - CCIS [B-9], and EXECUTIVE RIGHT-OF-WAY - CCIS [E-8] during data transmission through the CCIS network by dialing a DATA PRIVACY feature code.

When the incoming call cannot be restricted since data communication is processing, the interruption can be prevented via setting this service before communication.

Operating Procedure

Set/Cancel the service from the station in communication:
- By dialing the access code:
1. To activate DATA PRIVACY ON DEMAND:

   a.) The station is in communication.

   b.) The station performs a switch hook flash; receives special dial tone.

   c.) The station dials the access code for setting DATA PRIVACY ON DEMAND; receives service set tone.

   d.) The service is set. The station continues in conversation.

2. To cancel DATA PRIVACY ON DEMAND:

   a.) The station is in communication.

   b.) The station performs a switch hook flash.

   c.) The station dials the access code for cancelling DATA PRIVACY ON DEMAND.

- By a feature key on the D^{term}:
1. To activate DATA PRIVACY ON DEMAND:

   a.) The station is in communication.

   b.) The station presses the DND key. The key lamp flashes red.

   c.) The service is set. The station continues in conversation.

2. To cancel DATA PRIVACY ON DEMAND:

   a.) The station is in communication.

   b.) The station presses the DND key (DND lamp flashes red).

   c.) The service is cancelled. The user continues in conversation.

Set/Cancel the service when originating a call:
1. To activate DATA PRIVACY ON DEMAND:

   a.) The station lifts the handset and hears dial tone.

   b.) The station dials the access code for DATA PRIVACY ON DEMAND or presses the DND key. When the service is set via a feature key, the key lamp flashes red.

   c.) The station hears a special dial tone or the dial tone (depending on system data).

   d.) The station dials the desired telephone number.

   e.) The connection is established when the called party answers.

2. To cancel DATA PRIVACY ON DEMAND:

   a.) The station in communication places the call on hold.

   b.) The station hears a special dial tone.

   c.) The station dials the access code of DATA PRIVACY ON DEMAND.

   d.) The station hears the service set tone.

   e.) The station reconnects the call placed on hold and the DATA PRIVACY ON DEMAND is cancelled.

Service Conditions

1. The following services are restricted while DATA PRIVACY ON DEMAND is activated.

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1]
ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS	[A-45]
BUSY VERIFICATION	[B-3]
BUSY VERIFICATION - CCIS	[B-9]
EXECUTIVE RIGHT-OF-WAY - CCIS	[E-8]
CALL WAITING-TERMINATING - CCIS	[C-12]
CALL WAITING-ORIGINATING - CCIS	[C-31]

   If these features are attempted, a reorder tone will be received.
2. The call restriction is available for the call on processing only and the restriction is released when the station disconnects from the connection and performs CALL TRANSFER - ALL CALLS [C-11, 11D].
3. This service is available for an analog station or a D^{term}.
4. The lamp for Do Not Disturb key flashes, while setting Data Privacy on Demand. By pressing the DND key at that time, the lamp will go off and the service is cancelled.
5. When the transfer operation is abandoned in the middle of procedure, this service is not cancelled.
6. When the connected station in the remote office set Data Privacy on Demand, this service is not activated.
7. This feature cannot be activated at a Tandem Office in the CCIS network.

Programming

To Set/Cancel the service from the station in communication via the access code of Data Privacy on Demand:

STEP 1: **ANPD** - Reserve the number level for feature access. Assign for H (Hooking) service. Assign the NND according to the predetermined numbering plan.

STEP 2: **ASPA** - Assign the access code for the Data Privacy on Demand.

   CI = H, SRV = SSCA, SIDA = 48 (Data Privacy on Demand; Set)

   CI = H, SRV = SSCA, SIDA = 49 (Data Privacy on Demand; Cancel)

To Set/Cancel the service from the station in communication via the feature key of Do Not Disturb:

STEP 1: **AKYD** - Set the following:

   KYN: Key Number (1-40)

   KYI: 1 (feature key)

   FKY: 50 (Do Not Disturb)

To Set/Cancel the service when originating a call:

STEP 1: **ASYD** - SYS 1, INDEX 322, bit 6. Tone to be heard after the access code of Do Not Disturb is dialed. 0/1 = Special Dial Tone/Dial Tone

STEP 2: **ANPD** - Reserve the number level for feature access. Assign for N (Normal) service. Assign the NND according to the predetermined numbering plan.

STEP 3: **ASPA** - Assign the access code of Data Privacy on Demand. CI = N (Normal), SRV = SSCA, SIDA = 48 (Data Privacy on Demand)

Note: *This service is activated only if the station is set as SFI = 3 (Executive Right-of-Way - Calling) and SFI = 4 (Executive Right-of-Way - Calling) in ASFC.*

D-69   Data Transparency - CCIS

General Description

This feature provides a DATA TRANSPARENCY path between nodes within the CCIS network for data transmission using a Data Module or D^{term}/ Data Adapter.

Operating Procedure

No manual operation is required.

Service Conditions

1. Upon data call origination or termination using a Data Module equipped DTE, certain character string sequences relating to status are exchanged over the CCIS network during call set up.
2. After the data connection is established, the Data Module looks for a disconnect request from the DTE, which consists of the ESC character followed immediately by RELEASE.
3. An asynchronous transparency path up to 9600 bps is provided.
4. A synchronous transparency path up to 48 Kbps is provided.

Programming

No programming is required.

D-70 Deluxe Traveling Class Mark - CCIS

General Description

This feature provides call connection restrictions within the CCIS network. The following three types of restrictions are allowed:

- Deluxe Traveling Class Mark Restriction
- Route Restriction
- Numbering Restriction

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

1. The Route Restriction Class (RSC) of the calling party is sent to the called office as a Deluxe Traveling Class Mark (TCM), which is used for call restriction.
2. A maximum of 15 restriction levels can be sent as a TCM.
3. The transmitted TCM is used to check restrictions on calls outside the CCIS network.
4. Route Restriction is used to restrict a call based on the caller's restriction class and the selected route.
5. Numbering Restriction is used to restrict a call based on the number dialed. The following three types of Numbering Restrictions are used:
   - Toll Restriction
   - Toll Restriction-3/6 Digit
   - Unauthorized Code Restriction
6. The following additional restriction features can be used by an office within the CCIS network:
   - Time-of-Day Change
   - Clocked Manual Override
   - Attendant Manual Override

Interactions

DELUXE TRAVELING CLASS MARK - CCIS is required when used in an EPN or ETN environment. It is not required for CCIS.

Programming

ARTD - The CCIS TIE Line voice/data route(s) over T-1 should be assigned as shown below. Assign CDN 40:TCM as data "1" for Traveling Class Mark.

RT: 1

2-ONSG	:2	4-INSG	:2	5-TF	:3	6-TCL	:4	7-L/T	:1
8-RLP	:2	13-AC	:1	15-LSG	:12	30-PAD	:7 (optional)		
40-TCM	:1	43-BT	:1	49-TRKS	:0/1	50-DPLY	:1		

D-71   Dial Access to Attendant - CCIS

General Description

This feature allows a user to access an Attendant Console through the CCIS network by dialing an Operator Call Code.

Operating Procedure

To access an Attendant Console:
1. Dial the Operator Call Code; receive ringback tone.
2. The ATND lamp on the Attendant Console flashes for INCOMING CALL IDENTIFICATION - CCIS.
3. The Attendant answers the call.

Service Conditions

The attendant can complete these calls to trunk facilities, if allowed by the station's CLASS OF SERVICE [C-15]. Therefore, the Attendant can extend a station call to another station in the CCIS network.

Interactions

1. Stations will terminate to the Attendant Console.
2. If Tenant A is not equipped with an Attendant Console, stations in Tenant A may terminate at Tenant B's Attendant Console. Tenant B's Attendant Console must be programmed to accept the calls from Tenant A.
3. Stations may dial the ASAT number to terminate at a specific Attendant Console. See INDIVIDUAL ATTENDANT ACCESS [I-6].
4. When the system is in the Night mode, a station dialing "0" can be answered by the assigned ATTENDANT NIGHT TRANSFER [A-19] station, if provided. However, when the ASAT number is dialed in the Night mode, reorder tone is returned. No connection is allowed to the ATTENDANT NIGHT TRANSFER [A-19] or telephone number.
5. A remote station in TN 2 will ring the ATTENDANT CONSOLE of TN 2 in the MAIN NODE.
6. A remote station in TN 2 will ring the Attendant Night Transfer station of TN 2 in the MAIN NODE.

Programming

Main Node
STEP 1:   **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N) and Hooking (H). Assign the NND in accordance with a predetermined numbering scheme. Usually level "0" is assigned for the Attendant Console.

STEP 2:   **ASPA** - For access code "0", assign SRV = SSC (Service Code), SID = 2 for Operator Call. Assign for a Connection Index (CI) of Normal (N) and Hooking (H).

STEP 3:   **ATNR** - Allow tenant-to-tenant connection for Inter- and Intra-tenant connections. TRI=0 and TRI=4.

STEP 4:   **ASAT** - Assign a specific number to the Attendant Console.

Satellite Node
STEP 1:   **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N) and Hooking (H). Assign the NND in accordance with a predetermined numbering scheme. Usually level "0" is assigned for the Attendant Console.

STEP 2:   **ASPA** - For access code "0", assign SRV = LCR (Least Cost Routing) to Main Node.

STEP 3:   **ATNR** - Allow tenant-to-tenant connection for Inter- and Intra-tenant connections. TRI=0 and TRI=4.

D-72 Digital Display - Station - CCIS

General Description

This feature provides the Attendant Console with a visual display of the telephone number, the Trunk Route Restriction CLASS OF SERVICE [C-15], and tenant number during Attendant-to-Station connection within the CCIS network.

Operating Procedure

The DIGITAL DISPLAY is automatically activated whenever the Attendant Console answers an incoming call from a station or originates a call to a station.

Service Conditions

1. The tenant number appears on the left side of the display, followed by the Trunk Route Restriction class, then the station number. See Example 1.
2. If the Trunk Route Restriction Class and/or tenant number are not single digits, refer to Examples 2 and 3.
3. If the station dialed by the Attendant Console is busy or in LINE LOCKOUT [L-3] mode, only the telephone number will be displayed.
4. The DIGITAL DISPLAY is limited to six digits. Since the CLASS OF SERVICE [C-15] and Trunk Route displays are in numerical form, a list must be provided for the Attendant to explain the restrictions of each CLASS OF SERVICE [C-15] number and Trunk Identification number.
5. The DIGITAL DISPLAY will occur automatically whenever a call is answered or originated by the Attendant.

    Example 1: Single-digit Trunk Route Restriction class and Tenant number; four-digit station number:
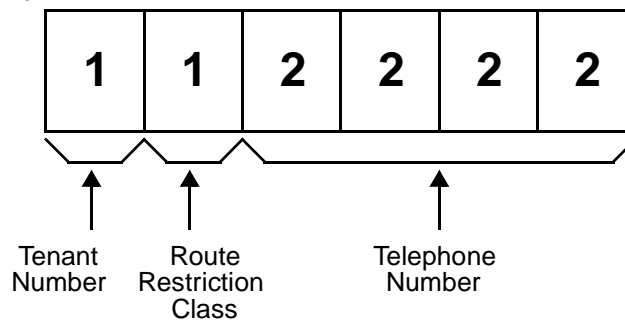
    Example 2: Two-digit Trunk Route Restriction class of Tenant number; four-digit station number:
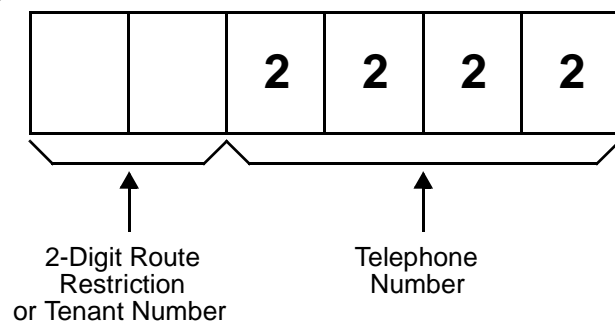
Service Conditions (cont'd)

Example 3: When five-digit station numbering is used, only the station number is displayed:

	2	2	1	1	2
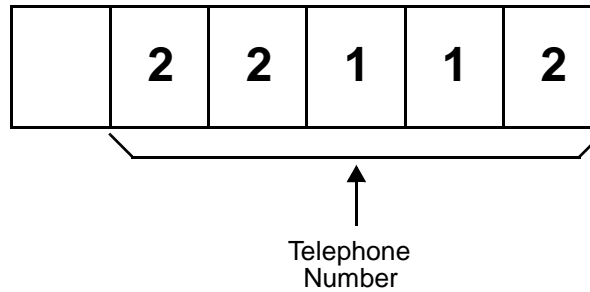
Telephone
Number

Note: *When the telephone number exceeds 6 digits, last 6 digits are displayed.*

Interactions

1. CALL FORWARDING - CCIS [C-45, 46, 47]: Calls are forwarded from Station A to Station B. When the Attendant extends a call to Station A, Station B's number is indicated on the DIGITAL DISPLAY-STATION rather than Station A's number.

2. STATION HUNTING [S-7, 8, 9]: The Attendant Console extends a call to a busy telephone in a Hunt group. The terminating telephone number is indicated on the DIGITAL DISPLAY-STATION rather than the called telephone number.

3. DIGITAL DISPLAY STATION feature will occur whenever the Attendant performs any of the following actions:
   a.) Extends an incoming call to a user.
   b.) Originates a call to a user.
   c.) Answers a recall or call forwarding call.
   d.) Re-enters a held station call.

Programming

ASYD - System Data 1, Index 82, Bits 4-7. Assign a hex value according to the length of station number choice.

HEX- Station Information:

    0: TN + CLS + 4-digit Station Number.
    1: TN + 4-digit Station Number.
    2: RSC+ 4-digit Station Number.
    3: TN + 5-digit Station Number.
    4: RSC+ 5-digit Station Number.
    5: Station Number.

D-73   Digital Display - Trunk - CCIS

General Description

This feature provides a visual indication at the Attendant Console of incoming and outgoing trunk calls through the CCIS network. Trunk Identification number, Trunk Route number, and tenant number or Central Office trunk code, are displayed on a six-digit digital display.

Operating Procedure

The digital display is automatically activated whenever the Attendant answers or originates a trunk call.

Service Conditions

1. All trunks (WATS, FX, CCSA and TIE) will appear on the digital display.
2. The tenant number is displayed on the left side of the digital display, followed by the Trunk Route number, and then the Trunk Identification number.
3. If the Trunk Route number is three digits, the tenant number is not displayed.
4. The DIGITAL DISPLAY is limited to six digits. Because the Class Of Service and Trunk Route displays are in numerical form, a list must be provided for the Attendant, giving an explanation of each Class Of Service and Trunk Identification number.
5. The DIGITAL DISPLAY-TRUNK - CCIS feature displays either Trunk Route information or a four-digit Central Office code. These options are selected on a per-trunk-group basis.
6. When Trunk Route information is displayed, one digit identifies the tenant, two digits identify the trunk group, and three digits identify the trunk number.
7. The DIGITAL DISPLAY-TRUNK - CCIS will appear automatically whenever the Attendant answers or originates:
   - a.) An incoming C.O. call
   - b.) Incoming TIE Line call
   - c.) Intercept call
   - d.) Outgoing C.O. call
   - e.) Outgoing TIE Line call
   - f.) Reenters a held trunk call.

   Example 1: Trunk
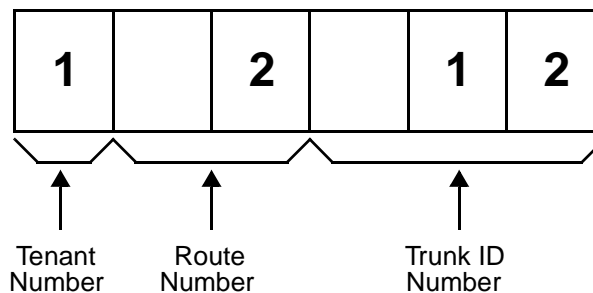
Service Conditions (cont'd)

> **Example 2:** Trunk
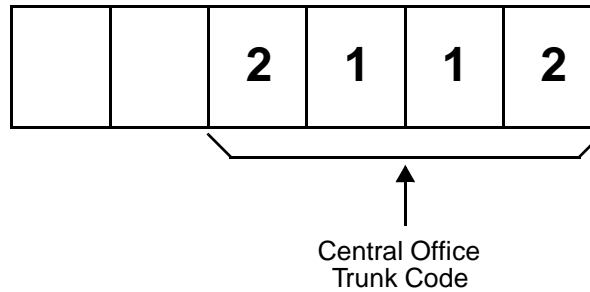
| 2 | 1 | 1 | 2 |

Central Office
Trunk Code

Interactions

1. For display purposes only, Route and Trunk numbers and Central Office Codes may be used simultaneously in the same system and are applied on a per-route basis, via ARTD, CDN 25:R/L.

2. If System Data 1, Index 68 bit 2 is assigned for Individual Trunk Access to be the ACOC code, then all trunks in all routes in the system must have the ACOC code assigned. Trunk Routing display information:

    1 digit identifies the tenant
    2 digits identify the trunk group
    3 digits identify the trunk number.

3. DIGITAL DISPLAY-TRUNK - CCIS feature will occur whenever the Attendant answers/originates:

    Incoming CO-type (DID, 2-way, 1-way INC, FX, WATS) calls
    Incoming TIE Line calls
    Intercept calls
    Outgoing CO-type (DOD, WATS, FX) calls
    Outgoing TIE Line calls
    Reenters held trunk calls.

4. By pressing the loop key of a camped-on call, the Attendant can determine both the trunk and telephone numbers of the camped on call. See ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS [A-45].

Programming

STEP 1:   **ASYD** - System Data 1, Index 68, bit 1. Type of INDIVIDUAL TRUNK ACCESS, 0/1: Route and Trunk Number/Central Office Code.

STEP 2:   **ARTD** - In CDN 25:R/L, if data "0" is assigned, then tenant, route number, and trunk number is displayed. If data "1" is assigned, then Central Office code is displayed. The ACOC command must be assigned.

Route And Trunk Number

STEP 3:   **ATRK** - The route and trunk number assigned here provides the system with the information on type of routes and their associated trunks, LENs, numbers of tenants, and any CLASS OF SERVICE-INDIVIDUAL [C-15] route restriction information.

Central Office Code

STEP 4:   **ACOC** - Each trunk must be assigned a Central Office Code.

D-74 Direct-In Termination - CCIS

General Description

This service feature allows Inter-Office Direct-In Termination for a case where an incoming call addressed to a station in a PBX from a C.O. line is to be terminated to a station belonging to a different PBX in the CCIS network.

Operating Procedure

1. A DIT call terminates to Node A.
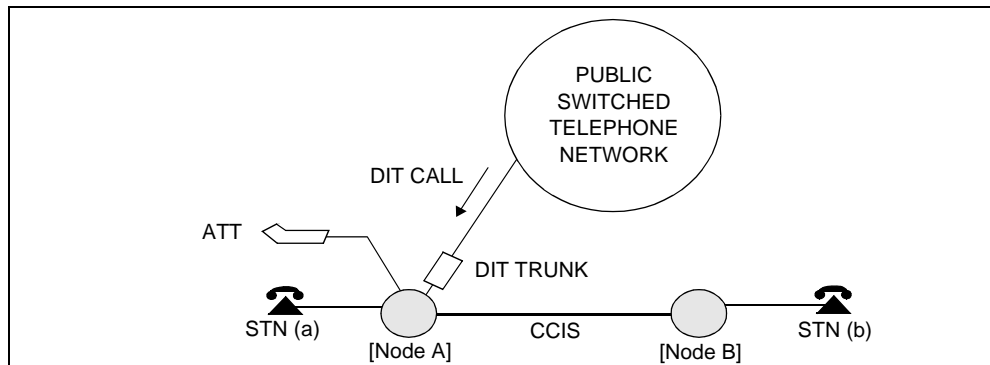
2. The DIT call terminates to Node B through CCIS and rings station B in Node B.
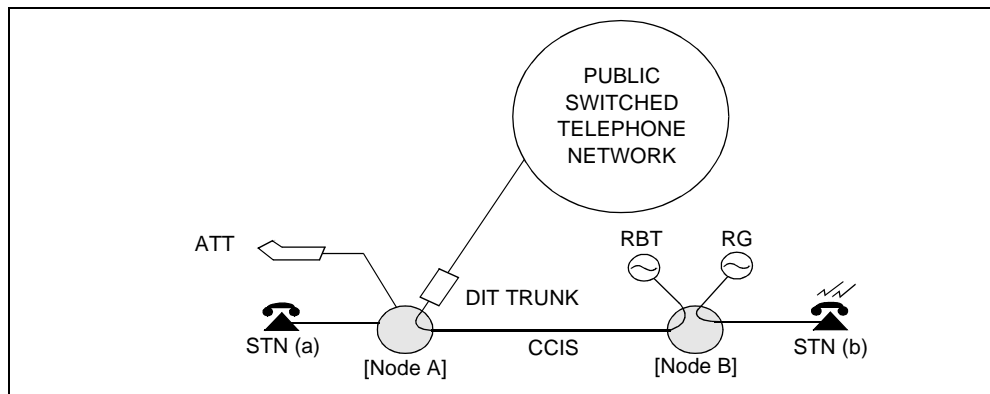
Service Conditions

1. Bothway trunks can be used for DIRECT-IN TERMINATION, but incoming only trunks are recommended.
2. It is not necessary to order special DID trunks as is required with DIRECT INWARD DIALING [D-8]. However, care should be exercised in the application of central office trunk hunting.
3. If the called station is busy, the call will ring until the called station becomes idle or the call is forwarded to an attendant.
4. If there is no answer at a station, the calling party will continue to receive Ring Back Tone. There is no AUTOMATIC RECALL [A-8] to the attendant.
5. Once a call is answered, it can be processed by the called station like any normal trunk call.
6. DIRECT-IN TERMINATION is mutually exclusive with NIGHT CONNECTION-FIXED [N-1].

Service Conditions (cont'd)

7. If the station is assigned to a STATION HUNTING [S-7, 8, 9] group, the incoming call will follow the hunt group station assignment. If the station is in CALL FORWARDING mode, the incoming call is connected to the CALL FORWARDING target station.

8. Direct-In Termination trunks can be programmed to terminate elsewhere in the night mode.

9. DIRECT-IN TERMINATION must be assigned as Ground Start.

Programming

STEP 1: **ASYD** - System 1, Index 72, bit 6.

Distinctive ringing only for DIT and DID calls.

System 2, Index 11, bit 7. Disposition of DIT call when station is busy.

STEP 2: **ACSA** - CSIA: 3, assign for Direct-In Termination-Outside.

STEP 3: **ACSI** - Assign Direct-In Termination-Outside data.

CSI = 6: Night Connection-Outside

CSI = 7: Direct-In Termination-Outside (Day/Night)

When assigning above data, ADC (Speed Calling Abbreviated Digit Codes) must be used.

STEP 4: **ACFR** - Assign the DIT operation in day and night modes.

Day only: TSFI=3

Night only: TSFI=2

Day and night: TSFI=2

TSFI=3

The restriction is released according to each pattern.

STEP 5: **ARSC** - Assign allowable data into RRI = 0, 1 (connection parameter) with regard to the route restriction (RSC) of the DIT connection station.

STEP 6: **ARTD** - Assign Route Data paying attention to the following parameters.

CDN 12:DR = 0/1: Distinctive Ringing is not required/Distinctive Ringing is required CDN 15:LSG = 1 (Ground Start)

STEP 7: **ARRC** - Assign Route to Route Restriction data.

STEP 8: **ASPD** - Assign Telephone Number for the ADC. (See SPEED CALLING-SYSTEM [S-3].)

STEP 9: **ASFC** - SFI 12 = 1.

D-75   Distinctive Ringing - CCIS

General Description

This service feature allows Inter-Office Distinctive Ringing for a call terminated from a different PBX in the CCIS network.

Operating Procedure

1. Station (c) and the Attendant in Node A are engaging in a call.
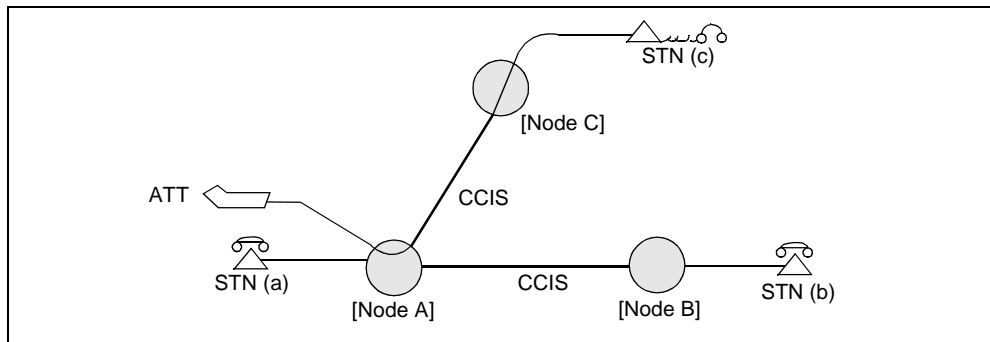
2. The Attendant dials the number for Station (b); receives ringback tone. Station (c) receives Hold Tone, and Station (b) is rung (Distinctive Ringing).
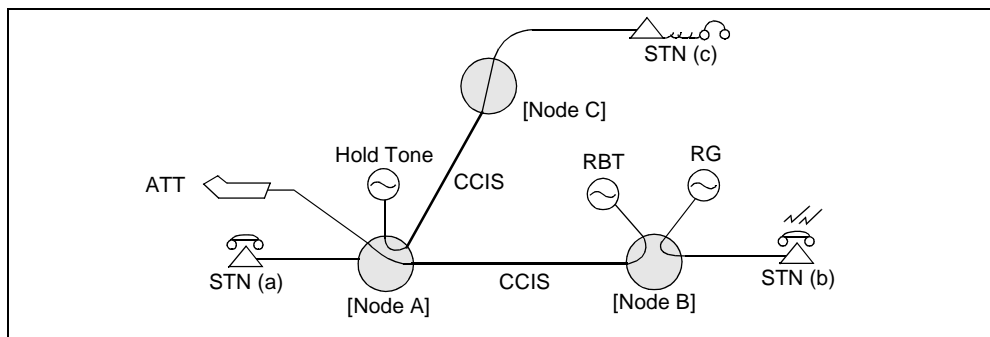
Service Conditions

1. Ring for Incoming Internal Calls on CCIS network:

   2-seconds on
   4-seconds off
   2-seconds ring
   4-seconds off

2. Ring for Incoming External Calls on CCIS network:

   1-second on
   2-second off or 2-second on
   4-second off

3. This feature may be assigned to individual trunk routes via System Data programming.

Programming

STEP 1: **ASYD** - System 1, Index 72, Bit 6.

Distinctive ringing only for DIT and DID calls.

System 3, Index 0: Assign the timer value of the ringer used at the time of local line incoming. (ringer pattern 0).

System 3, Index 1: Assign the timer values of the ringer used at the time of station call. (ringer pattern 1).

System 3, Index 3, Bit 0: 2 burst (0.4 sec-ON, 0.2 sec-OFF, 0.4 sec-ON) ON-Timer for Ringer Pattern 0. 0/1 = Not Required/Required.

System 3, Index 3, Bit 1: 2 burst (0.4 sec-ON, 0.2 sec-OFF, 0.4 sec-ON) ON-Timer for Ringer Pattern 1 0/1 = Not Required/Required.

STEP 2: **ASFC** - Allow Burst Ringing (SFI = 48) to the SFC of the incoming station.

STEP 3: **ARTD** - Assign CDN 12:DR = 1 to the route class of the incoming trunk in the CCIS Route.

D-76D   Do Not Disturb - D^{term} - CCIS

General Description

This feature allows a D^{term} user to temporarily establish a DO NOT DISTURB status, during which time incoming CCIS calls will be denied access to the MY-Line of the D^{term}.

Operating Procedure

To set DO NOT DISTURB:
1.   Press the DO NOT DISTURB (DND) key. The associated LED will light. The LCD displays:

```
            DND  SET
                (Time  Display)
```

To cancel DO NOT DISTURB:
1.   Press the DO NOT DISTURB (DND) key. The associated LED will be extinguished. The LCD displays:

```
            DND  CANCEL
                (Time Display)
```

Service Conditions

1.   This service can only be set or cancelled while the D^{term} is idle.
2.   Line appearances programmed to ring will not do so while DND is set.
3.   While DND is set, outgoing calls can be made from the My-Line. Incoming calls can be answered on all lines except the My-Line.
4.   DND is not displayed on a calling D^{term}'s LCD when the called station is in DND mode (ASFC: SFI 114 = 1), and reorder tone is sent to the calling party. No indication will appear when the called station is a HOTLINE [H-12] in the DO NOT DISTURB mode.
5.   If the DND station is in a Hunt group, that station will be skipped in the hunting pattern.
6.   The following service features are denied to the DND station:

ATTENDANT CAMP-ON WITH TONE INDICATION	[A-45]
ATTENDANT OVERRIDE	[A-7]
BOSS-SECRETARY OVERRIDE-D^{term}	[B-6]
BUSY VERIFICATION - CCIS	[B-9]
CALL WAITING-TERMINATING	[C-12]
CALL WAITING-ORIGINATING	[C-31]
EXECUTIVE RIGHT-OF-WAY - CCIS	[E-8]
VOICE CALL - CCIS	[V-7]

Interactions

1.   DATA INTERFACE-AUTOMATIC ANSWER - CCIS [D-65] may not be activated if the D^{term} station is in the DND mode.

Interactions (cont'd)

2. CALL FORWARDING-BUSY LINE - CCIS [C-45]: This feature can be activated to an idle station that has set DO NOT DISTURB - CCIS.

Programming

STEP 1: **AKYD** - When assigning key data for the D^{term}, assign the following:

    TN: 1

    STN: Station Number

    TP: Type of D^{term} 0/1:

    RING:

           0:   No Ringing

           1:   Ringing All Lines

           2:   Ringing on Prime Line Only

           3:   Flexible Ring Assignment, enables RG parameter

    KYN: Key Number (1-40)

    KYI: Service Index

           0:   Key Not Used

    ⟶ 1:   Feature Key

           2:   Multi-line Key

    KD: Not assigned for Feature Key

    FKY: Feature Key Number

    ⟶ FKY = 50, DO NOT DISTURB.

STEP 2: **ADSL** - Assign DND key; Assign SN=0 (Idle) and FKY=50 (Do Not Disturb).

This command is used for assigning a function to each soft key.

STEP 3: **ASFC** - Select an indication type (REST/DND) on the display of a D^{term} when it terminates to a station that has been set to DO NOT DISTURB.

SFI = 114 Calling Party DND Indication (D^{term}) 0/1: REST/DND.

D-86 Data Hotline - CCIS

General Description

This feature allows data stations to access Data Terminal Equipment (DTE) in a satellite office of a CCIS network, by automatically dialing a SPEED CALLING-SYSTEM [S-3] number.

Operating Procedure

1. Manual CALL Origination via a Data Adapter:
   a.) Press the D$^{\text{term}}$ DATA key
   b.) The DATA lamp will flash and the calling D$^{\text{term}}$ will display the following:

   ```
   DATA                          XXXX
           (Time Display)
   ```

2. Manual Call Origination via Keyboard Dialing:
   a.) Enter DM CALL at the terminal
   b.) The display of the terminal will indicate the following:

   ```
   CALLING
           (Time Display)
   ```

3. Activation of Data Terminal Ready (DTR) via a Data Adapter:
   a.) Activate Equipment Ready (ER) or DTR from the data terminal equipment.
   b.) The D$^{\text{term}}$ will display the following:

   ```
   CALLING
           (Time Display)
   ```

4. Activation of DTR via Keyboard Dialing:
   a.) Activate ER or DTR from the Data Terminal Equipment.

Service Conditions

The following hardware supports this feature:

D$^{\text{term}}$:	PA-4DLCC issue 14A/PA-8DLCH
	PA-4DLCE issue 1A/PA 16ELCD (when set in DLCH mode)
	PA-4DLCF
Data Module:	PA-4DTLA issue 7A
Modem Trunk:	PA-4MDTA issue 2A PA-M28

Interactions

1. SPEED CALLING-SYSTEM [S-3] must first be provided.
2. FORCED ACCOUNT CODES [F-7] and AUTHORIZATION CODES [A-20] cannot be programmed for use via SPEED CALLING-SYSTEM.
3. Pauses are programmable from the MAT, using the P of the keyboard. Pauses consume one digit of the 24 digits available. A pause lasts for 2.8 seconds.

Interactions (cont'd)

4. TOLL DIVERSION/TOLL DENIAL [T-6] and TOLL RESTRICTION-3/6 DIGIT [T-7] will not interact with this feature if a station is allowed access to an ADC via Service Feature Class.

5. This feature designates the use of a SPEED CALLING-SYSTEM [S-3] number when the DATA key is activated.

6. UNIVERSAL SENDER [U-3] must also be provided.

Programming

STEP 1:   **ASDT** - Assign the Data Terminal Number.

STEP 2:   **AKYD** - Assign the D^{term} feature keys.

        FKY: Feature Key Number

             29:    Data (DATA)

             30:    Display/Auto (DSPY/AUTO)

             31:    Data Transfer (DTX)

STEP 3:   **ATNR** - Assign Connection Restriction for tenant.

        RES:

             0:     Restricted

             1:     Allowed

STEP 4:   **AEFR** - Assign Connection Restriction for RSC.

        RSC1: Calling Restriction Class (0-15)

        RSC2: Calling Restriction Class (0-15)

        RES: Restriction Data

             0:     Restricted

             1:     Allowed

STEP 5:   **ADA1** - Assign DTE Attribute Data 1.

        CDN: Counter Display Number = 1

        MEDIA:1-15

        2:      Data

        CDN: Counter Display Number = 2

        MEDIA:0-15

             0:     2400 Protocol

             1:     X. 20

             2:     X. 21

             3:     V. 24 200 Series

             4:     X. 20 bis

             5:     X. 21 bis

             6-15: Not used

STEP 6:   **ASPD** - Assign the Speed Calling:

        ADC: Abbreviated Digit Code (2 or 3 digits)

        00-99:   100 Speed-Calling Numbers

        000-999:   1000 Speed-Calling Numbers

        CD: Telephone number (maximum 24 digits) corresponding to the ADC.

STEP 7:   **AHLS** - Assign speed numbering for TN No. of Hotline Terminal, station number.

        HOT TN: Hotline Tenant Number

Programming (cont'd)

	STN:	Hotline Station Number
	TYPE:	Connection Type
	2:	ADC
	ADC:	Speed Calling Code (2 or 3 digits)

STEP 8: **ADA2** - Assign Terminal Attribute Data 2, HL = 1 Hotline terminal connection.

	CDN:	Counter Display Number
	13:	HL (Hotline Terminal)
	HL:	0/1
	1:	Hotline

D-91 Dialed Number Display - Recall - CCIS

General Description

When the Attendant Console makes an outgoing call to a CCIS line by means of a tandem connection, and the Attendant has left the call by pressing the RELEASE button before the called Party answers, the Attendant Console will be recalled if the Called Party does not answer. This service feature changes the display, when the Recall is answered, from Route and Trunk to Dialed Number.

Operating Procedure

1. Subscriber (a) and the Attendant in Node A are engaging in a call through a DID line.
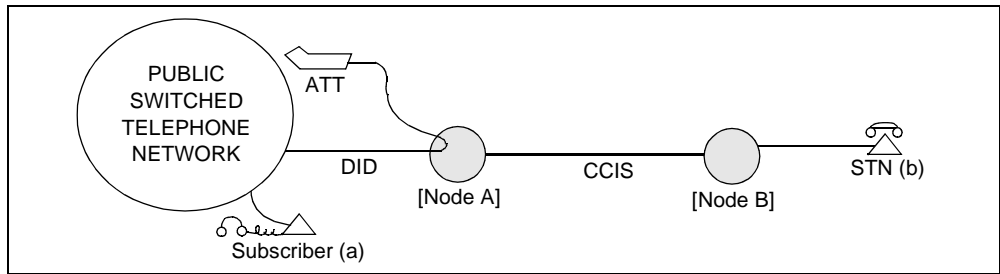
2. The Attendant dials the number for Station (b); receives ringback tone. Subscriber (a) receives Hold Tone, and Station (b) is rung (Distinctive Ringing).
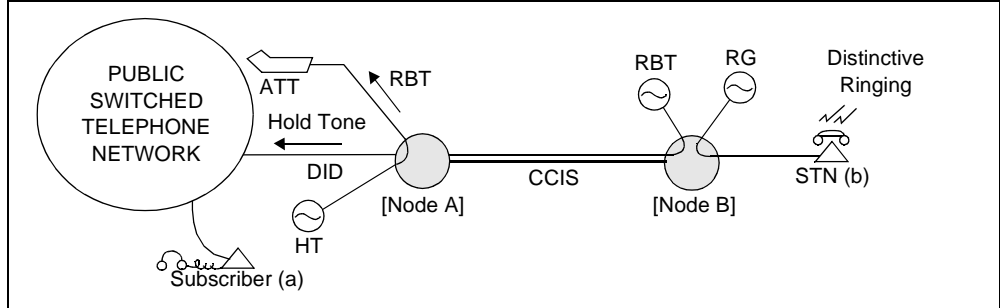
3. The Attendant presses the RELEASE key; Subscriber (a) receives ringback tone.
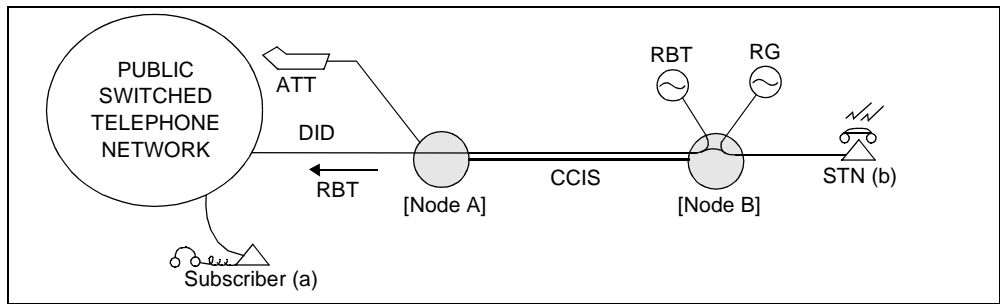
Operating Procedure (cont'd)

4. If, after a predetermined time has elapsed, Subscriber (a) is not connected with Station (b), the call is recalled to the Attendant Console in Node A and it answers. Press the DEST key; the dialed number of Station (b) is indicated. Station (b) continues to ring until the Attendant presses CANCEL Key.
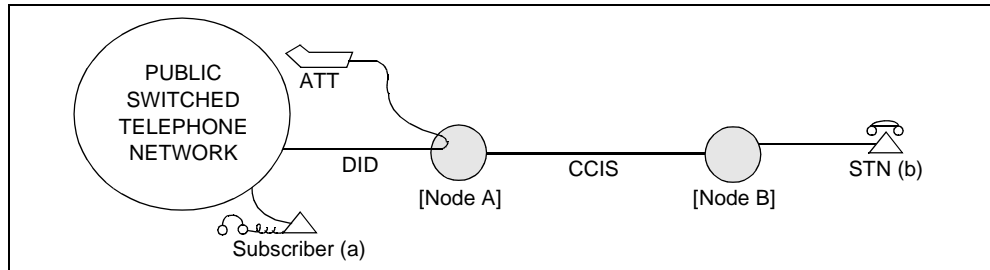
Service Conditions

If the called party answers after the Attendant has answered the recall, the display changes from dialed number to the answering telephone number. A three-way conference is made.

Programming

No programming is needed.

D-93D   Dual Hold D$^{\text{term}}$ - CCIS

General Description

This feature allows two connected D$^{\text{term}}$s to simultaneously be placed on non-exclusive hold over a CCIS link. This enables the held parties to answer or originate a call from a sub-line appearance or the idle Prime Line.

Operating Procedure

To place a call in DUAL HOLD - CCIS:
1.   When two D$^{\text{term}}$s are connected via CCIS, either D$^{\text{term}}$ user can press the HOLD button and place the other D$^{\text{term}}$ on NON-EXCLUSIVE HOLD-D$^{\text{term}}$ [N-7D].
2.   If the held D$^{\text{term}}$ user wishes to originate or answer another call from a multi-line appearance, the held D$^{\text{term}}$ presses the HOLD button and places the CCIS connection in a DUAL HOLD condition.

To answer a call in DUAL HOLD - CCIS:
1.   The D$^{\text{term}}$ user goes off hook and presses the held line. If MUSIC ON HOLD [M-7] is heard (if provided), the other D$^{\text{term}}$ has placed the connection on hold. MUSIC ON HOLD [M-7] will be heard until the connected D$^{\text{term}}$ presses the held line and enters the call.

Service Conditions

1.   While the call is in DUAL HOLD, AUTOMATIC RECALL-D$^{\text{term}}$ [A-8D] will be initiated after the time-out.
2.   DUAL HOLD - CCIS cannot be activated for calls established by:

BUSY VERIFICATION - CCIS	[B-9]
ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS	[A-45]
EXECUTIVE RIGHT-OF-WAY - CCIS	[E-8]

Programming

ASYD - System Data 1, Index 144. Recall timer for NON-EXCLUSIVE HOLD. Assign data 00H for 30 seconds. ROM default is 3FH.

System Data 2, Index 12, Bit 0. Is Automatic Recall Ringing provided on a per-tenant basis? 0/1: Yes/No.

E-8 Executive Right-of-Way - CCIS

General Description

This service feature allows Inter-Office Executive Right-of-Way when the bridging-in station and the bridged station respectively, belong to a different PBX in the CCIS network.

Operating Procedure

1. While Stations A and B are engaging in a call, Station C goes off-hook and receives dial tone.
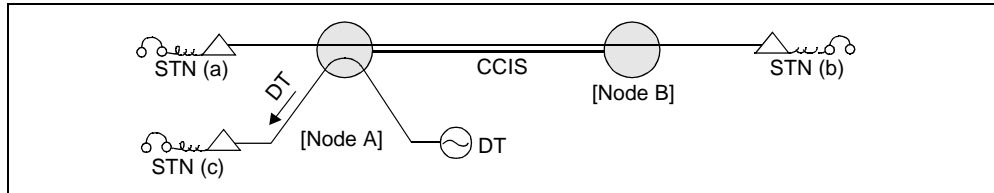
2. Station C dials the number for Station B and receives busy tone.
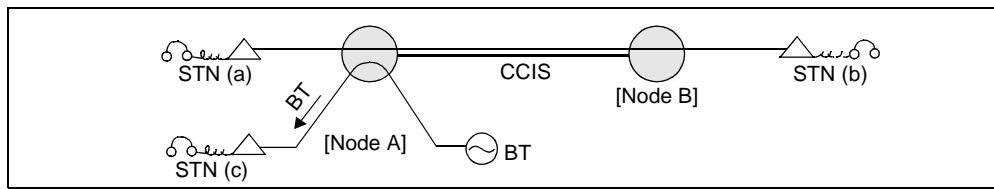
3. Station C switch hook flashes and receives special dial tone.
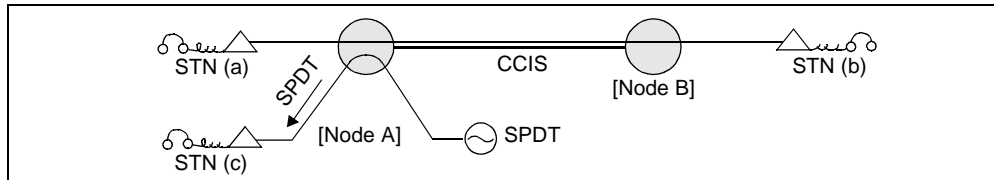
4. Station C dials the Executive Right-of-Way access Code; Stations A, B and C receive Warning Tone. Station C is added to the connection between Stations A and B, making it a 3-Way connection.
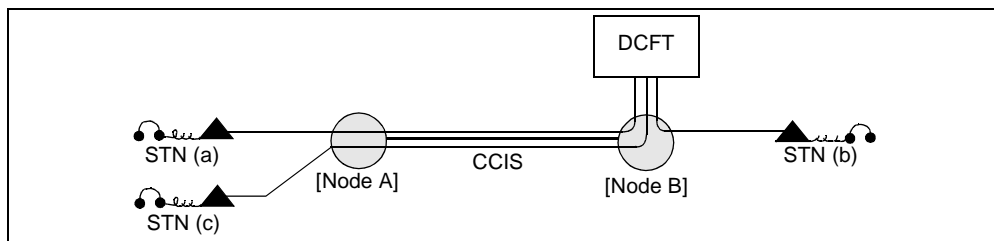
Operating Procedure (cont'd)

5. Station A hangs up; Stations C and B remain connected with each other until either or both go on-hook.
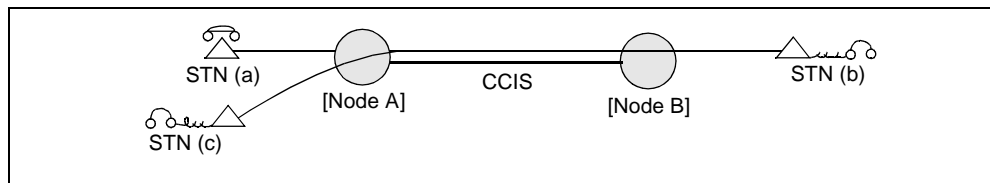
Service Conditions

1. Two burst tones are transmitted upon activation to alert connected parties that an EXECUTIVE override connection is being made.
2. EXECUTIVE Right-of-Way may be denied if the busy station is:
    a.) Dialing or in LINE LOCKOUT [L-3]
    b.) Listening to a tone
    c.) Being rung
    d.) Protected from override via CLASS OF SERVICE-INDIVIDUAL [C-15]
    e.) Protected by DATA LINE SECURITY [D-12]
    f.) Being connected to an Attendant loop
    g.) Activating a conflicting feature such as:

Attendant CAMP-ON WITH TONE INDICATION - CCIS	[A-45]
BUSY VERIFICATION - CCIS	[B-9]
CALL FORWARDING-ALL CALLS	[C-5]
CALL HOLD	[C-6]
CALL TRANSFER - CCIS	[C-50, 54]
CONSULTATION HOLD-ALL CALLS - CCIS	[C-58]
CALL PARK	[C-29]
CALL WAITING-TERMINAL	[C-12]
THREE-WAY CALLING	[T-2]

    In any of the above instances, the calling station will receive reorder tone.
3. If after the 3-Way bridge is established, one party disconnects, the remaining two parties will still be connected.
4. The maximum number of simultaneous EXECUTIVE overrides allowable is dependent on the number of Digital Conference Trunks included in the TSW/MUX cards at the called office on the CCIS network.
5. This feature can be denied on DICTATION [D-3] and PAGING [P-1] connections through programming in System Data.

Programming

STEP 1: **ASYD** - System 2, Index 0, Bit 1. Assigns Executive Right-of-Way (1).

STEP 2: **ANPD** - Assigns minimum necessary number of digits for the first number of the access code for Executive Right-of-Way.

STEP 3: **ASPA** - Assigns the access code for Executive Right-of-Way.

    CI = B (Busy)

    SRV = SSC (Service Code)

    SID = 4

Programming (cont'd)

STEP 4: **ASFC** - Assigns Executive Right-of-Way Calling (SFI = 3) to the SFC of the station setting Executive Right-of-Way. Also assigns Executive Right-of-Way-Called (SFI = 4) and Attendant Camp-On (SFI = 11) to the SFC of the station to which Executive Right-of-Way is set. At the remote node, assign SFI 3, 4 and 11 to SFC 0.

STEP 5: **ATRK** - Assigns the trunk for 3-Way Calling (assigned at RT = 909).

STEP 6: **MBTK** - Make the above trunk idle.

STEP 7: **AKYD** - Assigns Override key on a D$^{\text{term}}$, if necessary Type:Function:EXECUTIVE RIGHT-OF-WAY [3].

STEP 8: **ADSL** - Assign Override key; Assign SN=3 (Called Station Busy) and FKY=3 (Executive Right-of-Way).

This command is used for assigning a function to each soft key.

E-9 Elapsed Time Display - CCIS

General Description

This feature provides an LCD display of the time elapsed while a D^{term} is connected to any trunk through the CCIS network.

Operating Procedure

No manual operation is required.

Service Conditions

1. The elapsed time is displayed in the eight left-side positions of the LCD display.
2. The elapsed time can reach a maximum of 9 hours, 59 minutes and 59 seconds, after which the clock returns to zero.
3. A continuous time display will occur during CONSULTATION HOLD - ALL CALLS - CCIS [C-58], THREE-WAY CALLING [T-2], EXCLUSIVE HOLD - D^{term} [E-4D] and NON-EXCLUSIVE HOLD - D^{term} [N-7D].
4. When a call is transferred, the elapsed time of the party receiving the transfer begins at zero.
5. When the D^{term} returns to the original call from CALL TRANSFER - ALL CALLS - CCIS [C-50] or CALL HOLD [C-6] [C-6D], the elapsed time begins at zero.
6. The elapsed time is not displayed when the station is in a specific condition, such as:
   a.) three-way conference
   b.) connecting to trunk with a held trunk.

Programming

No programming is required.

E-20   E911 - ANI Unified Number of Digits - CCIS

General Description

This feature allows a station or Attendant Console, called via CCIS, to perform E911-ANI service. This feature is functionally identical to AUTOMATIC NUMBER IDENTIFICATION (ANI) [A-87].

Operating Procedure

The operating procedure is the same as that of a normal outgoing connection.

Service Conditions

1. This feature is available in the U.S.A. and Canada.
2. The ANI function for E911 outgoing connections is applied to:
   - a.) Least-Cost Route (LCR) call from a station by MF signalling.
   - b.) LCR call from an Attendant by MF signalling.
   - c.) LCR call by MF signalling from a station or Attendant Console called via CCIS.
3. ANI sending number by E911-ANI - CCIS is NXX-XXXX, which is the same as that by the previous E911-ANI service.
4. Method of obtaining ANI sending number (example):

   Caller's station number: 12345 (closed numbering)

   ANI assigned data:

   RT: XX

   AT: 0   (0 = STA/ATT)

                (1 = not assigned special ATT number)

   CC: 1   (0 = Main Central)

                (1 = Satellite Central)

   COC: 826 (Remote Office Code)

   Skip: 4 (Number of digits to be skipped from the top of the STN)

   Add: 3 (Number of digits to be added to ANI information)

   DC: 789 (ANI information)

   - a.) Number of skip digits deleted from STN:
     <u>8 2 6 1</u> 2 3 4 5
   - b.) The number created by combining the ANI information and the above number becomes the ANI sending number:
     7 8 9 2 3 4 5
   - c.) Sending ANI information:
     KP-0-789-2345-ST
5. Sending digit patterns in E911-ANI - CCIS:
   - a.) Outgoing call from station/Attendant Console of the Main office.
     - • If OG call is from a station and ANI data is assigned:
       KP-<u>0</u>-<u>N**-****-ST</u>
                               ANI sending number
                               Information digit
     - • If OG call is from a station and ANI data is unassigned:
       KP-<u>2</u>-ST
                               Information digit

Service Conditions (cont'd)

- • If OG call is from an ATTCON and Individual ATT Access Code is assigned, and also ANI data is assigned:

KP-<u>0</u>-<u>N**-****</u>-<u>ST</u>

           └─────ANI sending number
       └─────────Information digit

- • If OG call is from an ATTCON and Individual ATT Access Code is unassigned, and ANI data is assigned:

KP-<u>0</u>-<u>N**-****</u>-<u>ST</u>

           └─────ANI sending number
       └─────────Information digit

- • If OG call is from an ATTCON and ANI data is unassigned:

KP-<u>1</u>- ST

       └─────────────Information digit

- b.) Outgoing call from station/Attendant Console of Remote office, and call termination via CCIS of Main office.

  - • If OG call is from a station and ANI data is assigned:

KP-<u>0</u>-<u>N**-****</u>-<u>ST</u>

           └─────ANI sending number
       └─────────Information digit

  - • If OG call is from a station and ANI data is unassigned:

KP-<u>2</u>- ST

       └─────────────Information digit

  - • If OG call is from an Attendant Console and ANI data is assigned:

KP-<u>0</u>-<u>N**-****</u>-<u>ST</u>

           └─────ANI sending number
       └─────────Information digit

  - • If OG call is from an Attendant Console and ANI data is unassigned:

KP-<u>1</u>- ST

       └─────────────Information digit

- c.) Outgoing call from station/Attendant Console of Remote office, and call termination to a TIE Line of Main office.

KP-<u>2</u>-ST

       └─────────────Information digit

6. An independent route is required for E911 interface.

7. After caller's number is sent out to the remote office by E911-ANI, it takes some time until a speech path is established.

8. E911-ANI - CCIS service data are assigned only at Main office; no specific data are assigned at the remote office.

9. Both AUTOMATIC NUMBER IDENTIFICATION (ANI) [A-78] service and E911-ANI UNIFIED NUMBER OF DIGITS [E-18] service must have been assigned.

10. The Central Office Code (COC) consists of 1-5 digits. If office number and station number are used, the maximum total number of digits is still 5. The Code is set in the ARNP command as RT0.

     Example 1:
     Office number: 82
     Station number: 2xxx, 3xxx

Service Conditions (cont'd)

The COC digit is 82; then assign ANI information.
Example 2:
Office number: 826
Station number: 34xxx, 4xxx
The COC digit is 826; then assign ANI information.

11.   After digits have been sent out, DDD seizure tone is not sent.

12.   Other interactions are the same as those of outgoing calls by MF signalling.

13.   An 8RST-K circuit card is used for this service.

14.   When a D^{term} uses this feature, the calling number transmitted is that of the Prime Line.

Interactions

If "911" is to be exclusively used as an emergency number, then dial "9" access codes cannot be used solely for LCR access. If "9-911" is used exclusively for an emergency call, then no numbering conflict will exist.

Programming

STEP 1:   **ARTD** - Assign Route:

RT: 1

1-OSGS	:7	2-ONSG	:4	3-ISGN	:7	4-INSG	:4	5-TF	:3
6-TCL	:5	7-L/T	:1	8-RLP	:2	10-SMDR	:1	13-AC	:1
15-LSG	:5	19-ANI	:1	30-PAD	:4	43-BT	:1	82-RSAX	:13
84-CSEG	:15	70-TCMN	:1							

STEP 2:   **ATRK** - Assign trunk LENs.

RT 905 TK1 LEN# (dependent on register location)

RT 905 TK2 LEN# (dependent on register location)

RT 904 TK1 LEN# (dependent on register location)

RT 904 TK2 LEN# (dependent on register location)

STEP 3:   **AAND** - Assign ANI data.

RT: 0

AT: 0 (0 = Station;1 = Individual-Attendant)

KT: 0 (0/1 = OFF/ON, expansion of station number lengths)

CC: 1 (0 = Main Central; 1 = Satellite Central)

COC: (Central Office Code, CCIS office code or first digit of CCIS remote station number. ARNP RT0)

STNL: 0 (Number of digits in the caller's number, assign 0)

SKIP: (Number of skip digits. Strips office code from being sent out in front of the station number.)

ADD: 3 (Number of digits to be added to the ANI information.)

DC: 753 (ANI sending number.)

Note: *The Office Code of the Central Office + the first n digits of the Station Number to parameter COC should not exceed five. Combinations of the COC and the first n digits of Station Number must be made in conformity with the numbering plan of the remote office.*

Basic LCR programming and route restrictions are required. Refer to LEAST-COST ROUTING (LCR)-3/6 DIGIT [L-5]. Programming for Enhanced 911 CCIS is only necessary at the main node.

F-12   Flexible Numbering of Stations - CCIS

General Description

This feature allows voice and data station numbers to be assigned to any instrument in the CCIS network, based solely on numbering plan limitations.

Operating Procedure

Refer to the NEAX2400 IMX Office Data Specification.

Service Conditions

1. Careful consideration should be given to the network numbering plan to avoid needless loss of access codes or duplication of telephone numbers.
2. There is no limit to the number of groups that can be assigned to the network numbering plan.
3. TENANT SERVICE [T-12] is not provided, i.e. numbers cannot be duplicated in different tenants.
4. BUSY LAMP FIELD-FLEXIBLE [B-2] service cannot be provided.
5. Refer to UNIFORM NUMBERING PLAN - CCIS [U-5] for numbering plan considerations.

Interactions

Caution should be exercised when programming this feature. Large quantities of potential telephone numbers are consumed. As programmed in the example, the system will be equipped with just one two-digit station and one three-digit station.

Programming

STEP 1:   **ASYD** - System Data 1, Index 16. Enable one to five-digit station numbering for the system. Assign 1FH.
   System Data 1, Index 92, Bit 3. Must be assigned as data "1".

STEP 2:   **ANPD** - Reserve an access code for station numbering. For the NND parameter, assign the NND equal to the smallest digit planned for station numbering that will use the Busy Lamp Field (BLF). Only the stations with the NND assigned will appear on the BLF.

Note: *Only three and four-digit station numbers will appear.*

STEP 3:   **ASPA** - Assign the station numbering in such a way that the system will be able to differentiate the station numbering using the access codes programmed. For the example shown, the following data is programmed:

Station 31:	Station 321:	Station 3221:
TN:1	TN:1	TN:1
ACC:31	ACC:321	ACC:322
CI: N (Normal), H (Hooking)	CI:N (Normal), H (Hooking)	CI:N (Normal), H (Hooking)
SRV = STN	SRV = STN	SRV = STN
NND:2	NND:3	NND:4

   The following access codes should also be assigned: 323, 324, 325, 326, 327, 328, 329, 320. CI: Normal (N), Hooking (H); SRV = STN (Station); and NND: 4 will be assigned with each of the above.

STEP 4:   **AMND** - Assign the digits to go over CCIS.

H-10D Hands-free Answerback - D^{term} - CCIS

General Description

This feature allows a D^{term} user to respond to a VOICE CALL - CCIS [V-7] without lifting the handset.

Operating Procedure

To answer:
1. Lift the handset and press the line key to answer the call.
2. Press feature key and "1"; the MIC LED lights.
3. Press feature key and "5" to select hands-free operation.
4. Replace the handset; respond to the call hands-free.

To answer a VOICE CALL - CCIS [V-7]:
1. Press feature key and "1"; the MIC LED lights.
2. Press feature key and "5" to select hands-free operation.
3. Respond to the call hands-free.

Service Conditions

1. The MIC may be left ON at all times.
2. Hands-free operation may be selected at all times.

Programming

No programming is required. See VOICE CALL - D^{term} [V-2D].

H-11 House Phone - CCIS

General Description

This feature allows selected stations to call an Attendant Console through the CCIS network, simply by going off-hook.

Operating Procedure

To call the Attendant:
1. The HOUSE PHONE - CCIS user lifts the handset.
2. The Attendant is automatically called.

Service Conditions

1. Attendant Console indications will appear as follows:

    a.) ATND lamp flashes.
    b.) Console buzzer sounds.
2. HOUSE PHONEs may or may not be equipped with dials.
3. HOUSE PHONE - CCIS assignments are programmed into System Data via the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].
4. There is no limit to the number of HOUSE PHONES - CCIS permitted in the network.
5. SPEED CALLING-SYSTEM [S-3] is used for HOUSE PHONE - CCIS calling if the Attendant is in another office.

Interactions

1. The AHLS command is not needed if the House Phone (Hotline) is in the same node as the Attendant Console. When a station is programmed as TEC: 14, HOTLINE, it will automatically be connected to the Attendant Console.
2. If the House Phone is to be used for outgoing calls via the Attendant Console (ARSC Command RRI 2), assign a Route Restriction Class that will allow these connections. The same consideration should be made for incoming calls via the Attendant Console (RRI 0).

Programming

STEP 1: **ASDT** - Assign the station as a TEC = 14 for Hotline.

If the Attendant Console is in another node:

STEP 2: **ASPD** - Assign the tenant number,

Abbreviated Digit Code (ADC) and Digit Code (DC).

STEP 3: **AHLS** - Assign the station number of the House Phone using the following parameters:

HOT TN: Hotline Tenant
STN: Hotline Station number
TYP: 2
ADC: Abbreviated Digit Code

H-12 Hotline - CCIS

General Description

This feature allows two stations at different nodes in the CCIS network to be associated with one another on an automatic ringdown basis.

Operating Procedure

1. Station A lifts the handset.
2. Station B is rung.
3. Station B lifts the handset; the connection is established.

Service Conditions

1. If both phones in a HOTLINE - CCIS pair are equipped with dials, either one may transfer a HOTLINE - CCIS call to another station in the CCIS network, using the CALL TRANSFER-ALL CALLS - CCIS [C-50] feature.
2. There is no limit to the number of originating HOTLINE - CCIS stations.
3. HOTLINE - CCIS assignments are programmed into System Data via the Maintenance Administration Terminal (MAT).
4. HOTLINE - CCIS uses SPEED CALLING-SYSTEM [S-3] memory. Therefore, a total of 1000 HOTLINE - CCIS destinations, HOTLINE-OUTSIDE [H-9], and SPEED CALLING-SYSTEM codes are available.
5. OUTGOING TRUNK QUEUING - CCIS [O-12] is not provided for a HOTLINE - CCIS call.
6. A HOTLINE - CCIS station can be assigned as a line/feature key on a D^{term}. See TRUNK LINE APPEARANCE [T-23].
7. The MY-Line of a D^{term} cannot be assigned as a HOTLINE - CCIS.

Interactions

1. The connecting station does not have to be a HOTLINE station. If the connecting station is busy, the HOTLINE station will hear reorder tone, or CALL WAITING-ORIGINATING [C-31] will be automatically set.
2. CALL BACK [C-1]: If the connecting station of a HOTLINE connection is busy, CALL BACK is allowed.
3. CONSULTATION HOLD-ALL CALLS [C-58]: The HOTLINE station may put the destination station on CONSULTATION HOLD-ALL CALLS. In this state, the HOTLINE station may make an outgoing call and is therefore affected by CLASS OF SERVICE-INDIVIDUAL [C-15].
4. CALL WAITING-ORIGINATING [C-31]: A HOTLINE is allowed to camp-on to a busy destination station. Assign SFI 5 (Call Waiting-Calling Side), SFI 6 (Call Waiting-Called Side) to SFC 0 and CDN 46:CW at the remote node.
5. If the connecting station is also a HOTLINE, then the reverse connection must also be programmed.

Programming

STEP 1:   **ASDT** - Assign the station as a TEC = 14 for Hotline.

STEP 2:   **AHLS** - Assign the station number programmed above for the following parameters:

        HOT TN:HOTLINE Tenant

        STN: HOTLINE Station

        TYP: 2

        ADC: Abbreviated Digit Code

STEP 3:   **ASPD** - Assign tenant, Abbreviated Digit Code (ADC) and Digit Code (DC).

I-16 Incoming Call Identification - CCIS

General Description

This feature allows an Attendant to visually identify the type of service and/or trunk route which is arriving or waiting to be answered at the Attendant Console through CCIS.

Operating Procedure

No manual operation is required.

Service Conditions

1. A flashing lamp indicates a call waiting to be answered.
2. A steady lamp indicates an answered call.
3. A maximum of 12 lamp and key groups can be associated with INCOMING CALL IDENTIFICATION - CCIS.
4. Lamps and keys are assigned as follows:

LDN	Listed Directory Number
WATS	Wide Area Telephone Service
FX	Foreign Exchange
ATND	Attendant Call
RECALL	Transfer to Attendant
ICPT	Intercept
NANS	Station No Answer
BUSY	Call Forwarding Busy
TIE	TIE Line

5. More than one INCOMING CALL IDENTIFICATION lamp can be lit at the same time on the Attendant Console. The Attendant can select any incoming call by pressing the associated key.
6. Calls can be answered via the ANSWER key for first-in, first-out priority.
7. The Attendant Console is limited to 12 unique INCOMING CALL IDENTIFICATION indications. However, more than one incoming trunk route can be programmed for the same INCOMING CALL IDENTIFICATION.

Interactions

1. To fulfill the requirements of the feature description, Step 1 of Programming is not required. However, the CALL WAITING LAMP [C-13] should be programmed in relationship to the INCOMING CALL IDENTIFICATION.
2. System Data 2, Index 8, Bits 6 and 7 and Index 9, Bit 0-3 can be flagged to represent an incoming call, but the meaning of the incoming call can be reassigned via the AAKP command.
3. The first six keys (LDN to CCSA) are fixed and cannot be changed. The AAKP command is used to program the remaining six optional keys.

Programming

STEP 1: **ASYD** - System Data 2, Index 8 & 9. Flag the type of incoming calls the Attendant Console should expect.

Programming (cont'd)

Index 8

Bit 0-Listed Directory Number

Bit 1-Incoming Station Call

Bit 2-Attendant Recall

Bit 3-FX

Bit 4-WATS

Bit 5-CCSA (DID)

Bit 6-TIE Line

Bit 7-Call Forwarding Busy Line

Index 9

Bit 0-Call Forwarding Don't Answer

Bit 1-Call Forwarding Intercept

Bit 2-TF ASAT

Bit 3-Supervisory Call

Note: *System Data 2, Index 8, Bits 6 & 7, and System Data 2, Index 9, Bit 0-3 can be assigned different meaning via the AAKP command.*

STEP 2: **ARTD** - Flag the type of route in CDN 6:TCL, Trunk Class.

Bit 0-Not used

Bit 1-DDD Line (LDN)

Bit 2-FX Line (FX)

Bit 3-WATS Line (WATS)

Bit 4-TIE Line (TIE)

Bit 5-CCSA Line (CCSA)

Bit 6-Toll Line

Bit 7-CAS Line

Bit 8-Paging

Bit 9-Not used

Bit 10-Not used

Bit 11-general page

Bit 12-Radio Page

STEP 3: **AAKP** - This command may be used to change the meaning of the top six Call Identification keys of the Attendant Console. (See System Data 2, Indexes 8 & 9). The following functions may be assigned to Key Number (KYN) 1-6.

Function:

1-CAS

2-Off-Hook Alarm

3-Priority Call 1

4-Priority Call 2

5-Priority Call 3

I-17 Individual Attendant Access - CCIS

General Description

This feature permits a user to call a particular Attendant Console in the CCIS network, via an individual Attendant Identification Number.

Operating Procedure

1. The user dials an individual Attendant Identification Number.
2. The directed Attendant receives an INCOMING CALL IDENTIFICATION [I-16] indication and can answer using the normal operating procedure.

Service Conditions

The Attendant Identification Number must be published for each attendant.

Interactions

1. The Attendant Consoles must first be programmed.
2. The ASAT number should be the same number of digits as any other telephone number. ASAT assigns a telephone number to each Attendant Console.
3. An attendant is allowed to call the ASAT number of another Attendant Console for the purpose of conversation.

Programming

STEP 1: **ASAT** - Assign a station number to each attendant. The Attendant Number is the trunk number assigned in the ATRK command, Route 901.

STEP 2: **ATNR** - Allow stations in a tenant either access or denial to the tenant in which the Attendant Console is located.

I-18 Inter-Position Transfer - CCIS

General Description

This feature allows calls to be transferred from one Attendant Console to another through the CCIS network.

Operating Procedure

To transfer from Console A to Console B:
1. Attendant A presses the START key.
2. Attendant A dials the Attendant Console B Identification Number, or "0" for all Attendant Consoles.
3. The call is indicated at Attendant Console B or all Attendant Consoles.
4. Attendant B presses the ANSWER key.
5. Attendant A presses the RELEASE key to transfer; or consults first and then releases.

Service Conditions

1. An Identification Number is assigned to each Attendant Console for INTER-POSITION TRANSFER - CCIS.
2. An Attendant Console can receive one INTER-POSITION TRANSFER call at a time. An INCOMING CALL IDENTIFICATION - CCIS [I-16] key is designated for receipt of these calls.
3. An Attendant cannot transfer a two-party connection to another Attendant.
4. An Attendant can extend an INTER-POSITION TRANSFER - CCIS call to any other destination.
5. When NIGHT CONNECTION [N-15, N-16] is active in one system, an INTER-POSITION TRANSFER from the Attendant of another system can be answered by the Night station.

Interactions

1. The Attendant Console must first be programmed.
2. An Attendant is allowed to call the ASAT number of another Attendant Console for the purpose of conversation.
3. The ASAT number may not be programmed in the place of a telephone number in the ASID and ASGD commands. See OFF-HOOK ALARM [O-6], ATTENDANT NIGHT TRANSFER [A-19], and PRIORITY CALL [P-9].

Programming

STEP 1: **ASYD** - System Data 2, Index 6, Bit 5. Enable INTER-POSITION TRANSFER? 0/1: No/yes. Assign data "1". (Assigned on a per-tenant basis.)

System Data 2, Index 9, Bit 3. Is INTER-POSITION TRANSFER considered an incoming call to the Attendant Console, which is counted as a Call Waiting? 0/1: No/Yes. See CALL WAITING LAMP [C-13]. (Assigned on a per-tenant basis.)

STEP 2: **ASAT** - Assign a specific Attendant number to each Attendant Console.

STEP 3: **ATNR** - Allow station-to-station connection on an Intra and Inter-tenant basis.

L-25 Look Ahead Routing - CCIS

General Description

This feature allows a station to dial a Public Switched Telephone Network (PSTN) call and has the capability of looking ahead to seven directly-connected nodes in the CCIS network for an idle trunk.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the access code; receive second dial tone.
3. Dial the PSTN number.
4. The system completes the call by checking all available routes in the network specified by system programming.

Service Conditions

1. The PBX can look ahead to a maximum of seven <u>directly-connected</u> CCIS nodes.
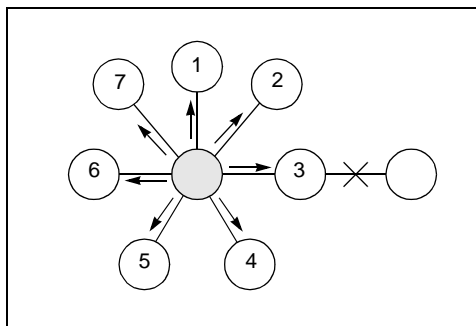
2. A maximum of eight routes at each node, directly connected to the calling node, can be checked by the calling office.
3. This feature is used in conjunction with LEAST-COST ROUTING-3/6 DIGIT [L-5].
4. Stations may be restricted from using this feature by CLASS OF SERVICE INDIVIDUAL [C-15].
5. The maximum number of adjacent CCIS links for each system is 32.

Interactions

LEAST-COST ROUTING [L-5] is used in conjunction with outgoing C.O. calling. The seven-system limitation of LOOK-AHEAD ROUTING - CCIS is based on the eight route advances available in the AOPR command. This results in seven systems for seven route advances. The eighth route is reserved for DDD off-net access to ensure the completion of the call.

Programming

STEP 1: **ASYD** - System Data 1, Index 186, Bit 0. Is Link Reconnection in service? 0/1: No/Yes.

STEP 2: **ASFC** - Allow SFI 1 for stations using LOOK-AHEAD ROUTING - CCIS. Allow CDN 9:TQ for the overflow routes and also for the LCR flag route. (Do not allow for CCIS voice or data route.)

If a station in Office A calls a station in Office B, and that station is forwarded to a station in Office C, the call will go directly to Office, bypassing Office B (in a fully associated network).

Programming (cont'd)

If a station in Office A calls a station in Office B, and that station is forwarded to a station in Office A, the link will become idle between Office A and B after the station in A answers.

If a station in Office A calls a station in Office B and then transfers the call to Station C (which is also in Office A), Office B disconnects, and the link which goes to Office A drops. The call becomes an in-house station-to-station call.

L-29   LDN Night Connection - CCIS

General Description

When an LDN incoming call arrives from a CCIS line or other outside line while the System is in Night Mode, this service feature transfers the call to a transfer destination outside line, including CCIS lines, assigned for that LDN.

Operating Procedure

1. Attendants 1 & 2 in Node A set into Night mode using the NITE key; the Night lamp illuminates indicating that Night mode has been set for handling incoming calls.
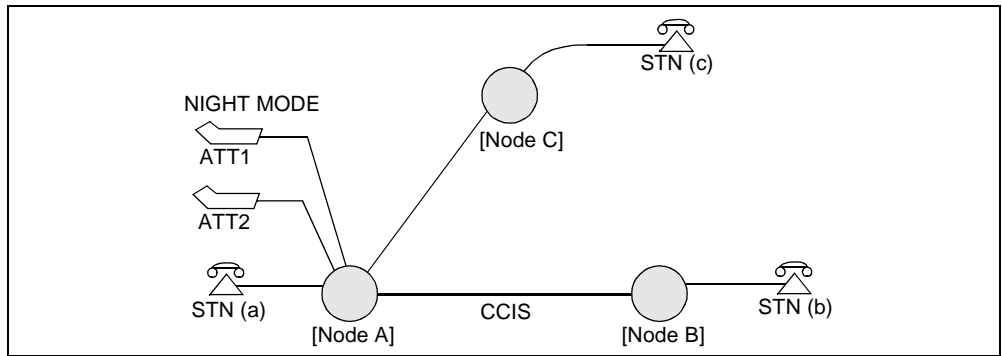
2. Station (C) dials the LDN number of Attendant Console #1. Station (C) is automatically connected to night connection Station (B), preset for Attendant Console #1; Station (C) receives ringback tone, and Station (B) is rung.
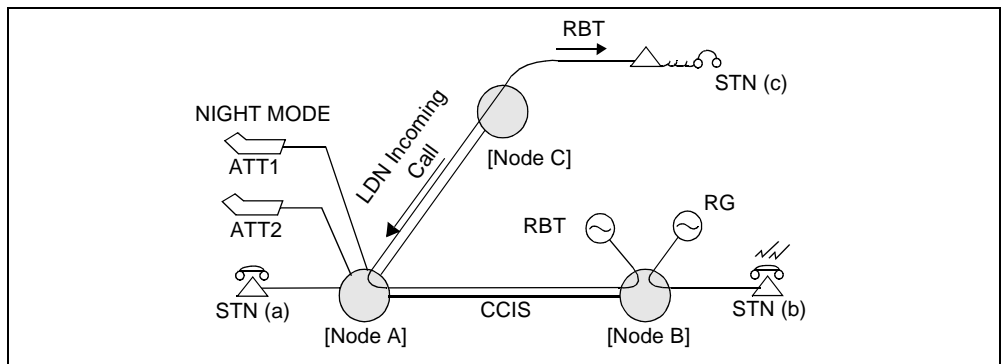
Operating Procedure (cont'd)

3. Station (B) answers; Stations (B) and (C) are connected with each other. If necessary, the call can be transferred to another station by means of Call Transfer-All Calls service.
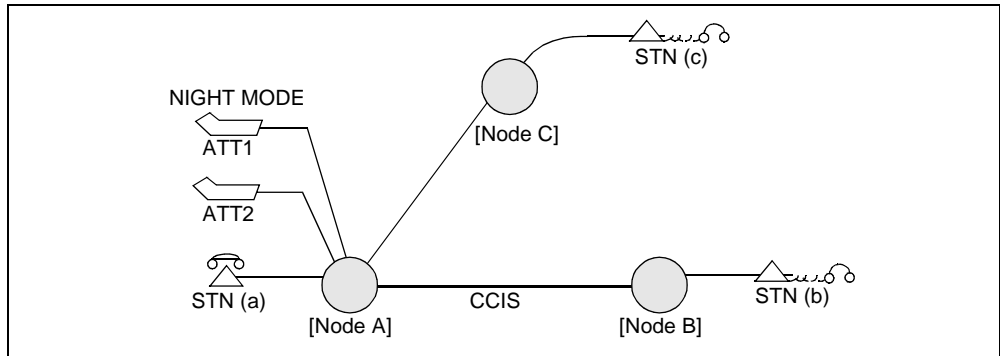
Service Conditions

1. The ranking of this service feature within the Night Connection service is as follows:
   - Night Connection Flexible.
   - Night Connection Fixed.
   - LDN Night Connection (This service).
   - Night Connection Outside.
   - Trunk Answer from Any Station (TAS) Connection.
   - Busy Tone Connection.

2. It is possible to register individual transfer destinations for up to 16 LDNs per Tenant. (Total of 16 LDNs for LDN Night Connection and LDN Night Connection Outside.)

3. Valid connections with this service feature are shown below:

	Send			
Receive	**CCIS**	**LD**	**MFC**	**Remarks**
CCIS	Available	Available	Available	
LD	Available	Available	Available	
MFC	Available	Available	Not Available	

4. If the transfer destination is busy, restricted, etc., the call is routed to busy tone or reorder tone even when the transfer destination is a CCIS line.

5. In the cases listed below, the next-ranked Night Connection service becomes effective.
   a.) Data assignment for this service feature has not been made for the LDN.
   b.) Toll restriction or connection control is in effect between the incoming route and the transfer destination route.
   c.) All trunks/routes are busy.
   d.) There is a link block condition.

6. When there is no Night Connection service, the call is routed to busy tone.

Service Conditions (cont'd)

7. If the system changes to Night Mode during a call termination to the Attendant Console, an LDN incoming call will be connected to the transfer destination associated with the LDN dialed. If this connection is not possible because of the status of the transfer destination, the call is handled by the next-ranked Night Connection service (Night Connection Outside, TAS etc.), or is queued with the caller hearing ringback tone.

8. If the system changes to Day Mode, incoming calls being queued are handled as Attendant Console incoming calls.

Programming

When transfer destination is outside line (less than 8 digits)

STEP 1: **ANPD** - Assign minimum necessary number of digits for the first number of the transfer destination access code.

STEP 2: **ASPA** - Assign the transfer destination access code.

      SRV: OGC (Outgoing Call), OGCA (Outgoing Call [Advance]), LCR (Least Cost Routing), or LCRS (Register Sender LCR)

STEP 3: **ALDN** - Assign the transfer destination to the LDN.

      TN: Tenant Number of Listed Directly Number

      LDN: Listed Directly Number

      TYPE: Transfer Type: Enter 2.

      STN: Station number of transfer destination:

      Enter Access Code + Called Number.

When transfer destination is outside line (more than 8 digits)

STEP 1: **ANPD** - Assign minimum necessary number of digits for the first number of the transfer destination access code.

STEP 2: **ASPA** - Assign the transfer destination access code.

      SRV: OGC (Outgoing Call), OGCA (Outgoing Call [Advance]), LCR (Least Cost Routing), or LCRS (Register Sender LCR)

STEP 3: **ASPD** - Assign the transfer destination number as Speed Calling Code (Abbreviated Digit Code).

STEP 4: **ALDN** - Assign the transfer destination to the LDN.

      TN: Tenant Number of Listed Directly Number

      LDN: Listed Directly Number

      TYPE: Transfer Type: Enter 3.

      STN: Station number of transfer destination:

      Enter Access Code + Called Number.

M-34   Message Reminder - CCIS

General Description

This service feature allows Inter-Office Message Reminder when the calling station and the called station belong to different PBXs in the CCIS network.

Operating Procedure

From D^{term} to D^{term}:

1.   D^{term} A and B are engaging in a call.
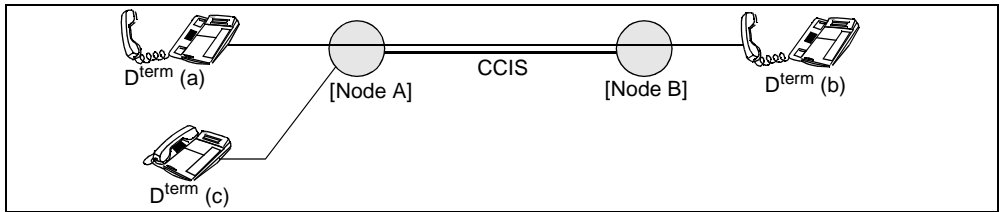
2.   D^{term} C goes off-hook and dials the number for D^{term} B; receives busy tone.
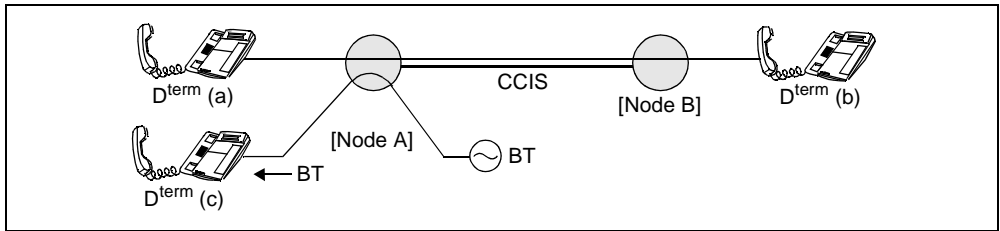
3.   D^{term} C presses the MSG key and receives service set tone; the LCD displays:

MESSAGE SET   **XXXX**

4.   On D^{term} B, the MESSAGE lamp illuminates, indicating that the message has been set.

Note: *MESSAGE lamp can be programmed to any Line/Feature Access keys on a D^{term}.*
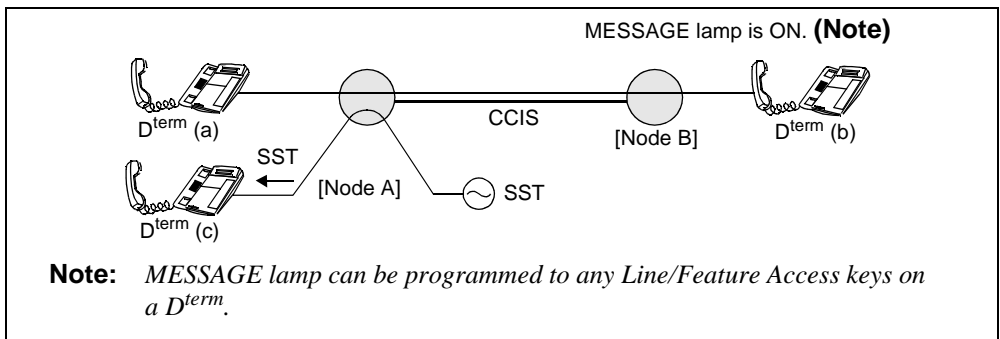
Operating Procedure (cont'd)

5. D$^{\text{term}}$ B hangs up.
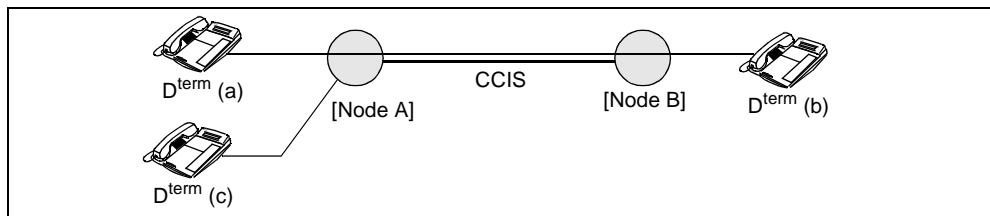
6. While the message lamp illuminates, D$^{\text{term}}$ B goes off-hook or presses the SPEAKER key and receives dial tone.
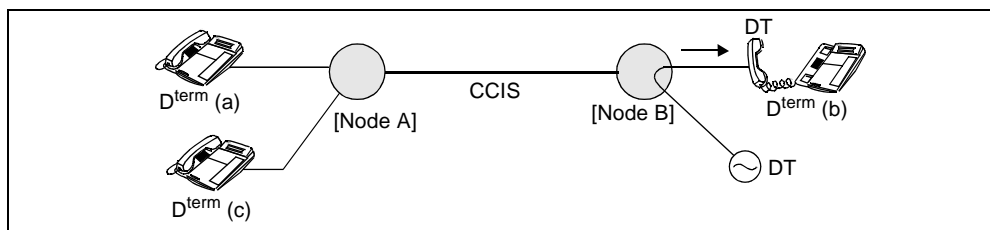
7. D$^{\text{term}}$ B presses the MSG key and receives ringback tone. Redial is automatically made to D$^{\text{term}}$ C, and D$^{\text{term}}$ C rings.
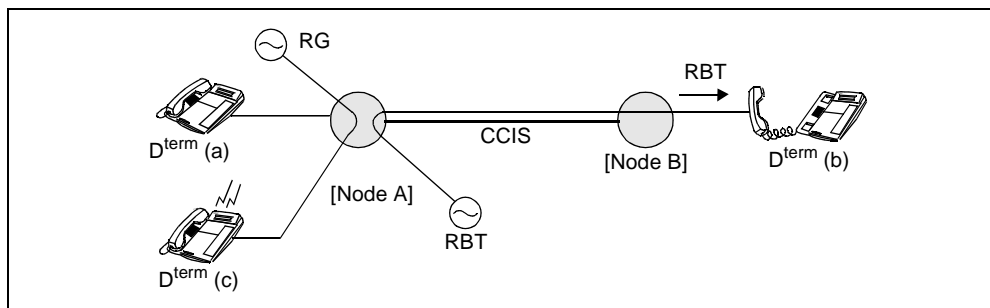
From a single-line Station to a D$^{\text{term}}$:

1. D$^{\text{term}}$s A and B are engaging in a call.
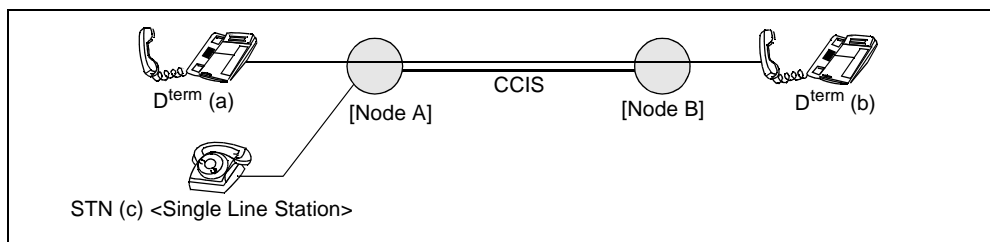
Operating Procedure (cont'd)

2. Station C goes off-hook and dials the number for D^{term} B; receives busy tone.
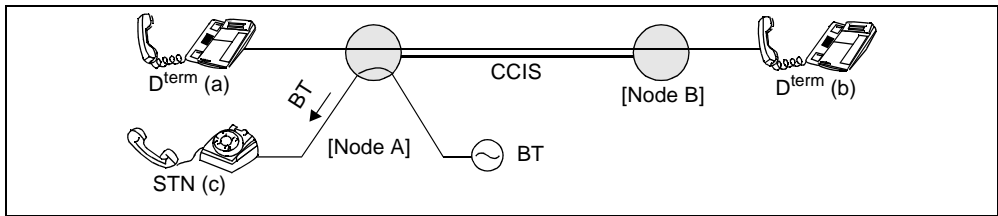
3. Station C switch hook flashes; receives special dial tone.
4. Station C dials the MESSAGE REMINDER access code; receives service set tone. The MESSAGE lamp on D^{term} B illuminates, indicating that the message has been set.
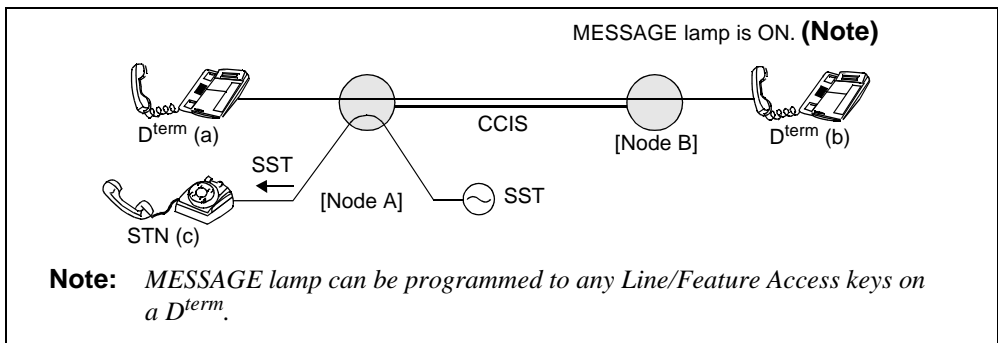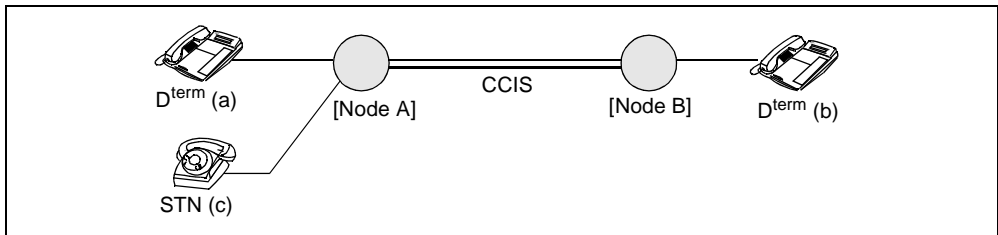
MESSAGE lamp is ON. **(Note)**

Note: *MESSAGE lamp can be programmed to any Line/Feature Access keys on a D^{term}.*

5. D^{term} B hangs up.

6. While the message lamp illuminates, D^{term} B goes off-hook or presses the SPEAKER key and receives dial tone.
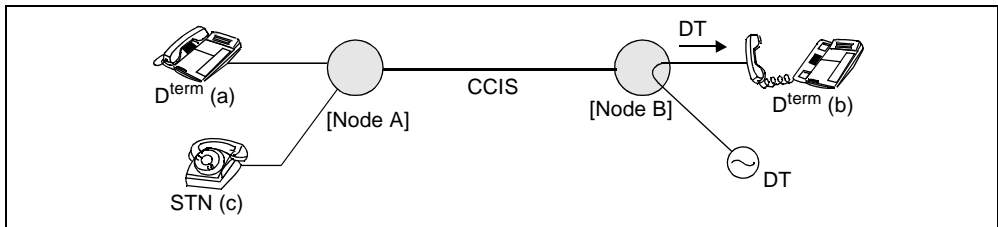
Operating Procedure (cont'd)

7. D^term B presses the MSG key and receives ringback tone. Redial is automatically made to Station C and Station C rings.
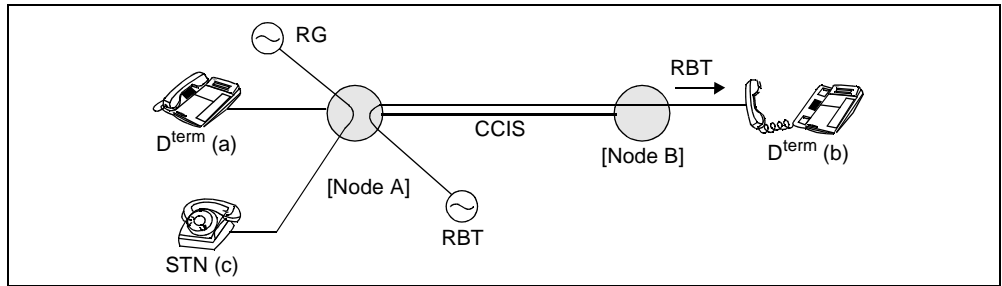
Service Conditions

1. A message can be sent out only when the called station is either idle or busy.

2. A message can be sent out during ringing, recall from Call Transfer-All Calls, or recall from Consultation Hold-All Calls.

3. A maximum of four messages can be received at one D^term. If the fifth message terminates, the LCD displays:

> **MESSAGE BUSY**
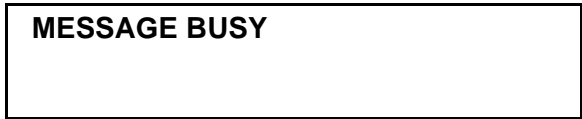
4. A message is displayed only when the handset is resting on the switch hook.

5. To clear the message, display the message and press "#"/"∗" on the key pad. (ASYD-SYS1 Index 80, Bit 1)

6. If the MSG key is reset, the message is cleared.

7. A message cannot be cleared by the message sender.

8. If the second message is sent out from the same D^term, it is memorized as the second unique message.

9. If Call Transfer-All Calls service is set, a message is also transferred to the designated transfer destination.

10. Messages are memorized in any D^term on which the feature key has been programmed as Message Reminder key.

Programming

Setting by MSG key (D^term)

STEP 1: **ASYD** - System Data 1, Index 80, Bit 1. Message Reminder service-key used for Message Deletion (D^term)

0/1: # key / * key

STEP 2: **AKYD** - Assign data to Feature key.

FKY = 6 (Message Reminder)

STEP 3: **ASFC** - With respect to SFC of the stations that sets Message Reminder service, cancel the restriction of SFI = 53. (SFI = 53: Message Reminder service)

Setting by SHF + Access Code (Individual Station)

STEP 1: **ASYD** - System 1, Index 17, Bit 0. SHF + ACC Code during ringback tone.

Programming (cont'd)

STEP 2:   **ANPD** - Assign minimum necessary number of digits for the first number of the Access Code of Message Reminder service.

STEP 3:   **ASPA** - Assign the Access Code of the Message Reminder service.

               CI = H (Hooking)SRV = SSCA (Service Code Appendix)

               CI = B (Busy)SIDA = 42:

STEP 4:   **ASFC** - With respect to SFC of the stations which sets Message Reminder service, cancel the restriction of SFI = 53. (SFI = 53: Message Reminder service)

M-34D   Message Reminder - D^{term} - CCIS

General Description

This feature allows a D^{term} to leave a MESSAGE REMINDER at a D^{term} in a different node in the CCIS network.

Operating Procedure

To activate MESSAGE REMINDER - CCIS from a D^{term} to an idle or busy D^{term}:
1. Lift the handset; receive dial tone.
2. Dial the desired D^{term} at the distant office; receive ringback tone or busy tone.
3. Press MSG key; receive service set tone. The LCD displays:

> | MESSAGE SET   XXXX |
> | :--- |
> | **(Time Display)** |

At the called D^{term}, the MESSAGE LED will light to indicate a message has been left.

To activate MESSAGE REMINDER - CCIS from a D^{term} to an idle or busy D^{term} after activating a VOICE CALL:
1. Lift the handset; receive dial tone.
2. Dial the desired D^{term} at the distant office; receive ringback tone.
3. Dial the VOICE CALL [V-2] access code; VOICE CALL is activated. The LCD displays:

> | MESSAGE SET   XXXX |
> | :--- |
> | **(Time Display)** |

4. Press MSG key; receive service set tone. The LCD displays:

> | MESSAGE REST   XXXX |
> | :--- |
> | **(Time Display)** |

At the called D^{term}, the MESSAGE LED will light to indicate a message has been left.

To review the message:
1. Press MSG key while idle. The LCD displays:

> | | Calling Station | hr. | min. | AM/PM |
> | :--- | :--- | :--- | :--- | :--- |
> | MESSAGE | XXXX | XX: | XX | AM |
> | | **(Time Display)** | | | |

2. Press MSG key successively to review other messages (maximum 4 messages in total).

To return the message:
1. While the desired message is displayed, lift handset or press SPEAKER key; receive dial tone.
2. Press MSG key; the calling station is automatically redialed. If any other message is not returned, the MESSAGE LED will still be lit.

Service Conditions

1. This feature is only available between two D^term sets that both have the MESSAGE feature key. If a message is directed to a single line or a D^term that does not have the MESSAGE REMINDER feature, the calling station's LCD displays:

    ```
    MESSAGE REST

                    (Time Display)

    ```

2. Messages cannot be sent while engaged in calling or recall from CALL TRANSFER - ALL CALLS [C-11] [C-50] or from CONSULTATION HOLD - ALL CALLS [C-17] [C-58].
3. A maximum of four messages may be received at any one D^term. If a fifth message is attempted, the LCD will display:

    ```
    MESSAGE BUSY

                    (Time Display)

    ```

4. Messages can only be displayed when the D^term station is idle.
5. A message may be cleared by pressing the MSG key on the D^term and pressing the "*" or "#" key on the key pad. ("*" or "#" key is selected via system data.)
6. A message is automatically cleared when it is returned using the MSG key.
7. Once a message has been sent, it cannot be cleared by the sender.
8. After the first message, all subsequent messages sent by the same station are regarded as individual messages.
9. When a user sets MESSAGE REMINDER - CCIS to the station setting CALL FORWARDING - ALL CALLS [C-5] [C-45], BUSY LINE [C-2] [C-46] while hearing ringback tone, MESSAGE REMINDER is set to the dialed station (not the forwarding destination).
10. If the called D^term answers the call while the calling station is dialing the MESSAGE REMINDER - CCIS access code, the calling and called stations will be connected.
11. Messages can be sent only if the called station is in the idle, busy, or VOICE CALL [V-2] condition.
12. When this service is restricted and the calling station receives busy tone, the calling station can activate busy services.
13. This service is available when the calling station receives busy tone upon encountering all trunks busy.

Interactions

If CALL WAITING - ORIGINATE [C-31] Automatic operation is in service, it will supersede MESSAGE REMINDER. If a third station calls and receives busy tone, MESSAGE REMINDER can be set.

Programming

For Single Line Sets

STEP 1:   **ASYD** - SYS1, Index 17, bit 0. Is SHF and Access Code service Allowed? 0/1: No/Yes. For MESSAGE REMINDER and VOICE CALL from a Single-Line Set.

STEP 2:   **ANPD** - Reserve a number level for service feature access. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

Programming (cont'd)

STEP 3: **ASPA** - Assign an access code to MESSAGE REMINDER; assign SRV = SSCA (Service Code Appendix), SIDA = 42. Assign a Connection Index of Normal (N) and Busy (B).

STEP 4: **ASFC** - Assign to the single-line stations that will have MESSAGE REMINDER a Service Feature Class that allows SFI53. **(Note)**

STEP 5: **AKYD** - Assign the station according to the following parameters:

TN: 1

STN: Station Number

TP: Type of D^{term} 0/1:

 RING:

      0: No Ringing

      1: Ringing All Lines

      2: Ringing on Prime Line Only

      3: Flexible Ring Assignment, enables RG parameter.

KYN: Key Number (1 - 40) For the 4-button D^{term}, use keys 13-16 only.

KYI: Service Index

      0: Key Not Used

⟶ 1: Feature Key

      2: Multi-line Key

KD: Not assigned for Feature Key

FKY: Feature Key Number

⟶ FKY= 6, MESSAGE REMINDER

RG: Ringing Assignment per Multi-line Appearance

      0: No Ringing.

      1: Ringing in Night Mode Only.

      2: Ringing in Night Mode Only.

      3: Ringing Day and Night.

Note: *D^{term}s with a MESSAGE REMINDER key do not require the Service Feature Class assignment. Only single-line sets require the ASFC assignment.*

M-35   Message Waiting Lamp Setting - Attendant - CCIS

General Description

This service feature allows the MESSAGE WAITING (MW) lamp on the D^{term} or telephone set, equipped with MW lamp accommodated in the Satellite Offices, to be controlled from the Attendant Console in the CCIS network.

Operating Procedure

To set MW Indication:
1. The Attendant in Node A presses an idle loop key.
2. The Attendant enters the MW set code (maximum 3 digits); receives special dial tone.
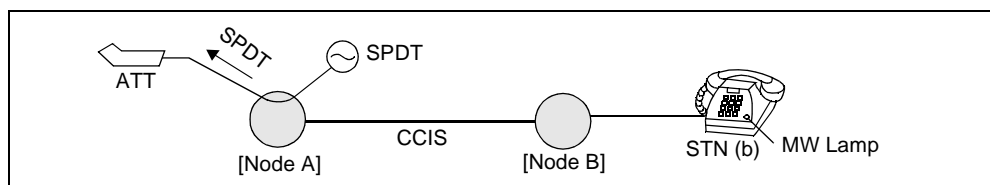
3. The Attendant dials Station (B), which is equipped with an MW lamp. The Attendant receives service set tone. The MW lamp on Station B illuminates.
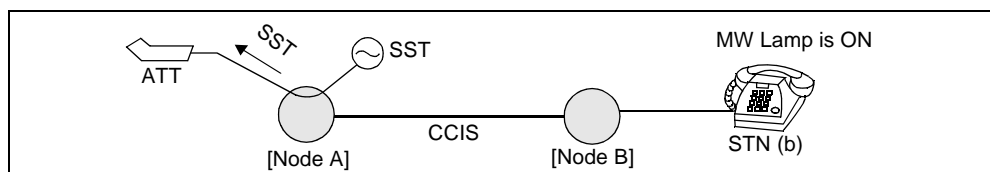
4. The Attendant presses the RELEASE key and returns to an idle state.

To cancel MW Indication:
1. The Attendant presses an idle loop key, then enters the MW cancel code (maximum 3 digits); receives special dial tone.
2. The Attendant dials Station B, which is equipped with an MW lamp. The Attendant receives service set tone. The MW lamp on Station B goes out.
3. The Attendant presses the RELEASE key and returns to an idle state.

Service Conditions

1. The MW lamp on a D^{term} or single line telephone will be lit when this feature is activated.
2. MW cannot be set when the Attendant is in a consultation condition with a station or trunk.
3. An Attendant attempting to set MW to a station where MW has previously been set, will receive busy tone.
4. In a MULTIPLE CONSOLE OPERATION [M-4], if MW is set by one ATTENDANT CONSOLE [A-3], it can be cancelled by another.

Programming

STEP 1: **ANPD** - Assign minimum necessary number of digits for the first number of the access code and connection index for MW service.

STEP 2: **ASPA** - Assign the access code and connection index for MW service.

To Set: CI = N (Normal), SRV = SSCA (Service Code Appendix), SIDA = 54

To Cancel:CI = N (Normal), SRV = SSCA (Service Code Appendix), SIDA = 55

STEP 3: **ASFC** - Allow MW Lamp Control (SFI = 74) to the SFC of the station.

M-36 Message Waiting Lamp Setting - Station - CCIS

General Description

This feature allows any D^term^ or single line telephone to set/cancel a MESSAGE WAITING indication or lamp at any other station equipped with this feature in the CCIS network.

Operating Procedure

To set MESSAGE WAITING LAMP SETTING-STATION - CCIS from a single line telephone:
1. Lift the handset; receive dial tone.
2. Dial the MESSAGE WAITING LAMP SETTING (SET) access code (up to 3 digits); receive special dial tone.
3. Dial the desired telephone number; receive service set tone.
4. MESSAGE WAITING indication is set.

To cancel MESSAGE WAITING LAMP SETTING-STATION - CCIS from a single line telephone:
1. Lift the handset; receive dial tone.
2. Dial the MESSAGE WAITING LAMP SETTING (CANCEL) access code (up to 3 digits); receive special dial tone.
3. Dial the desired telephone number; receive service set tone.
4. MESSAGE WAITING indication is cancelled.

To set MESSAGE WAITING LAMP SETTING-STATION - CCIS from a D^term^:
1. Lift the handset or press the Speaker key; receive dial tone.
2. Press the MESSAGE WAITING LAMP SETTING (SET) line/feature key; receive special dial tone.
3. Dial the desired telephone number; receive service set tone.
4. MESSAGE WAITING indication is set.

To cancel MESSAGE WAITING LAMP SETTING-STATION - CCIS from a D^term^:
1. Lift the handset or press the Speaker button; receive dial tone.
2. Press the MESSAGE WAITING LAMP SETTING (CANCEL) line/feature key; receive special dial tone.
3. Dial the desired telephone number; receive service set tone.
4. MESSAGE WAITING indication is cancelled.

Service Conditions

1. Single Line telephones must be equipped with a 90-volt neon light for MESSAGE WAITING indication.
2. An external + 80-volt Booster Power Unit is required at each node for lighting single line telephones.
3. 16LCBE, 16LCBJ and 16LCBK can be used to for stutter dial tone instead of MESSAGE WAITING lamp indication.
4. The MESSAGE WAITING lamp on a single line telephone and 8-button D^term^ lights when MESSAGE WAITING LAMP SETTING-STATION - CCIS is activated.
5. When MESSAGE WAITING LAMP SETTING-STATION - CCIS is set to a D^term^ display phone, the display will indicate:

```
┌─────────────────────────────────────┐
│                                MW    │
│         (Time Display)               │
└─────────────────────────────────────┘
```

This display appears in place of the time display.

Service Conditions (cont'd)

6. If a user attempts to set MESSAGE WAITING to a station where MESSAGE WAITING has already been set, busy tone will be sent to the station, and the D^{term} display phones will display:

```
                                    MW BUSY
           (Time Display)
```

7. When a station is restricted from MESSAGE WAITING LAMP SETTING-STATION - CCIS or is an unused telephone number, and another user attempts to set/cancel MESSAGE WAITING LAMP SETTING-STATION - CCIS, the calling station will hear reorder tone. A D^{term} display phone will display:

```
                                    MW REST
           (Time Display)
```

8. When a D^{term} user presses the MESSAGE WAITING LAMP SETTING line/feature key, the display will indicate:

```
                                    MW SET
           (Time Display)
```

9. When a D^{term} user presses the MESSAGE WAITING LAMP SETTING cancel line/feature key, the display will indicate:

```
                                   MW CANCEL
           (Time Display)
```

Interactions

An external power source is required to light a lamp for a single line telephone.

Programming

STEP 1: **ANPD** - Reserve a number level for feature access and cancel. Assign for Normal (N), Hooking (H), and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 2: **ASPA** - Assign an access code to MESSAGE WAITING LAMP SETTING activate SRV = SSCA (Service Code Appendix), SIDA = 54 and to MESSAGE WAITING LAMP SETTING extinguish SRV = SSCA (Service Code Appendix), SIDA = 55. Assign Connection Status Index (CI) for Normal (N) service.

STEP 3: **ASFC** - Assign a Service Feature Class that allows SFI = 74 to the stations that will receive the feature MESSAGE WAITING LAMP SETTING. Assign a Service Feature Class that allows SFI = 82 to stations that set the feature MESSAGE WAITING - CCIS.

STEP 4: **AKYD** - FKY 9: to set MW. FKY 11: to cancel MW.

M-37   Miscellaneous Trunk Access - CCIS

General Description

This feature provides access through the CCIS network to all types of external and customer provided equipment/ facilities, such as TIE LINE ACCESS [T-3], as well as DICTATION ACCESS [D-3], PAGING ACCESS - CCIS, and CODE CALLING ACCESS [C-21].

Operating Procedure

MISCELLANEOUS TRUNK ACCESS - CCIS is programmed in System Data via the Maintenance Administration Terminal (MAT).

Service Conditions

1. Access to these trunk routes is allowed or denied in CLASS OF SERVICE-INDIVIDUAL [C-15] programming.
2. An interface circuit must be provided for each trunk.

Interactions

If other services such as STATION MESSAGE DETAIL RECORDING [S-10], TOLL RESTRICTION - CCIS [T-26], and/or LEAST-COST ROUTING-3/6 DIGIT [L-5] are being used, refer to these feature descriptions, as these services may require programming steps not listed.

Programming

STEP 1:   **ARTD** - Refer to the feature listing for the type of trunk route to be accessed.

STEP 2:   **ATRK** - Assign the LEN, Route Number, Trunk Number, and Tenant Number.

STEP 3:   **MBTK** - Assign the Make Idle status to the trunks.

STEP 4:   **ANPD** - Assign a level for trunk access. Assign for a Connection Index (CI) of Normal (N) and Hooking (H) service. Number of Necessary Digits is assigned according to a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 5:   **ASPA** - Assign the access code as in the level assigned in ANPD above. Type of service, 6(LCR).

STEP 6:   **ARSC** - Assign a Route Restriction Class (RSC) that is allowed in Route Restriction Index (RRI) 0, 1, 2 & 3 to the station that is allowed access to these trunks.

STEP 7:   **ASDT** - Assign an RSC that allows access to these trunks to the stations.

STEP 8:   **AFRS, AOPR** - Assign for flexible routing LEAST-COST ROUTING-3/6 DIGIT (LCR).

M-38   Miscellaneous Trunk Restriction - CCIS

General Description

This feature allows certain stations and dial-repeating TIE Line trunks to be denied access through CCIS to certain trunk routes, such as TIE LINE ACCESS [T-3], as well as the Exchange Network, DICTATION ACCESS [D-3], or PAGING ACCESS - CCIS [P-28].

Operating Procedure

No manual operation is required. Restricted stations will receive reorder tone.

Service Conditions

1. Restricted call attempts can be either:
    a.) Intercepted by the Attendant, or
    b.) Reorder tone can be sent to the originating user.
2. Access to a particular trunk route is allowed or denied by a station's Route Restriction Class (RSC). A maximum of 15 RSCs can be assigned per tenant. Each RSC can restrict a station from any number of trunk routes, to a maximum of 255 trunk routes.
3. This feature can be assigned to stations or dial-repeating TIE trunks via CLASS OF SERVICE-INDIVIDUAL [C-15] restrictions.
4. If a station's CLASS OF SERVICE-INDIVIDUAL [C-15] allows outgoing calls via the Attendant Console, the user can dial "0" for Attendant-assisted trunk calls.
5. MISCELLANEOUS TRUNK RESTRICTION - CCIS can change for a particular station when the system is in the Night mode.
6. If a restricted station calls another station, the called station cannot use CALL TRANSFER-ALL CALLS [C-11, C-11D, C-50] to connect the calling station to a trunk route from which it is restricted.
7. If a user accesses a TIE trunk to a distant PBX, access to outside exchanges can only be controlled by the distant PBX.

Interactions

If other services such as STATION MESSAGE DETAIL RECORDING [S-10], TOLL RESTRICTION-3/6 DIGIT - CCIS [T-26], and/or LEAST-COST ROUTING-3/6 DIGIT [L-5] are being used, refer to these feature descriptions for commands that may be required and are not listed.

Programming

STEP 1:   **ASYD** - System Data 2, Index 1, Bits 4 & 5. Should a restricted station be routed to the Attendant Console or receive reorder tone?

Reorder Tone: Bit 4 = 0, Bit 5 = 0.

Attendant Console: Bit 4 = 1, Bit 5 = 0.

STEP 2:   Follow the procedure for MISCELLANEOUS TRUNK ACCESS [M-2]. Assign the ARSC command to restrict RSCs from receiving certain routes. Then assign the restricted RSCs to stations via the ASDT or ASCL command. When assigning the ARRC command, restrict incoming TIE Lines from accessing certain routes.

M-39   Modem Pooling - CCIS

General Description

This feature allows any terminal to have access to a data terminal in a different office through a concentration of modem groups, set at different data speeds, using the Common Channel Inter-Office Signaling System.

A maximum of 8 Modem Groups are provided. One modem in the group is selected by the data station, at the time of Modem Pool selection. Least Cost Routing and other standard PBX features can be used for optimization of long distance data calls. Incoming Modem Pooling capabilities are also provided.

Operating Procedure

Outgoing Modem Pooling
Data Terminal connected to a Data Module:
1. Key in DM CALL <ENTER>. READY is sent back.
2. Key in the number of the desired terminal in the distant office DIAL-XXXXXXXX <ENTER>.
3. CALLING is sent back.
4. The Outgoing Modem Pool is connected to the call.
5. WAITING is sent back when the called terminal is idle.
6. OPEN is sent back when the called terminal answers with Carrier Tone and both modems exchange Carrier Tone.
7. Data transparency path is established.
8. Key in ESC DM <ENTER> to disconnect.
9. ACK is sent back. Key in RLS <ENTER>.
10. RELEASED is sent back when the path is disconnected.

Data Terminal connected to a D^{term}/Data Adapter (Key Pad Dialing):
1. Lift the handset or press the SPEAKER key and receive dial tone.
2. Dial the desired terminal number.
3. Receive remote modem Answer Tone.
4. Press the DTX key on the D^{term}. The Outgoing Modem Pool is transferred to the trunk.
5. WAIT D XXXXXXXX is displayed when the called terminal is idle.
6. READY D XXXXXXXX is displayed when the called terminal answers with Carrier Tone.

Service Conditions

1. Modem Pooling supports asynchronous data calls up to 1200 bps using analog trunks, depending on the condition of the lines and modems used.
2. Up to 8 Modem Groups can be assigned total. There may be 8 Incoming or 8 Outgoing Modem Pool Groups assigned, or 8 Bothway. Bothway groups are defined as Incoming and Outgoing.
3. One modem in the group is selected by the DTE at the time of Modem Pool connection.
4. Least Cost Routing can be used for optimization of long distance data calls.
5. Incoming Modem Pooling capabilities are also provided.
6. Modems must be compatible.
7. Acoustically Coupled Modems, Limited Distance Modems, Line Drivers and DSUs cannot be attached to the Modem Pooling card.

Service Conditions (cont'd)

8. Distinctive Ringing - Most modems recognize only a 2-second on, 1-second off ring. This consideration must be taken into account when defining incoming trunk ringing.

9. The Reverse or Secondary Channel feature of modems is not implemented on the Modem Pool card.

10. Speed Select using pin 23 on the EIA RS232 connector is not implemented.

11. Intelligent or Auto Dial Modems must be strapped for manual operation (if available) to work on the Modem Pool card.

Interactions

The assignment of MODEM POOLING also involves ASYNCHRONOUS DATA SWITCHING [A-24], DATA INTERFACE AUTOMATIC ANSWER [D-18], DATA TRANSPARENCY [D-19], CLASS OF SERVICE - INDIVIDUAL [C-15], LEAST COST ROUTING [L-5], and TOLL RESTRICTION - 3/6 DIGIT [T-7]. Any of these features programmed incorrectly may cause MODEM POOLING to operate incorrectly. Take special precautions when programming Attribute Data to the data terminal. This programming will determine which MODEM POOLING Route will be allowed to the Data Terminal.

Programming

STEP 1: **AMDD** - Assign data to characterize the different Modem Route Numbers.

MDM No:
Rt: 919 Modem No: 1
Rt: 920 Modem No: 2
Rt: 921 Modem No: 3
Rt: 922 Modem No: 4
Rt: 923 Modem No: 5
Rt: 924 Modem No: 6
Rt: 925 Modem No: 7
Rt: 926 Modem No: 8
DR: Data Set Ready On
    0:   Check
    1:   Not Checked
    2:   Supervise
    3:   Not Supervised
Normally assign Data "0"
R: Ring Modem (0/1)
    0:   Not Used
    1:   Ring Modem
HDX: Half/Full Duplex
    0:   Half Duplex
    1:   Full Duplex
2W/4W:2 Wire/4 Wire
    0:   2 Wire
1 - 4 Wire

Programming (cont'd)

         SPEED: 0

         ASYNC: 0

         FCY: 0

STEP 2:   **ATRK** - To program the PA-M20 MODEM POOLING Trunk Circuit Card, assign the LEN Number, MODEM POOLING Route Number (919 - 926), Trunk Number, and Tenant Number. Levels 0, 2, 4 & 6, of the corresponding group number where the PA-M20 Circuit Card is mounted are used for the MODEM POOLING trunks.

STEP 3:   **MBTK** - Assign the Make Idle status to the MODEM POOLING Trunks.

M-40   Multiple Call Forwarding - All Calls - CCIS

General Description

This service feature permits all calls destined for a particular station in a CCIS network to be routed to another station or to the attendant multiple times, regardless of the busy or idle status of the called station.

    1.   With CALL FORWARDING-ALL CALLS [C-5] (CF-A):
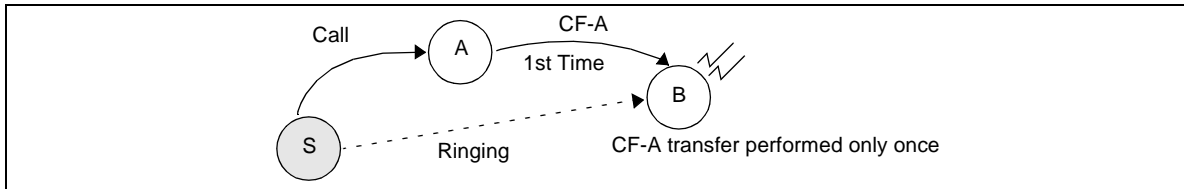
    2.   With MULTIPLE CALL FORWARDING-ALL CALLS [M-44] service:
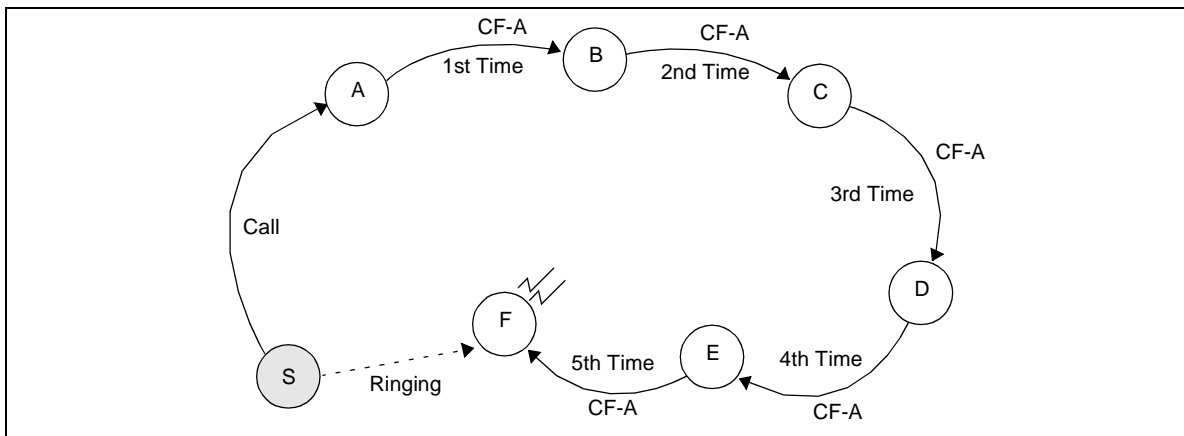
Operating Procedure

1. Station A is set for Call Forwarding-All Calls to Station B. Station B is set for Call Forwarding-All Calls to Station C. Station C is set for Call Forwarding-All Calls to Station D.

2. When a call is directed to Station A, it is forwarded first to Station B, then to Station C, and then to Station D. The calling party receives ringback tone and ringing starts at Station D.

3. Station D lifts the handset to answer and is connected to the calling party.

Service Conditions

1. The service conditions within the node comply with those of MULTIPLE CALL FORWARDING-ALL CALLS [M-44].

2. A call can be forwarded by CALL FORWARDING a maximum of one time between nodes in a CCIS network.

Service Conditions (cont'd)

3. When CALL FORWARDING is performed in a CCIS network, the following services are not available at a forwarded-to station:

CALL FORWARDING-ALL CALLS-OUTSIDE	[C-28]
CALL FORWARDING-BUSY LINE-OUTSIDE	[C-60]
CALL FORWARDING-DON'T ANSWER-OUTSIDE	[C-74]

LEGEND
- CF-A: Call Forwarding -All Calls
- CF-A - CCIS: Call Forwarding -All Calls - CCIS
- CF-A-Outside: Call Forwarding -All Calls-Outside
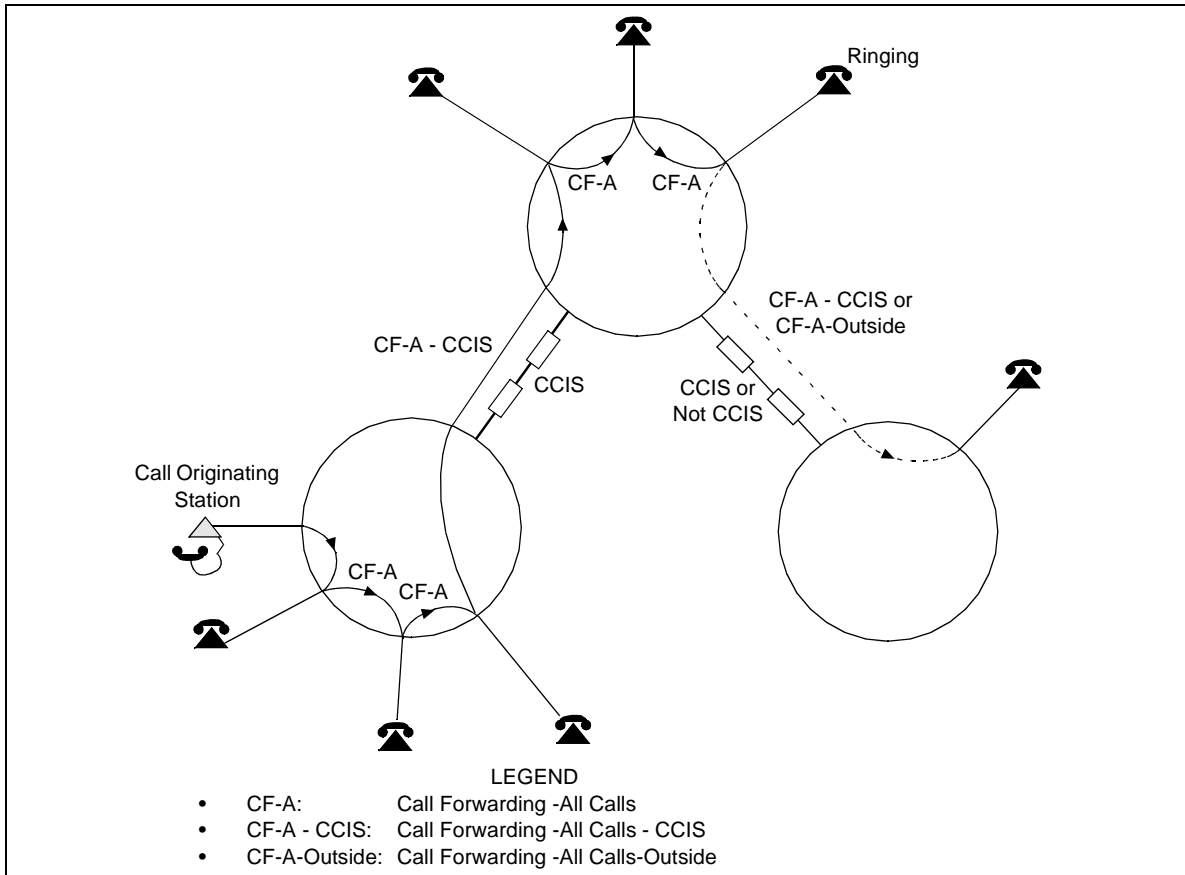
4. When a call is forwarded to the calling party by CALL FORWARDING-ALL CALLS - CCIS [M-40], the calling party hears a busy tone.
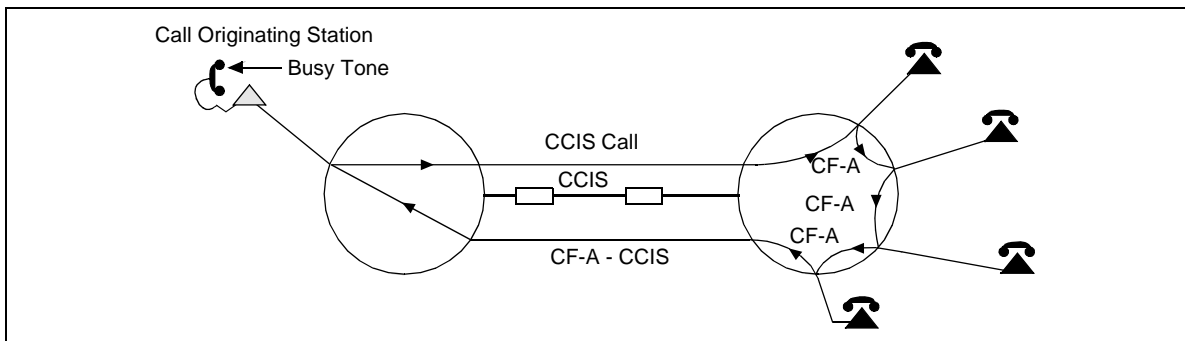
Service Conditions (cont'd)

5. SERVICE DISPLAY - CCIS [S-53] is available at the terminating node. The type of forwarding to be displayed is CF ALL.
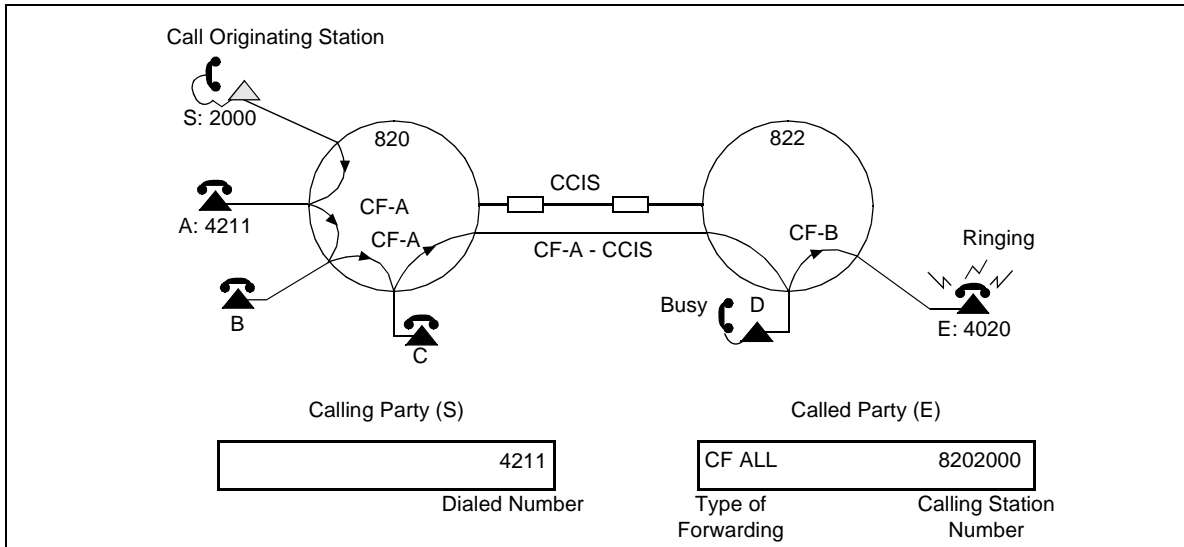
6. When a call is terminated to an ATTENDANT CONSOLE [A-3] by MULTIPLE CALL FORWARDING-ALL CALLS - CCIS [M-40], the call type is ATND.

7. The system data (ASYD, SYS1, INDEX 486, bit 0-2) decides the maximum number of times for activating a call forwarding service between nodes through CCIS. The number of times is selected in the range of 1 time to 7 times (ASYD, SYS1, INDEX 486, bit 0-2 = 0 means the enhanced feature is not available).

8. The number of times for activating this service between CCIS nodes is decided by system data programmed at the node that has the station operating the first Call Forwarding service through CCIS link. However, when the node that accommodates the station operating the service first has not been programmed, the number of times is decided at the node that accommodates the destination of the first Call Forwarding - CCIS service.

9. When Multiple Call Forwarding - CCIS is activated and the last intermediate party forwards (returns) the call to the first calling party, the calling party may hear either ringback tone or busy tone.

    The Calling party hears ringback tone when the forwarding destination number, assigned to the last intermediate party (intermediate party 2 in the example below), and the calling party number sent from the calling party are identical.

Service Conditions (cont'd)

The Calling party hears busy tone when the forwarding destination number, assigned to the last intermediate party (intermediate party 2 in the example below), and the calling party number sent from the calling party are not identical.

10. When Call Forwarding is restricted because the number of times data or the service restriction data, the call is terminated to the station that is restricted Multiple Call Forwarding - CCIS service.

Example 1: Multiple Call Forwarding - CCIS is restricted because the service has already been activated the preassigned maximum number of times. A maximum of three times is available for Call Forwarding through CCIS.
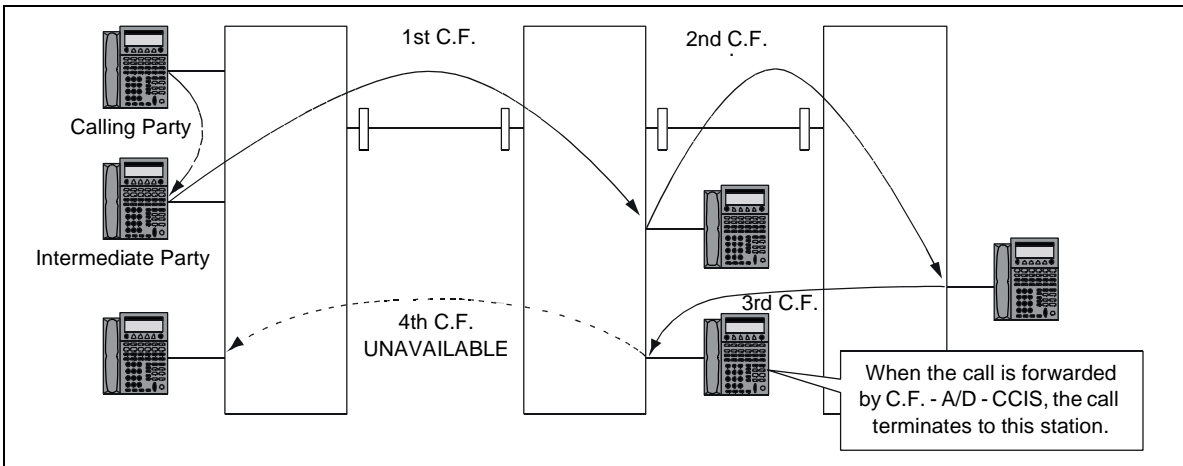
Service Conditions (cont'd)

Example 2: Multiple Call Forwarding - CCIS service is restricted because the service is not effective at the node.

11.   Even if Call Forwarding is set from the forwarded station to the forwarding station, the Call Forwarding service is effective, as shown in the example below:

When Office A selects the number of times for Call Forwarding for 5 times, five times of Call Forwarding are executed as Call Forwarding 1 to Call Forwarding 2 to Call Forwarding 3 to Call Forwarding 2 to Call Forwarding 3.
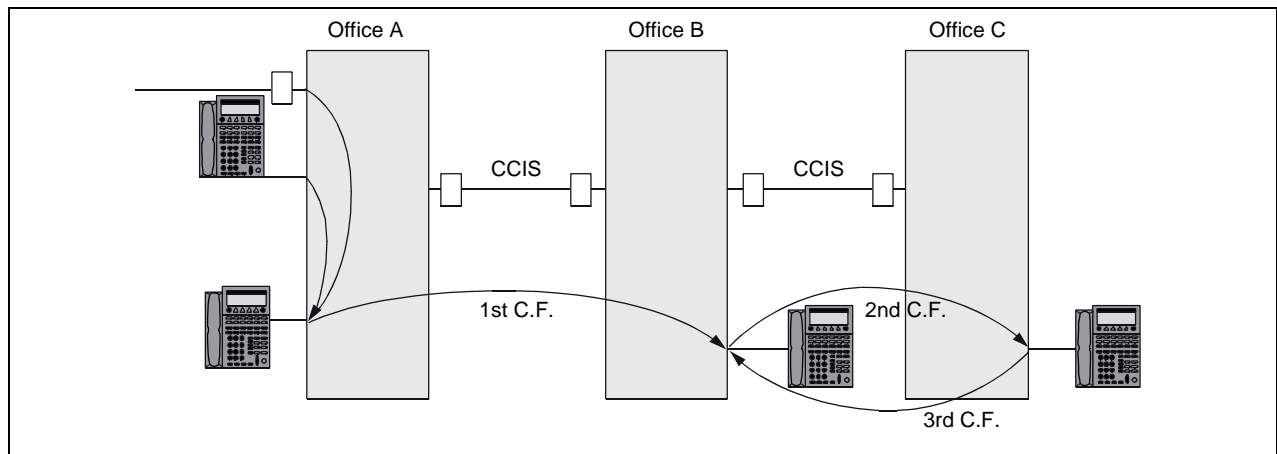
12.   The following services set to the forwarded destination are not available with Multiple Call Forwarding - CCIS services, except when the services below are activated through CCIS link:

    CALL FORWARDING - ALL CALLS - OUTSIDE   [C-28]
    CALL FORWARDING - BUSY LINE - OUTSIDE   [C-60]
    CALL FORWARDING - DON'T ANSWER - OUTSIDE   [C-74]

13.   The following services are activated within one node, therefore, the number of times for these services are independent. The maximum number of times for activating this feature is the same as previous software releases:

    MULTIPLE CALL FORWARDING - ALL CALLS [M-44]:   5 times
    MULTIPLE CALL FORWARDING - BUSY LINE [M-24]:   5 times
    MULTIPLE CALL FORWARDING - DON'T ANSWER [M-25]: unlimited

Service Conditions (cont'd)

14. The following are detailed examples of Call Forwarding - CCIS activation. These examples are activated under the conditions below:

    • The maximum number of times to activate the service is three (programmed in Office A and Office B).
    • The last call forwarding is operated by Call Forwarding - All Calls/Don't Answer service.
    • Any kind of D^{term}, ISDN terminal, PHS, etc. is available to be used for the calling/intermediate party.
    • Any kind of Call Forwarding service (All Calls/Busy Line/Don't Answer) is available to be set at the calling/intermediate terminal.

The node that decides number of times for activating service.

The node that is available for the enhanced Call Forwarding - CCIS services.

The node that is unavailable for the enhanced Call Forwarding - CCIS services.

　　a.) The service is restricted because the terminating Office B is unavailable for enhanced Call Forwarding - CCIS service.

Service Conditions (cont'd)

       b.) The service is restricted because the service has already been activated the predetermined number of times.

       c.) When Office A is not available for the enhanced Call Forwarding feature, the number of times the service is activated is decided by Office B (three times are effective in this example). Note that Call Forwarding service from Office A to Office B is included in the number of times service is activated.

Service Conditions (cont'd)

d.) The Call Forwarding service is activated four times, because the call is forwarded from Office D to Office E through FCCS link:

Note: *Call Forwarding service activated through FCCS link (Call Forwarding*) is not included in the number of times that the Multiple Call Forwarding - CCIS service is activated.*

e.) When the trunk/station incoming call terminates through FCCS link, the number of times for the service activation is decided by the FCCS node. This condition is also applied when the call is forwarded from Office A to Office B through FCCS link.

a. When a call terminates through FCCS link, the number of times is decided by Office A (the FCCS node has the calling party) in this case.

b. When a call forwarded through FCCS link, the number of times is decided by Office A (the FCCS node has the forwarding party) in this case.

f.) This service is restricted when a call from the CCIS line is forwarded to other lines except CCIS (for example: C.O. line).

Interactions

When a calling party sets the services shown below while the destination party is in busy status, the services are performed to the first forwarded party.

1. In the case of Busy Verification - CCIS [B-9] or Executive Right-of-Way - CCIS [E-8], the service is effective to Station B in Office B. The service is invalid to station D.

   a.) When Station B is in busy status, Busy Verification - CCIS [B-9] and Executive Right-of-Way - CCIS [E-8] are activated.

   b.) When Station B is in idle status, Station B is rung.

2. In the case of Message Reminder - CCIS [M-34, 34D], service is performed to Station B in Office B. The service is invalid to station D.

Interactions (cont'd)

3. In the case of Call Back - CCIS [C-44], service is effective to Station B in Office B. The service is invalid to station D.

4. In the case of Step Call - CCIS [S-59], the service is valid to Station B in Office B. The service is invalid to station D.

Programming

STEP 1: **ASYD** - System Data 1, Index 69, Bit 1: Call Forward All Calls short tone service 0/1 = Not Required/Required. Bit 7: (1) Multiple Call Forwarding in service.

System Data 2, Index 6, Bit 4: Call Origination Restriction of station upon setting Call Forwarding-All Calls. 0/1 = Required/Not Required.

SYS 1, INDEX 486, bit 0-2. The maximum number of times for activating Call Forwarding - CCIS service (0 to 7 times: 01Hex-07Hex)

When assigning "0 (default)", the Release 7 software enhancement is not available (the call forwarding is activated between CCIS nodes only one time). Also, when assigning "1", the number of times for the service is the same as before the Release 7 software enhancement.

STEP 2: **ASFC** - Release SFI = 7 restriction with regard to SFC of station allowing Call Forwarding-All Calls. (SFI = 7: Call Forwarding-All Call service)

Programming (cont'd)

STEP 3:   **ANPD** - Assign minimum necessary number of digits for the first number of the access codes for Call Forwarding-All Calls.

STEP 4:   **ASPA** - Sets the access codes for Call Forwarding-All Calls.
For setting:CI = N (Normal), SRV = SSC (Service Code), SID = 8
For Cancel:CI = N (Normal), SRV = SSC (Service Code), SID = 9

STEP 5:   **ATNR** - Assign the allowable data into the corresponding items of Tenant Restriction Index.

M-41   Multiple Call Forwarding - Busy Line - CCIS

General Description

This service feature permits a call to a busy station to be forwarded in a CCIS network, multiple times, to a predesignated idle station.

1.   With existing CALL FORWARDING-BUSY LINE [C-2] (CF-B) service:
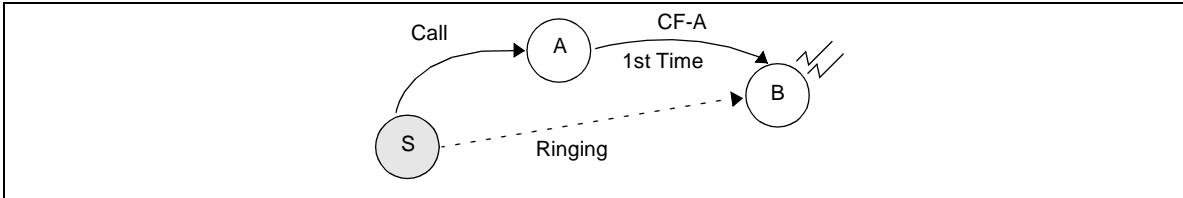
2.   With MULTIPLE CALL FORWARDING-BUSY LINE [M-24] service:
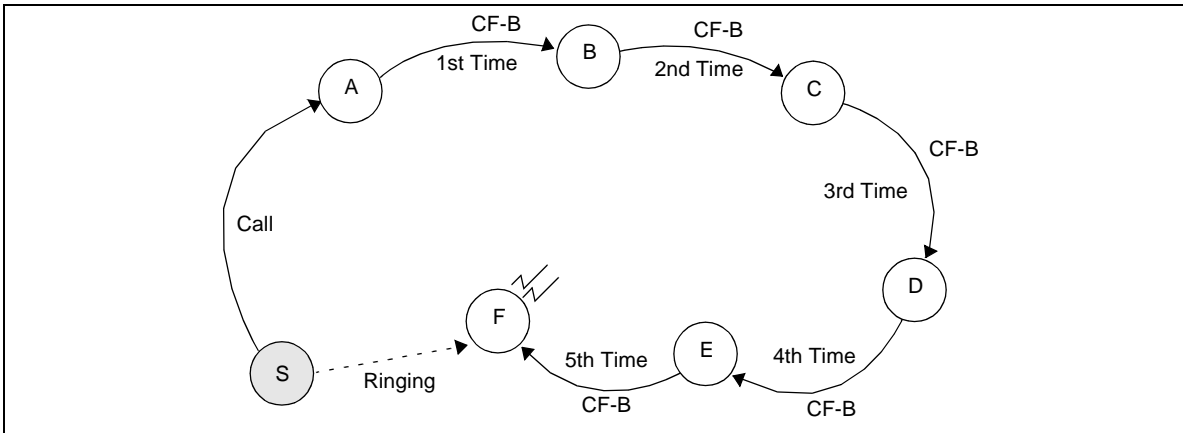
Operating Procedure

1.   Station A sets Call Forwarding-Busy Line to Station B. Station B sets Call Forwarding-Busy Line to Station C. Station C sets Call Forwarding-Busy Line to Station D.
2.   Stations A, B, and C are busy when an incoming call is directed to Station A. The call is forwarded to Station B first, then to Station C, and on to Station D. The calling party receives ringback tone, and ringing starts at Station D.
3.   Station D lifts the handset to answer and is connected to the calling party.

Service Conditions

1.   The service conditions within the node comply with those of MULTIPLE CALL FORWARDING-BUSY LINE [M-24].
2.   A call can be forwarded by CALL FORWARDING a maximum of one time between nodes in a CCIS network.

Service Conditions (cont'd)

3.   When CALL FORWARDING is performed in a CCIS network, the following services are not available
     at a forwarded-to-station:

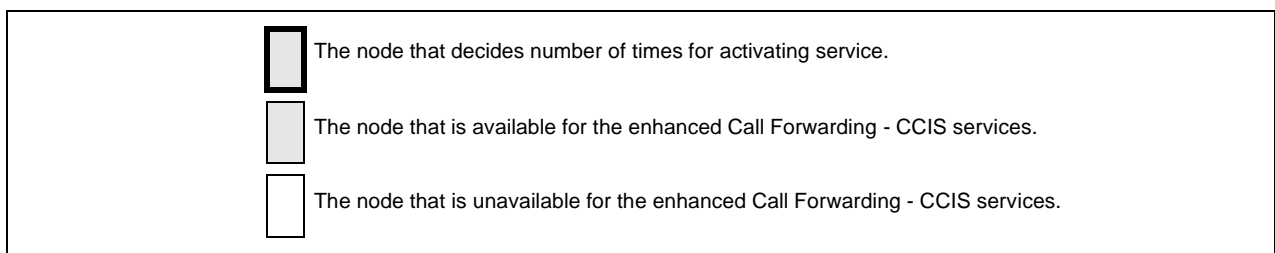|	
CALL FORWARDING-ALL CALLS-OUTSIDE	[C-28]
CALL FORWARDING-BUSY LINE-OUTSIDE	[C-60]
CALL FORWARDING-DON'T ANSWER-OUTSIDE	[C-74]

LEGEND
- CF-B: Call Forwarding -Busy Line
- CF-B - CCIS: Call Forwarding -Busy Line - CCIS
- CF-B-Outside: Call Forwarding -Busy Line-Outside
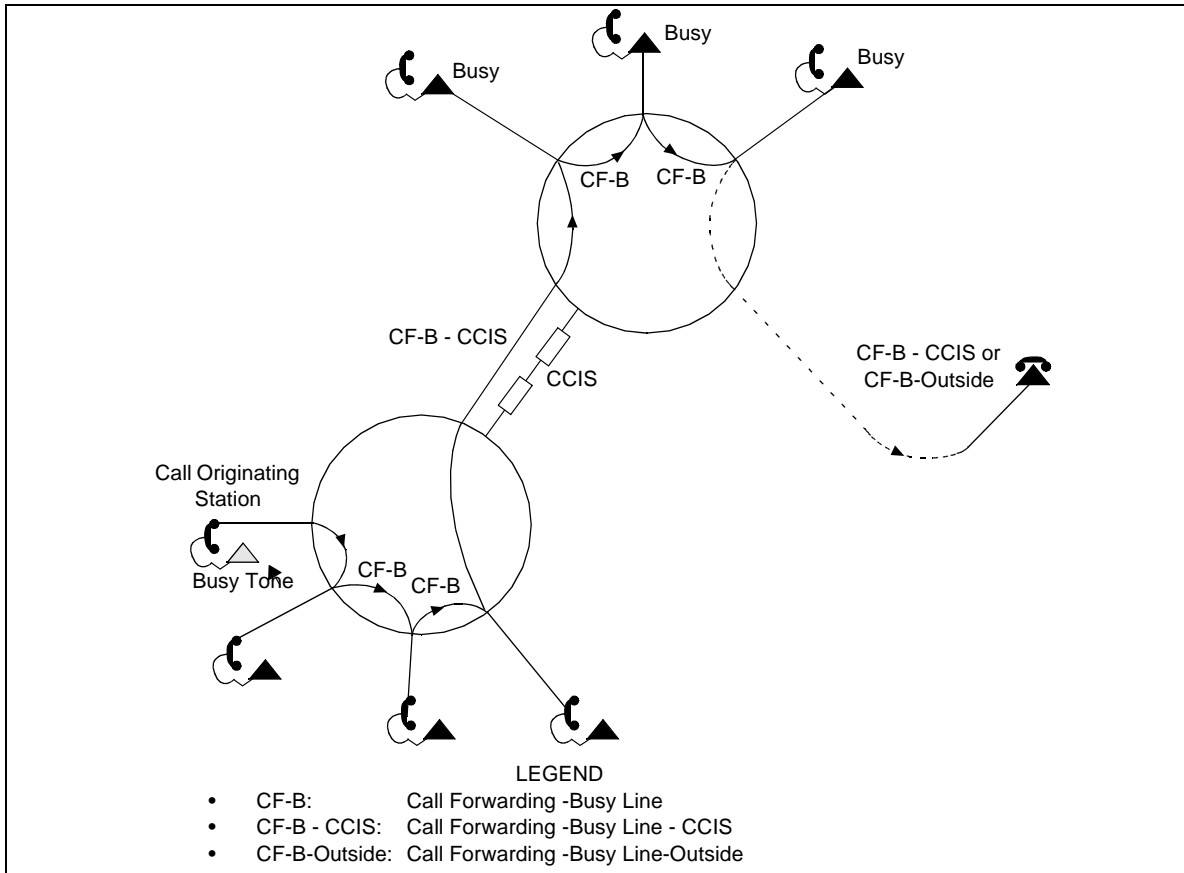
4.   When a call is forwarded to the calling party by CALL FORWARDING-BUSY LINE - CCIS [M-41], the
     calling party hears busy tone.
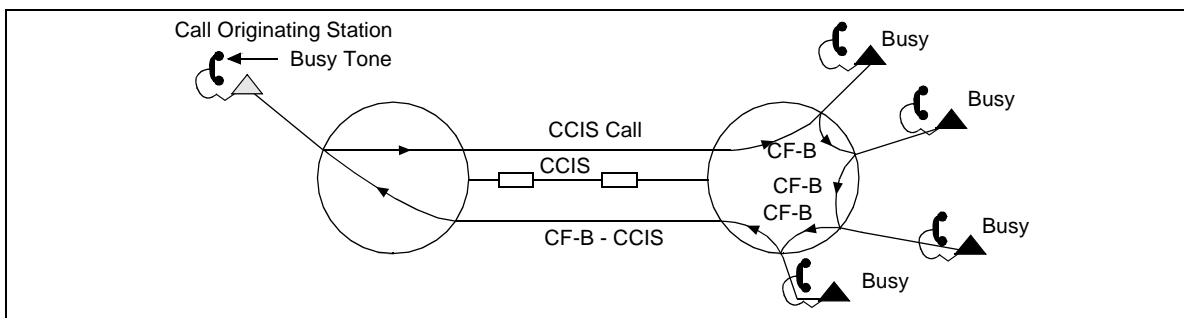
Service Conditions (cont'd)

5. SERVICE DISPLAY - CCIS [S-53] is available at the terminating node. The type of forwarding to be displayed is CF BUSY.
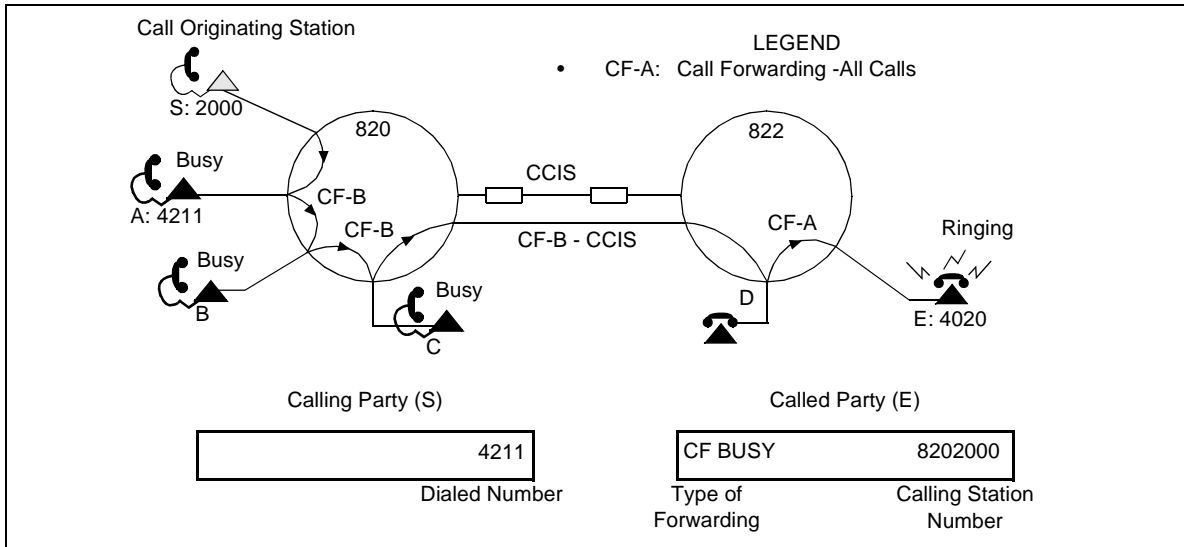
6. When a call is terminated to an ATTENDANT CONSOLE [A-3] by the MULTIPLE CALL FORWARDING-BUSY LINE - CCIS [M-41], the call type is BUSY.

7. The system data (ASYD, SYS1, INDEX 486, bit 0-2) decides the maximum number of times for activating a call forwarding service between nodes through CCIS. The number of times is selected in the range of 1 time to 7 times (ASYD, SYS1, INDEX 486, bit 0-2 = 0 means the enhanced feature is not available).

8. The number of times for activating this service between CCIS nodes is decided by system data programmed at the node that has the station operating the first Call Forwarding service through CCIS link. However, when the node that accommodates the station operating the service first has not been programmed, the number of times is decided at the node that accommodates the destination of the first Call Forwarding - CCIS service.

9. When Multiple Call Forwarding - CCIS is activated and the last intermediate party forwards (returns) the call to the first calling party, the calling party may hear either ringback tone or busy tone.

   The Calling party hears ringback tone when the forwarding destination number, assigned to the last intermediate party (intermediate party 2 in the example below), and the calling party number sent from the calling party are identical.

Service Conditions (cont'd)

The Calling party hears busy tone when the forwarding destination number, assigned to the last intermediate party (intermediate party 2 in the example below), and the calling party number sent from the calling party are not identical.

10. When Call Forwarding is restricted because the number of times data or service restriction data, the caller hears busy tone.

11. Even if Call Forwarding is set from the forwarded station to the forwarding station, the Call Forwarding service is effective, as shown in the example below:

    When Office A selects the number of times for Call Forwarding for 5 times, five times of Call Forwarding are executed as Call Forwarding 1 to Call Forwarding 2 to Call Forwarding 3 to Call Forwarding 2 to Call Forwarding 3.
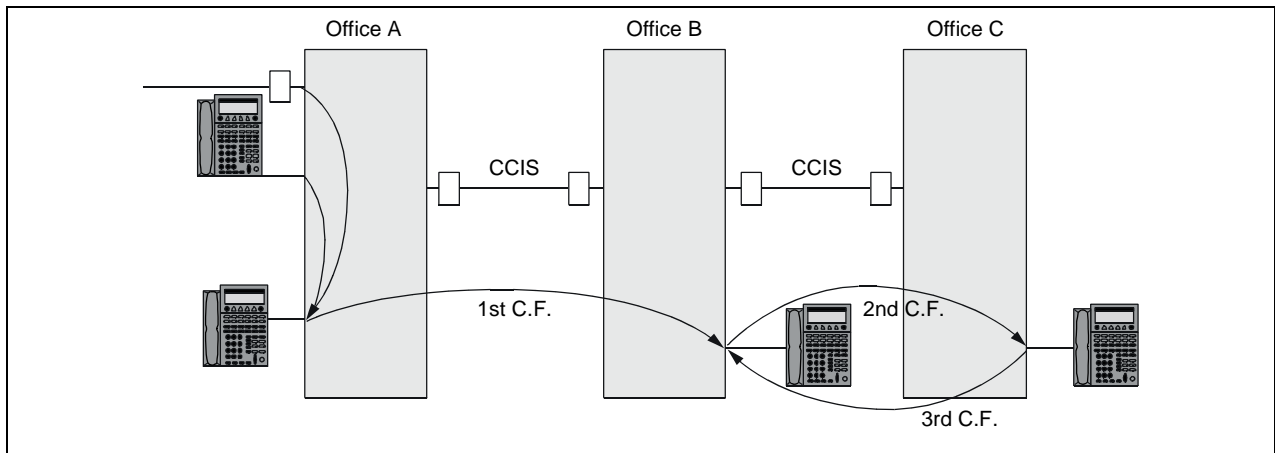
12. The following services set to the forwarded destination are not available with Multiple Call Forwarding - CCIS services, except when the services below are activated through CCIS link:

    CALL FORWARDING - ALL CALLS - OUTSIDE   [C-28]
    CALL FORWARDING - BUSY LINE - OUTSIDE   [C-60]
    CALL FORWARDING - DON'T ANSWER - OUTSIDE   [C-74]

Service Conditions (cont'd)

13. The following services are activated within one node. The maximum number of times for activating this feature is the same as previous software releases:

    MULTIPLE CALL FORWARDING - ALL CALLS [M-44]:   5 times
    MULTIPLE CALL FORWARDING - BUSY LINE [M-24]:   5 times
    MULTIPLE CALL FORWARDING - DON'T ANSWER [M-25]: unlimited

14. The following are detailed examples of Call Forwarding - CCIS activation. These examples are activated under the conditions below:

    • The maximum number of times to activate the service is three (programmed in Office A and Office B).
    • The last call forwarding is operated by Call Forwarding - All Calls/Don't Answer service.
    • Any kind of D^{term}, ISDN terminal, PHS, etc. is available to be used for the calling/intermediate party.
    • Any kind of Call Forwarding service (All Calls/Busy Line/Don't Answer) is available to be set at the calling/intermediate terminal.

The node that decides number of times for activating service.

The node that is available for the enhanced Call Forwarding - CCIS services.

The node that is unavailable for the enhanced Call Forwarding - CCIS services.

a.) The service is restricted because the terminating Office B is unavailable for enhanced Call Forwarding - CCIS service.

Service Conditions (cont'd)

b.) The service is restricted because the service has already been activated the predetermined number of times.

c.) When Office A is not available for the enhanced Call Forwarding feature, the number of times the service is activated is decided by Office B (three times are effective in this example). Note that Call Forwarding service from Office A to Office B is included in the number of times service is activated.

Service Conditions (cont'd)

d.) The Call Forwarding service is activated four times, because the call is forwarded from Office D to Office E through FCCS link:

Note: *Call Forwarding service activated through FCCS link (C.F.*) is not included in the number of times that the Multiple Call Forwarding - CCIS service is activated.*

e.) When the trunk/station incoming call terminates through FCCS link, the number of times for the service activation may vary, depending on the kind of Call Forwarding service (All Calls/Busy Line/Don't Answer) set to the station in the terminated node. This condition is also applied when the call is forwarded from Office A to Office B through FCCS link.

a. Call Forwarding - All Calls/Busy Line.
  • When the station that forwards an incoming call first (the station in Office B) is set Call Forwarding - All Calls/Busy Line, the number of times is decided by the data in Office A (the node has the calling party).

b. Call Forwarding - Don't Answer
  • When the station that forwards an incoming call first (the station in Office B) is set Call Forwarding - Don't Answer, the number of times is decided by the data in Office B (the node has the terminal that activates Call Forwarding service first).

Service Conditions (cont'd)

f.) This service is restricted when a call from the CCIS line is forwarded to other lines except CCIS (for example: C.O. line).

Interactions

When a calling party sets the services shown below while the destination party is in busy status, the services are performed to the first forwarded party.

1. In the case of Busy Verification - CCIS [B-9] or Executive Right-of-Way - CCIS [E-8], the service is effective to Station B in Office B. The service is invalid to station D.

   a.) When Station B is in busy status, Busy Verification - CCIS [B-9] and Executive Right-of-Way - CCIS [E-8] are activated.

   b.) When Station B is in idle status, Station B is rung.

2. In the case of Message Reminder - CCIS [M-34, 34D], service is performed to Station B in Office B. The service is invalid to station D.

Interactions (cont'd)

3. In the case of Call Back - CCIS [C-44], service is effective to Station B in Office B. The service is invalid to station D.

4. In the case of Step Call - CCIS [S-59], the service is valid to Station B in Office B. The service is invalid to station D.

Programming

STEP 1: **ASYD** - System 1, Index 5, Bit 0: Access Code for Call Forwarding - Busy Line and Call Forwarding - Don't Answer service. 0/1 = Same/Separate.

System 1, Index 5, Bit 1, 2 & 3: Number of Multiple Call Forwarding jumps:

b3	b2	b1	
0	0	0	**1 jump**
0	0	1	**1 jump**
0	1	0	**2 jumps**
0	1	1	**3 jumps**
1	0	0	**4 jumps**
1	0	1	**5 jumps**

Programming (cont'd)

System 1, Index 69, Bit 7: (1) Multiple Call Forwarding in service.

SYS 1, INDEX 486, bit 0-2. The maximum number of times for activating Call Forwarding - CCIS service (0 to 7 times: 01Hex-07Hex)

When assigning "0 (default)", the Release 7 software enhancement is not available (the call forwarding is activated between CCIS nodes only one time). Also, when assigning "1", the number of times for the service is the same as before the Release 7 software enhancement.

STEP 2: **ASFC** - Allow Call Forwarding-Busy (SFI = 9) to the SFC of the stations.

STEP 3: **ANPD** - Assign minimum necessary number of digits for the first number of the access code for Call Forwarding-Busy.

STEP 4: **ASPA** - Assign the access code for Call Forwarding-Busy.

To set: CI = N, SRV = SSC (Service Code), SID = 10

To cancel: CI = N, SRV = SSC (Service Code), SID = 11

STEP 5: **ATNR** - Assign allowable data to the corresponding tenant restriction index.

M-42 Multiple Call Forwarding - Don't Answer - CCIS

General Description

This service permits a call to an unanswered station to be forwarded, multiple times, to a predesignated station that does not have CALL FORWARDING-DON'T ANSWER [C-3] service set, or to the ATTENDANT CONSOLE [A-3] in a CCIS network.

1.   With existing CALL FORWARDING-DON'T ANSWER [C-3] (CF-D) service:
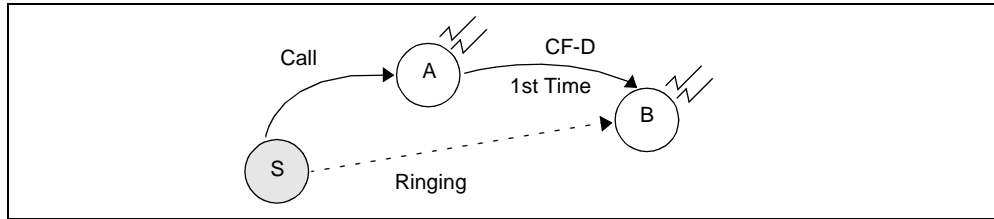
2.   With MULTIPLE CALL FORWARDING-DON'T ANSWER [M-25] service:
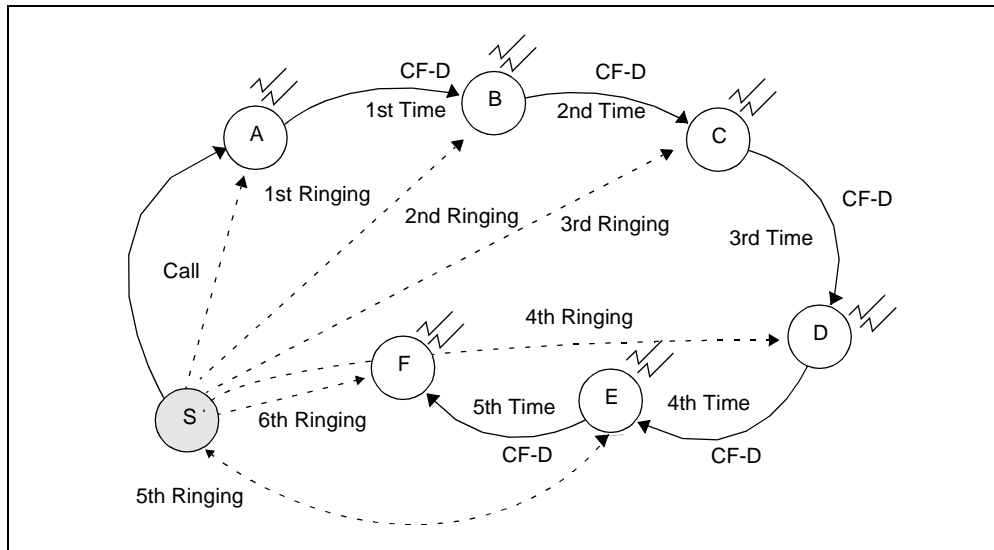
Operating Procedure

1.   Station A sets Call Forwarding-Don't Answer to Station B. Station B sets Call Forwarding-Don't Answer to Station C. Station C sets Call Forwarding-Don't Answer to Station D.

2.   A call is directed to Station A. The calling party receives ringback tone, and ringing starts at Station A.

3.   The call is not answered within a predetermined amount of time and is forwarded to Station B. Ringing stops at Station A and starts at Station B.

4.   The call is not answered within a predetermined amount of time and is forwarded to Station C. Ringing stops at Station B and starts at Station C.

5.   The call is not answered within a predetermined amount of time and is forwarded to Station D. Ringing stops at Station C and starts at Station D.

6.   Station D lifts the handset and is connected to the calling party.

Service Conditions

1. The service conditions within the node comply with those of MULTIPLE CALL FORWARDING-DON'T ANSWER [M-25].

2. A call can be forwarded by CALL FORWARDING a maximum of one time between nodes in a CCIS network.

3. When CALL FORWARDING is performed in a CCIS network, the following services are not available at a forwarded-to station:

CALL FORWARDING-ALL CALLS-OUTSIDE	[C-28]
CALL FORWARDING-BUSY LINE-OUTSIDE	[C-60]
CALL FORWARDING-DON'T ANSWER-OUTSIDE	[C-74]

LEGEND
- CF-D: Call Forwarding - Don't Answer
- CF-D - CCIS: Call Forwarding - Don't Answer - CCIS
- CF-D-Outside: Call Forwarding - Don't Answer-Outside
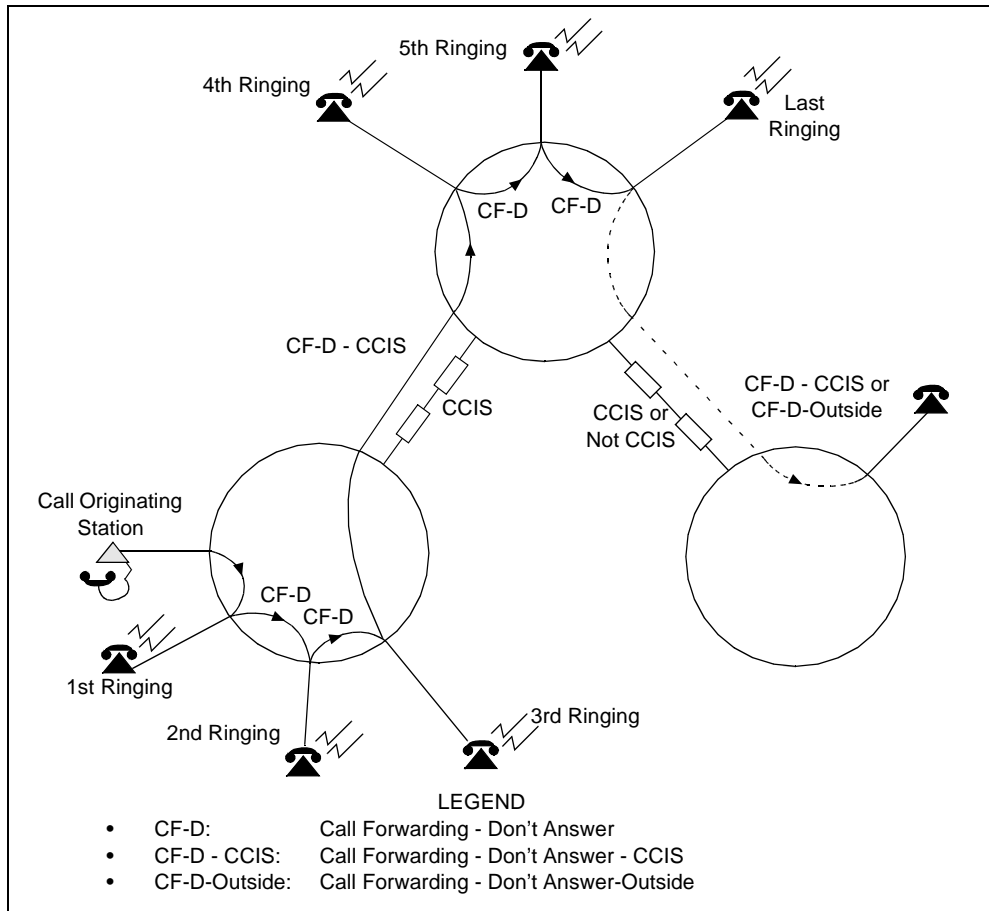
Service Conditions (cont'd)

4. When a call is set to be forwarded to a calling party by CALL FORWARDING-DON'T ANSWER - CCIS [M-42], the call forwarded to the calling party is ignored and the last station keeps ringing.
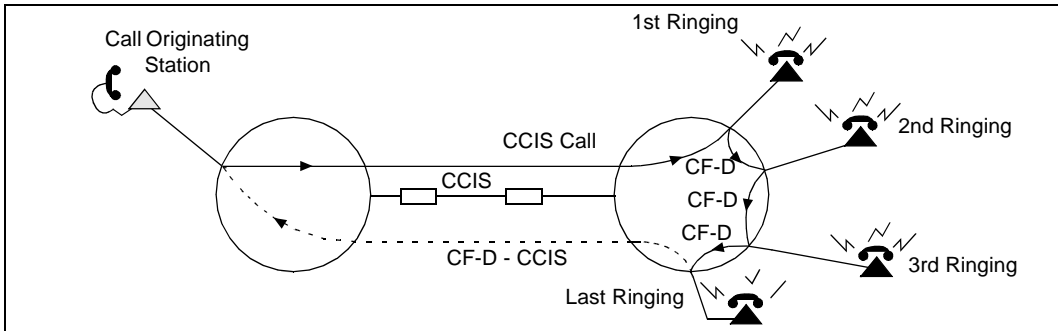
5. The type of forwarding to be displayed is CF NANS at the terminating node.
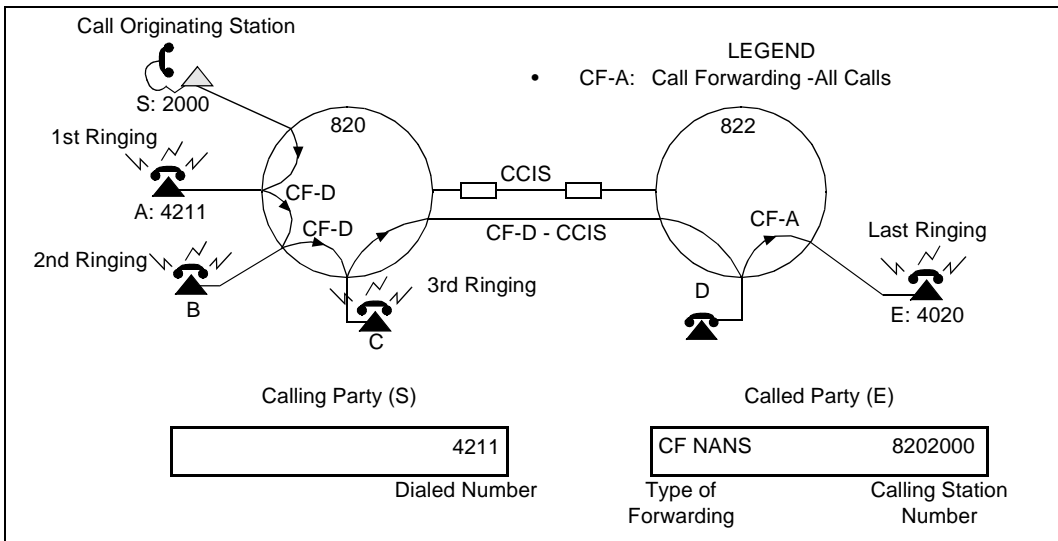
6. When a call is terminated to an ATTENDANT CONSOLE [A-3] by the MULTIPLE CALL FORWARDING-DON'T ANSWER - CCIS [M-42], the call type is NANS.

7. There is no limit to the number of jumps for MULTIPLE CALL FORWARDING-NO ANSWER.

8. The system data (ASYD, SYS1, INDEX 486, bit 0-2) decides the maximum number of times for activating a call forwarding service between nodes through CCIS. The number of times is selected in the range of 1 time to 7 times (ASYD, SYS1, INDEX 486, bit 0-2 = 0 means the enhanced feature is not available).

9. The number of times for activating this service between CCIS nodes is decided by system data programmed at the node that has the station operating the first Call Forwarding service through CCIS link. However, when the node accommodating the station operating the service first has not programmed, the number of times is decided at the node that accommodates the destination of the first Call Forwarding - CCIS service.
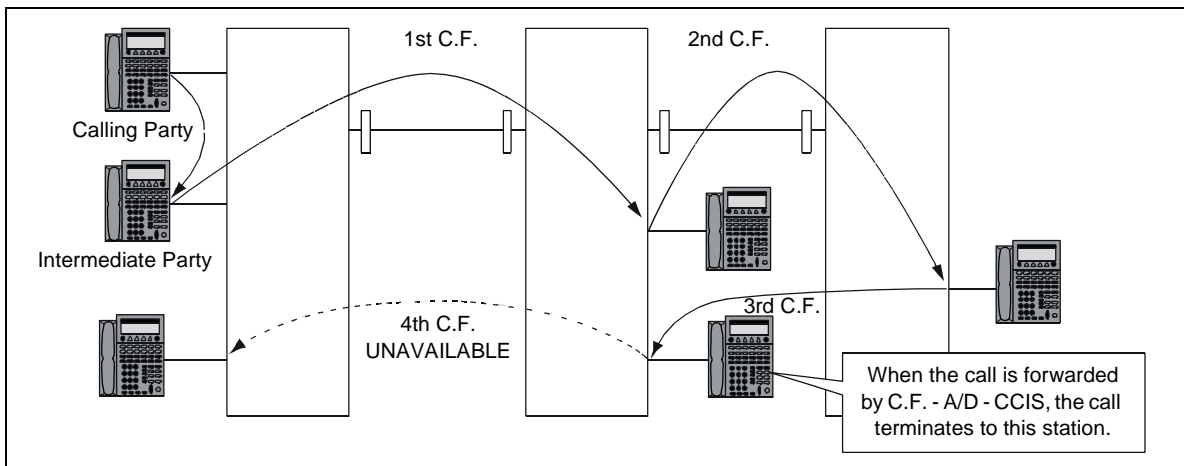
Service Conditions (cont'd)

10.   When the destination is the calling party:

   a.) CALL FORWARDING - DON'T ANSWER: the call continues to place at the station that forwards the call to the caller.
   In this case, the calling party hears ringback tone:
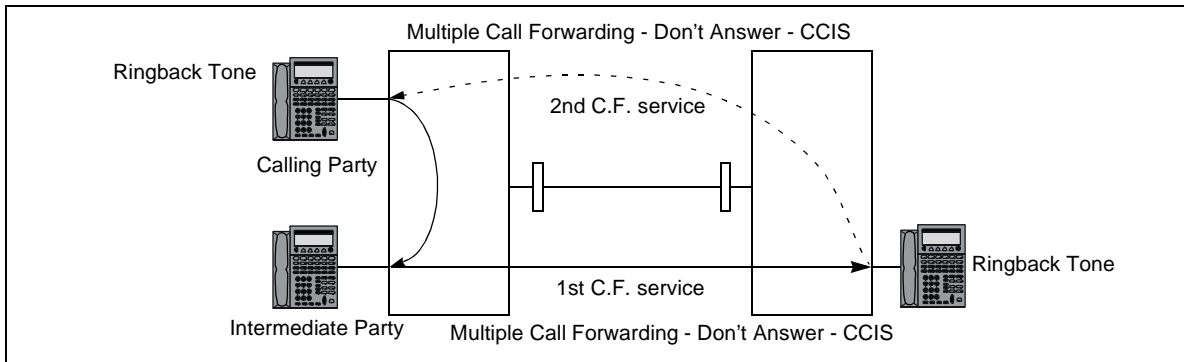
11.   When Call Forwarding is restricted because the number of times data or service restriction data, the call continues to ring at the station that has restricted the service.

   Example 1: Multiple Call Forwarding - CCIS is restricted because the service has already been activated the preassigned maximum number of times. A maximum of three times is available for Call Forwarding through CCIS.

Service Conditions (cont'd)

Example 2: Multiple Call Forwarding - CCIS service is restricted because the service is not effective at the node.
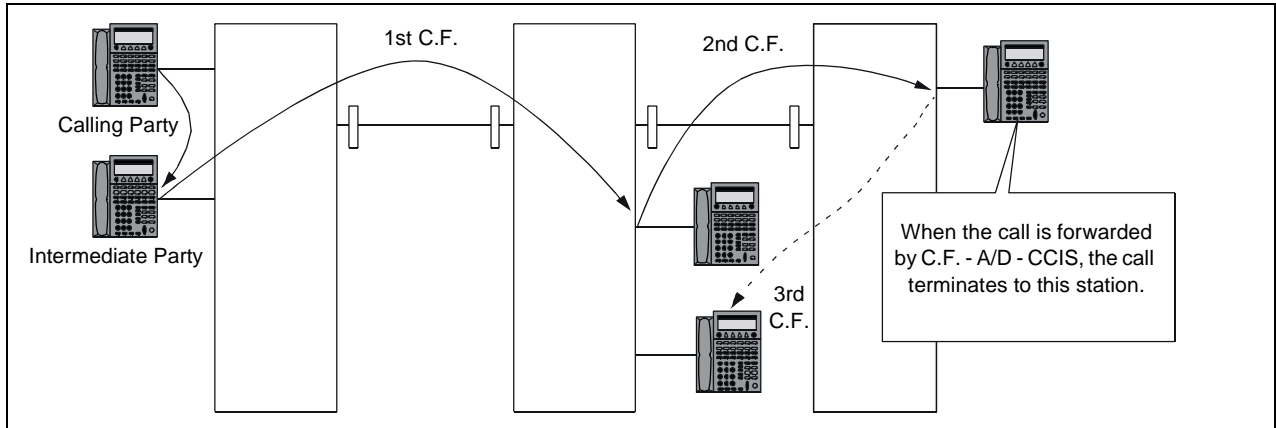
12. Even if Call Forwarding is set from the forwarded station to the forwarding station, the Call Forwarding service is effective, as shown in the example below:

When Office A selects the number of times for Call Forwarding for 5 times, five times of Call Forwarding are executed as Call Forwarding 1 to Call Forwarding 2 to Call Forwarding 3 to Call Forwarding 2 to Call Forwarding 3.
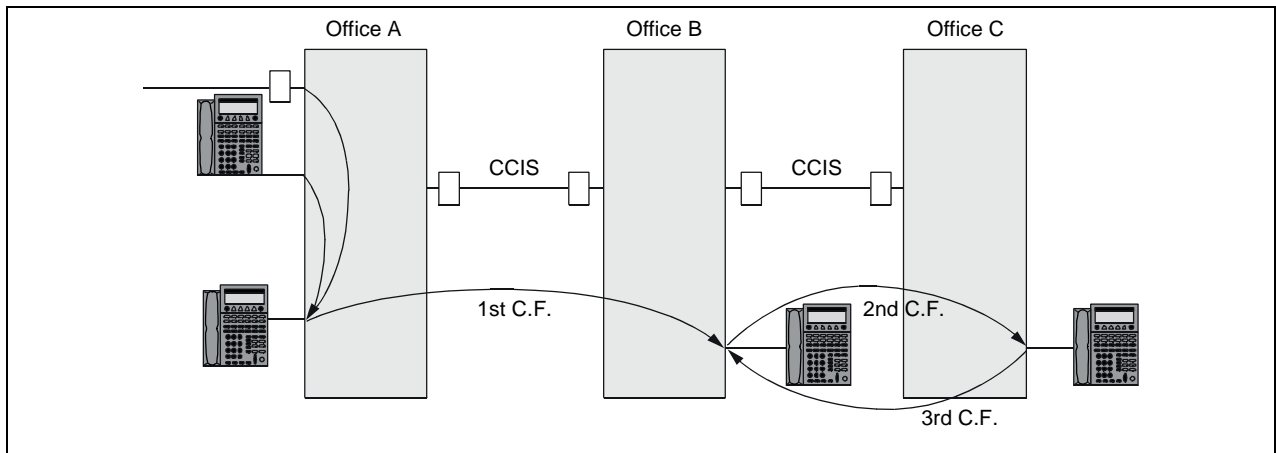
13. The following services set to the forwarded destination are not available with Multiple Call Forwarding - CCIS services, except when the services below are activated through CCIS link:

    CALL FORWARDING - ALL CALLS - OUTSIDE   [C-28]
    CALL FORWARDING - BUSY LINE - OUTSIDE   [C-60]
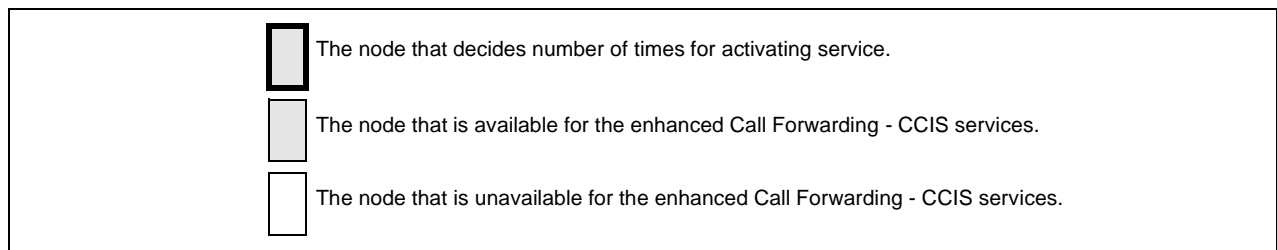   CALL FORWARDING - DON'T ANSWER - OUTSIDE   [C-74]

14. The following services are activated within one node. The maximum number of times for activating this feature is the same as previous software releases:

    MULTIPLE CALL FORWARDING - ALL CALLS [M-44]:   5 times
    MULTIPLE CALL FORWARDING - BUSY LINE [M-24]:   5 times
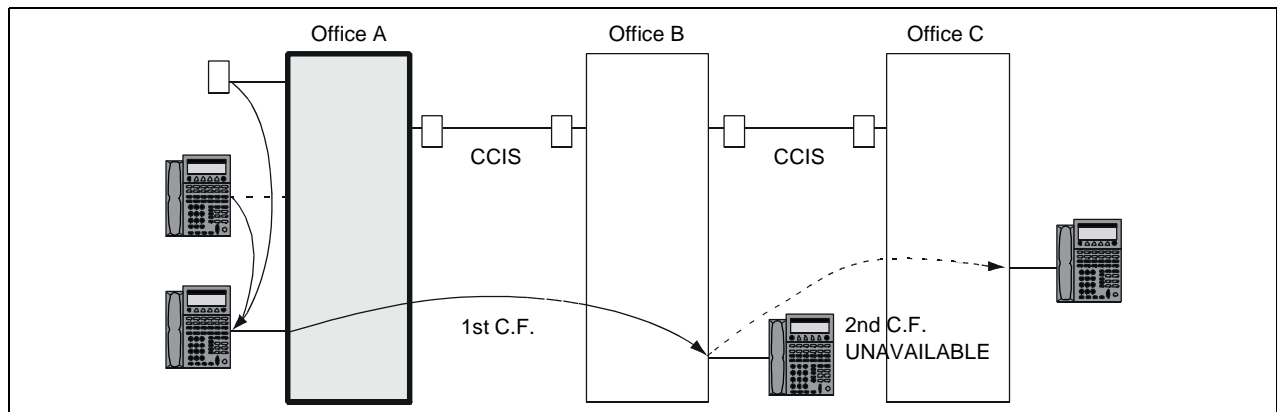   MULTIPLE CALL FORWARDING - DON'T ANSWER [M-25]: unlimited

Service Conditions (cont'd)

15. The following are detailed examples of Call Forwarding - CCIS activation. These examples are activated under the conditions below:

- The maximum number of times to activate the service is three (programmed in Office A and Office B).
- The last call forwarding is operated by Call Forwarding - All Calls/Don't Answer service.
- Any kind of D^{term}, ISDN terminal, PHS, etc. is available to be used for the calling/intermediate party.
- Any kind of Call Forwarding service (All Calls/Busy Line/Don't Answer) is available to be set at the calling/intermediate terminal.
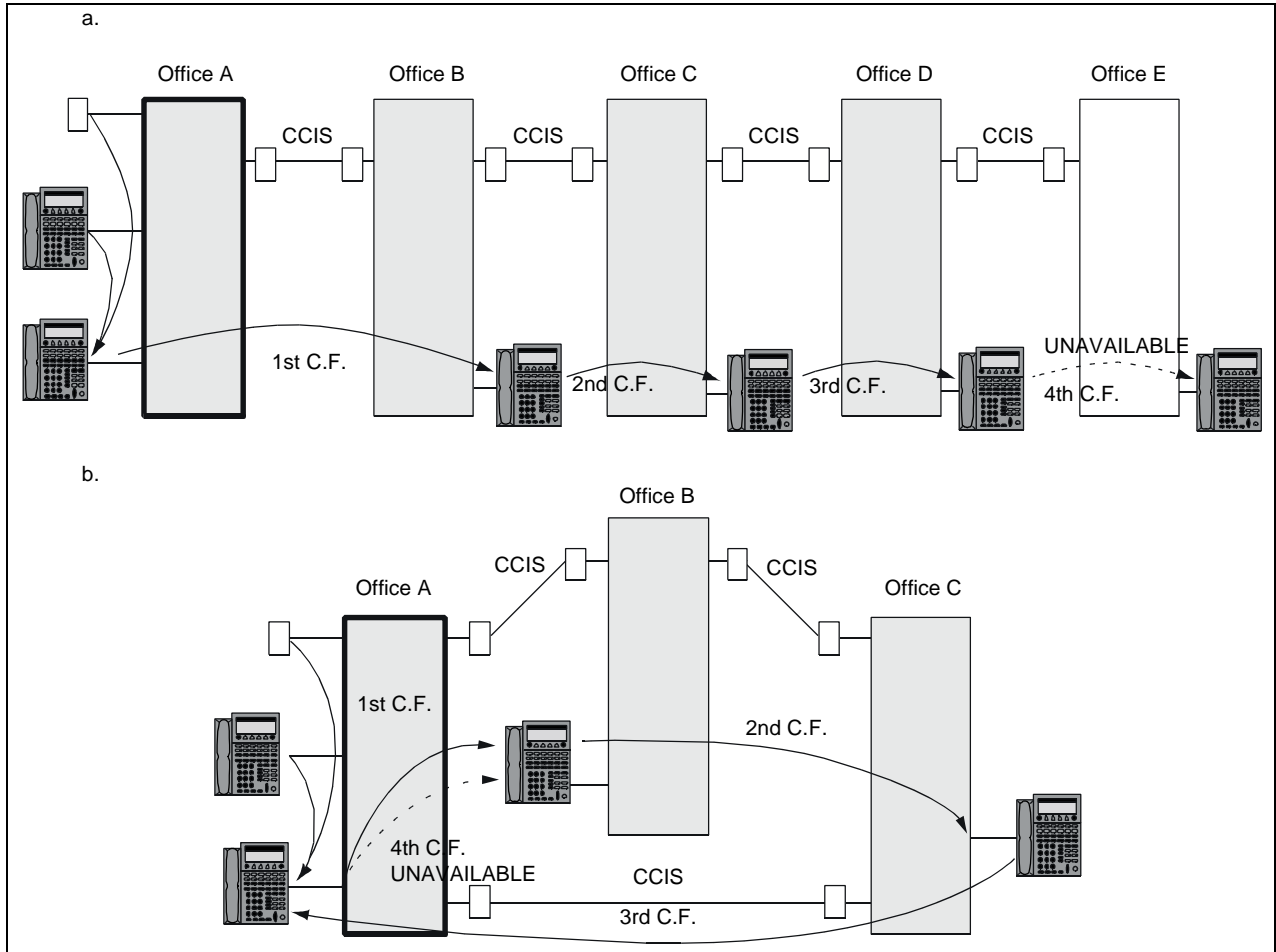
The node that decides number of times for activating service.

The node that is available for the enhanced Call Forwarding - CCIS services.

The node that is unavailable for the enhanced Call Forwarding - CCIS services.

a.) The service is restricted because the terminating Office B is unavailable for enhanced Call Forwarding - CCIS service.
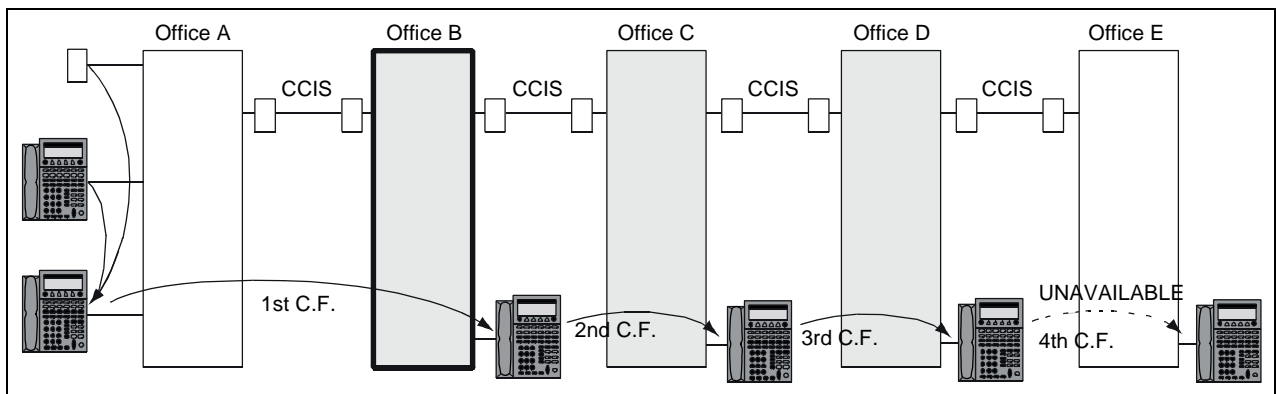
Service Conditions (cont'd)

    b.) The service is restricted because the service has already been activated the predetermined number of times.
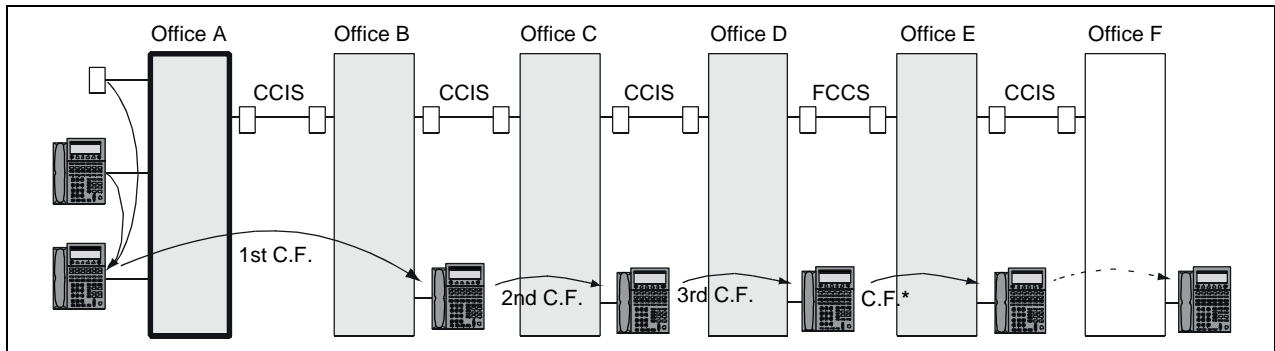

    c.) When Office A is not available for the enhanced Call Forwarding feature, the number of times the service is activated is decided by Office B (three times are effective in this example). Note that Call Forwarding service from Office A to Office B is included in the number of times service is activated.

Service Conditions (cont'd)

d.) The Call Forwarding service is activated four times, because the call is forwarded from Office D to Office E through FCCS link:
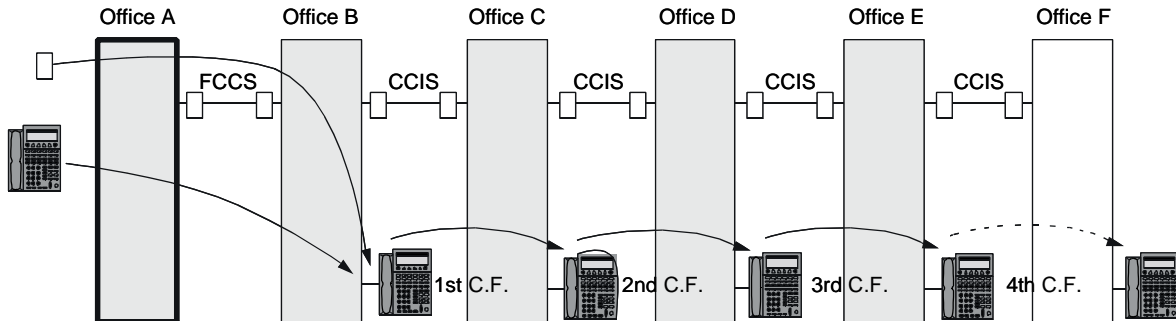

Note: *Call Forwarding service activated through FCCS link (C.F.*) is not included in the number of times that the Multiple Call Forwarding - CCIS service is activated.*

e.) When the trunk/station incoming call terminates through FCCS link, the number of times for the service activation may vary, depending on the kind of Call Forwarding service (All Calls/Busy Line/Don't Answer) set to the station in the terminated node. This condition is also applied when the call is forwarded from Office A to Office B through FCCS link.

a. Call Forwarding - All Calls/Busy Line.
 • When the station that forwards an incoming call first (the station in Office B) is set Call Forwarding - All Calls/Busy Line, the number of times is decided by the data in Office A (the node has the calling party).

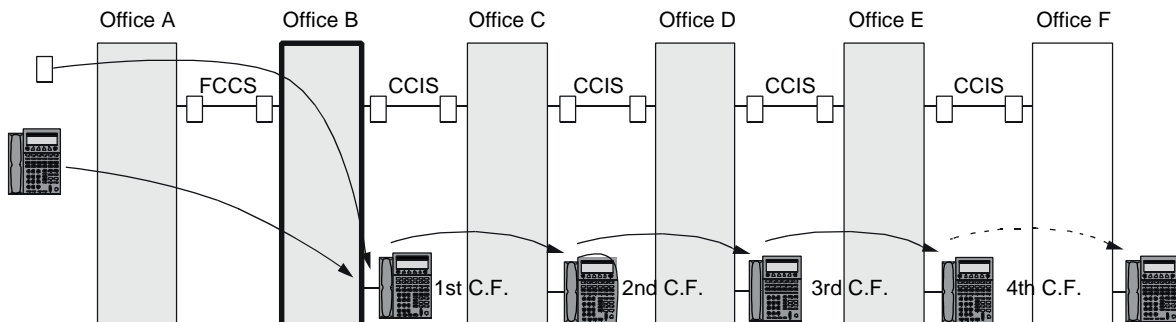b. Call Forwarding - Don't Answer
 • When the station that forwards an incoming call first (the station in Office B) is set Call Forwarding - Don't Answer, the number of times is decided by the data in Office B (the node has the terminal that activates Call Forwarding service first).
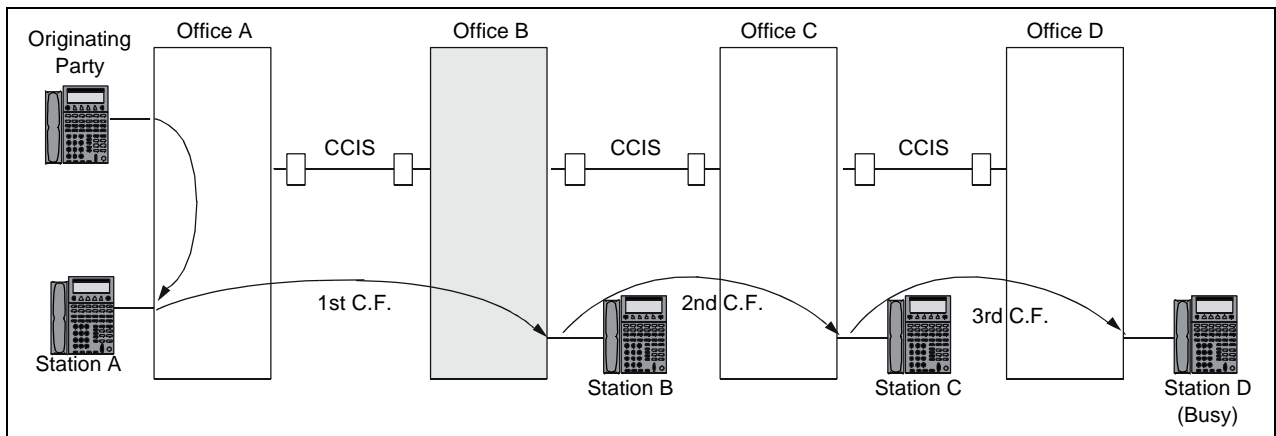
Service Conditions (cont'd)

f.) This service is restricted when a call from the CCIS line is forwarded to other lines except CCIS (for example: C.O. line).

Interactions

When a calling party sets the services shown below while the destination party is in busy status, the services are performed to the first forwarded party.

1. In the case of Busy Verification - CCIS [B-9] or Executive Right-of-Way - CCIS [E-8], the service is effective to Station B in Office B. The service is invalid to station D.

   a.) When Station B is in busy status, Busy Verification - CCIS [B-9] and Executive Right-of-Way - CCIS [E-8] are activated.

   b.) When Station B is in idle status, Station B is rung.

2. In the case of Message Reminder - CCIS [M-34, 34D], service is performed to Station B in Office B. The service is invalid to station D.

Interactions (cont'd)

3. In the case of Call Back - CCIS [C-44], service is effective to Station B in Office B. The service is invalid to station D.

4. In the case of Step Call - CCIS [S-59], the service is valid to Station B in Office B. The service is invalid to station D.

Programming

STEP 1: **ASYD** - System 1, Index 5, Bit 0: Access Code for C.F-Busy Line and C.F-Don't Answer service. 0/1 = Same/Separate.

System 1, Index 5, Bits 1, 2, & 3: Number of Multiple Call Forwarding jumps:

b3	b2	b1	
0	0	0	**1 jump**
0	0	1	**1 jump**
0	1	0	**2 jumps**
0	1	1	**3 jumps**
1	0	0	**4 jumps**
1	0	1	**5 jumps**

Programming (cont'd)

STEP 2: **ASFC** - Allow Call Forwarding-Don't Answer (SFI = 8) to the SFC of the stations.

STEP 3: **ANPD** - Assign minimum necessary number of digits for the first number of the access code for C.F-Don't Answer service.

STEP 4: **ASPA** - Assign the access code for C.F-Don't Answer service.

To set: CI = N, SRV = SSC (Service Code), SID = 12

To cancel: CI = N, SRV = SSC (Service Code), SID = 13

STEP 5: **ATNR** - Assign allowable data into the corresponding item of the tenant restriction index.

SYS 1, INDEX 486, bit 0-2. The maximum number of times for activating Call Forwarding - CCIS service (0 to 7 times: 01Hex-07Hex)

When assigning "0 (default)", the Release 7 software enhancement is not available (the call forwarding is activated between CCIS nodes only one time). Also, when assigning "1", the number of times for the service is the same as before the Release 7 software enhancement.

M-43 Multiple Console Operation - CCIS

General Description

This feature provides console operation where ATTENDANT CONSOLEs [A-3] are installed in more than one node in the CCIS network.

Operating Procedure

No manual operation is required.

Service Conditions

1. Call transfer among ATTENDANT CONSOLEs [A-3] in different nodes is possible, but call identification information cannot be transferred from one node to another.

2. When ATTENDANT CONSOLEs [A-3] are installed in multiple nodes, Day/Night mode changeover is controlled independently in each node.

3. The following types of calls on the CCIS network are identified by the lamps on the ATTENDANT CONSOLE [A-3]:
   - LDN
   - FX
   - WATS
   - CCSA
   - TIE
   - ATND

4. When ATTENDANT CONSOLEs [A-3] are installed in multiple nodes, an incoming call is only indicated at the terminating ATTENDANT CONSOLE [A-3]. No indication is given on the ATTENDANT CONSOLEs [A-3] at the other nodes.

5. The maximum number of consoles per unit is two.

6. The maximum number of consoles allowed per system is 16 for 1 IMG and 60 for 4 IMGs/IMX-U.

7. Each incoming call is displayed on a console whether idle or busy. If all Attendants are involved in processing calls when another Central Office call arrives, the Call Waiting Lamp will light on all consoles. This is Switched-Loop Attendant Operation.

8. If one of the consoles enters the Night mode, all calls addressed to the Attendant will be directed to the other consoles. However, the console which has entered the Night mode must complete processing of all calls already connected to its loop.

9. A station can be connected to only one Attendant loop at a time. Any attempt at establishing multiple connections will result in reorder tone being sent to the Attendant.

10. The NEAX2400 IMX operates only on a switched-loop basis. Fixed-loop operation is not available.

Interactions

1. See ATTENDANT CONSOLE [A-3] for information regarding a single ATTENDANT CONSOLE [A-3] and system features provided to the ATTENDANT CONSOLE [A-3]. The ATTENDANT CONSOLE [A-3] must be provided first.

2. For each tenant, only one type of ATTENDANT CONSOLE [A-3] system can be assigned, either normal or Primary ATTENDANT CONSOLE [A-3] system.

3. ASAT must be programmed for INTERPOSITION TRANSFER [I-5].

Interactions (cont'd)

4. ATTENDANT CONSOLEs [A-3] may not dial another console directly. Talk path will occur only during INTERPOSITION TRANSFER [I-5].

5. When more than one ATTENDANT CONSOLE [A-3] is installed, a Primary ATTENDANT CONSOLE [A-3] may be assigned (AMAT command). This ATTENDANT CONSOLE [A-3] will control the implementation of DAY/NIGHT CLASS OF SERVICE [D-15].

Programming

STEP 1:   **ASYD** - SYS1, Index 9, Assign the number of ATTENDANT CONSOLE [A-3] in system.

SYS2, Index 2, bit 2, Is this Primary ATTCON system? 0/1: No/Yes. (When Primary goes into Night, tenant goes into Night.)

SYS2, Index 2, bit 3, Is this normal ATTCON system? 0/1: No/Yes. (When all ATTENDANT CONSOLES [A-3] go into Night, tenant goes into Night.)

STEP 2:   **ATRK** - To assign the ATTENDANT CONSOLE [A-3]: LEN # = LP, and UNIT. The Line Group is always 20 and the Level is either 0 or 1. Assign as Route 901. Also assign a Service Feature Class (SFC 0) and a Route Restriction Class (RSC 0) to the ATTENDANT CONSOLE [A-3].

STEP 3:   **ASAT** - Assign a specific Attendant Number to the ATTENDANT CONSOLE [A-3]. See INDIVIDUAL ATTENDANT ACCESS [I-6].

STEP 4:   **AMAT** - Assign one of the ATTENDANT CONSOLES [A-3] to serve as the Primary ATTENDANT CONSOLE [A-3]. This service is assigned on a tenant basis. The ATT Number will correspond to the Trunk number of that specific console.

STEP 5:   **MBTK** - Make Idle the ATTENDANT CONSOLE [A-3] trunk.

STEP 6:   **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant basis. Assign Tenant Restriction Index (TRI) 1 for station to station calling; TRI 1 for CALL FORWARDING, TRI 3 for CALL FORWARDING set by the ATTENDANT CONSOLE [A-3]; TRI 4 for incoming calls to the ATTENDANT CONSOLE [A-3].

M-67   Message Center Interface - CCIS

General Description

This service feature provides an INTERFACE to the external CPU for MESSAGE CENTER information when a specific UCD group or console in a CCIS network is called. This interface allows external control of Message Waiting Lamp (MWL) indications on equipped PBX stations.

(Series 7400 software enhancement) This service may be provided through FCCS groups (networks where multiple NEAX2400 IMXs are connected via FCCS link) and NEAX2000 IVS. When this service is provided through FCCS groups, it is called Centralized Message Center Interface.

(Series 7400 software enhancement) By the Centralized Message Center Interface function, the MCI message is transmitted to the shared MCI within the self FCCS group when a call terminates from another FCCS group or the NEAX2000 IVS to any UCD group within the self FCCS group.

Operating Procedure

The Message Center Interface (MCI) can provide one of two modes of operation. These modes are described as Feature 1 and Feature 2:
Feature 1:
- Incoming call information is sent to the MCI when an attendant answers.
- Control of MWLs is based on data from the external CPU.

Feature 2:
- Incoming call information is sent to the MCI when a UCD station answers.
- Dual call forwarding service is possible.
- Control of MWLs is based on data from the external CPU.

**Procedures for each of these two features are as follows:**
Feature 1:
1. When the attendant answers a call, the PBX transmits a call handling record to the MCI. The external CPU, based on the received data, will display a profile of the station/trunk being handled by the attendant on the monitor.
2. MWL control is based on data from the external CPU. Through the external CPU terminal, when information is registered, the Host/CPU system forwards MWL control data according to the MWL On/Off control information sent.
3. The PBX, upon receiving this control data from the MCI, will extinguish or illuminate the MWL, depending on the subscriber displayed on the attendant's monitor/display.
4. The called station will be able to receive a message from the attendant by dialing "0", or from a computer terminal by entering his/her identification number.
5. The external CPU, upon retrieval of message information, will transmit a data record requesting the PBX to extinguish the MWL of the corresponding station.

Feature 2:
1. The purpose of this MCI is to provide an interface to a Voice Mail System, or a Message Center Computer which is capable of sending MWL control data to the PBX.
2. In order to perform the data transfer to the external CPU, a station/trunk is connected to a designated UCD group. These stations in the UCD group are connected to the Voice Mail System/Message Center System to collect call connection status of MWL control information. Refer to the block diagram on the following page.
3. The PBX, upon receiving this control data from the MCI, will extinguish or illuminate the MWL depending on the subscriber displayed on the attendant's monitor/display.

Operating Procedure (cont'd)

4. The user at the called station will be able to receive a message from the system by dialing the Pilot number of the UCD station group connected to the Voice Mail System.

5. The external CPU, upon retrieval of message information, will transmit a data record requesting the PBX to extinguish the MWL of the corresponding station.
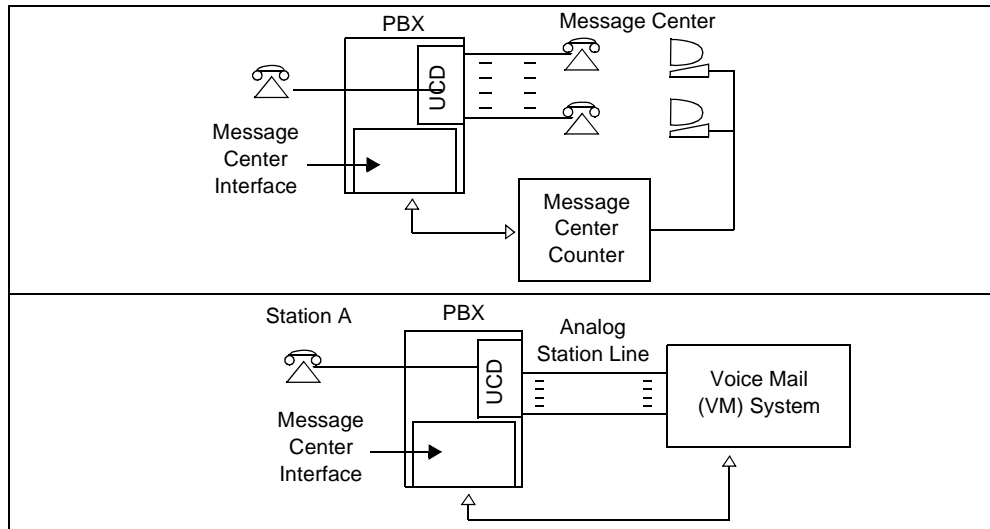
Service Conditions

1. The call type is sent to the external CPU via the MCI interface. This call record will pertain to the following services:

Feature 1:
- CALL FORWARDING-DON'T ANSWER [C-3] from Internal Call
- CALL FORWARDING-DON'T ANSWER [C-3] from External Call
- CALL FORWARDING-DON'T ANSWER - CCIS [C-47] from Internal Call
- CALL FORWARDING-DON'T ANSWER - CCIS [C-47] from External Call
- CALL FORWARDING-BUSY LINE [C-2] from Internal Call
- CALL FORWARDING-BUSY LINE [C-2] from External Call
- CALL FORWARDING-BUSY LINE - CCIS [C-46] from Internal Call
- CALL FORWARDING-BUSY LINE - CCIS [C-46] from External Call
- CALL FORWARDING-ALL CALLS [C-5] from Internal Call
- CALL FORWARDING-ALL CALLS [C-5] from External Call
- CALL FORWARDING-ALL CALLS - CCIS [C-45] from Internal Call
- CALL FORWARDING-ALL CALLS - CCIS [C-45] from External Call
- MULTIPLE CALL FORWARDING-DON'T ANSWER - CCIS [M-42] from Internal Call
- MULTIPLE CALL FORWARDING-DON'T ANSWER - CCIS [M-42] from External Call
- MULTIPLE CALL FORWARDING-BUSY LINE - CCIS [M-41] from Internal Call
- MULTIPLE CALL FORWARDING-BUSY LINE - CCIS [M-41] from External Call
- MULTIPLE CALL FORWARDING-ALL CALLS - CCIS [M-40] from Internal Call
- MULTIPLE CALL FORWARDING-ALL CALLS - CCIS [M-40] from External Call
- ATTENDANT CAMP-ON WITH TONE INDICATION [A-1]
- ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS [A-45]

Service Conditions (cont'd)

- • AUTOMATIC RECALL [A-8]
- • Call Return from Hold
- • Operator Call
- • LDN Call

Feature 2:

- • Station dials Message Center Number Directory.
- • Direct Trunk Call to Message Center.
- • Trunk Call to Message Center extended by ATTENDANT
- • Station Call is FORWARDED-ALL CALLS to Message Center.
- • Trunk Call is FORWARDED-ALL CALLS to Message Center.
- • Station Call is FORWARDED-BUSY LINE to Message Center.
- • Trunk Call is FORWARDED-BUSY LINE to Message Center.
- • Station Call is FORWARDED-DON'T ANSWER to Message Center.
- • Trunk Call is FORWARDED-DON'T ANSWER to Message Center.

2. The PBX MCI can control the display of a 16-Button D^{term} for Message Indication. One of four applications of the MCI can be displayed. They are: MW in a Message Center system, VMM in a Voice Mail system, TMM in a Text Mail system, and FMM in a Fax Mail system.

3. If an ATTENDANT CONSOLE [A-3] calls a UCD group directly for Feature 2, the PBX will not generate a call record to the MCI.

4. If the Host/CPU malfunctions and stops collecting call records, the PBX can store up to 16 call records. If the maximum of 16 call records is stored and a 17th is generated, the system will overwrite the oldest stored record, thus giving the stack the most recently generated call records.

5. The PBX connected to a Message Center CPU in a CCIS network forms a Message Center Node. In the CCIS network, one Message Center Node can be provided.

6. The maximum number of remote nodes where the Message Center CPU sends the OFF command for MWLs of all the stations is 32.

7. This service is used together with CALLED NUMBER DISPLAY-ATTENDANT [C-59].

(Series 7400 software enhancement) Conditions for the Centralized Message Center Interface function:

1. **(Series 7400 software enhancement)** When 7 or 8 digit telephone numbers are used, the maximum number of digits indicated for the MCI message depends on the system data (maximum 6/8). At this time, the MCI equipment should be adapted to 8 digit telephone numbers.

2. **(Series 7400 software enhancement)** The Centralized MCI function is activated by assigning MCI equipment and UCD group at the Centralized Office. The MCI message cannot be transferred to the Centralized Office through FCCS groups and NEAX2000 IVS.

3. **(Series 7400 software enhancement)** The signal of Call Waiting Lamp Controlling is sent from the MCI within the Center FCCS group to the other FCCS groups and the NEAX2000 IVS system.

4. **(Series 7400 software enhancement)** When the Centralized Office adopts the ICS format method, the receiving message field is output as it is. In case of IMX format method, the originating information field is also output to the telephone number field.

Programming

STEP 1: **ASYD** - System 1, Index 28, Bit 0, 1, 2, & 3: Assign message sending guard timer for MCI. Guard timer: (data value × 128 ms). Bit 5: MWL Control by MCI. 0/1 = Out/In Service.

System 1, Index 29, Bits 0-7: Assign the port number for message output to the M.C. In the case of dual service, two Bits are assigned.

System 1, Index 34, Bits 1 & 2: Specify the RS-232C Output Parity Code.

Programming (cont'd)

System 1, Index 70, Bit 0: (1) Called Number Display in service.

System 1, Index 78, Bit 1: (1) Calling and Intermediate Station number indication. Bit 1: (1) Kind of service class indication.

System 1, Index 116 (Port 0) through Index 123 (Port 7): Assign the kind of terminal = 1: printer/MCI to the corresponding output port. (Assigned via AIOC.)

System 2, Index 6, Bit 0: MCI service when terminating UCD group in this Tenant. 0/1 = Out/In Service.

System 2, Index 7, Bit 1: MCI service when terminating the Attendant in this tenant. 0/1 = Out/In Service.

STEP 2: **AIOC** - Assign the function and attribute data of the IOC ports.

STEP 3: **ASFC** - Allows MWL Control (SFI = 74) to the SFC of the station. SFI = 74: MW lamp setting-station (Called Party).

STEP 4: **ARPC** - Assigns the Remote Point Code data for the Message Center.

N-15 Night Connection - Fixed - CCIS

General Description

When the Night mode has been entered, this service feature routes calls, normally directed to the ATTENDANT CONSOLE [A-3], to a preselected station in another node through CCIS.

Operating Procedure

1. The Night lamp illuminates, when the Attendant in Node A sets Night mode with the NITE key pressed.
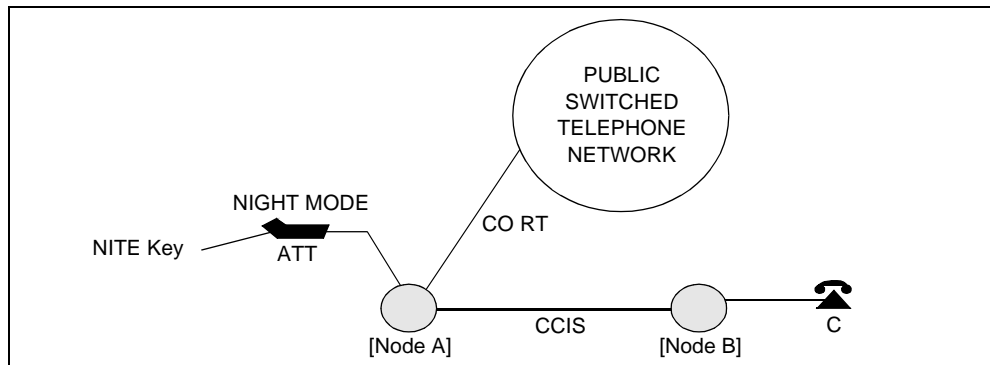
2. An incoming call from the CO RT to the Attendant in Night mode. The CO RT is automatically connected to Station C for night connection and receives ringback tone. Station C is rung.
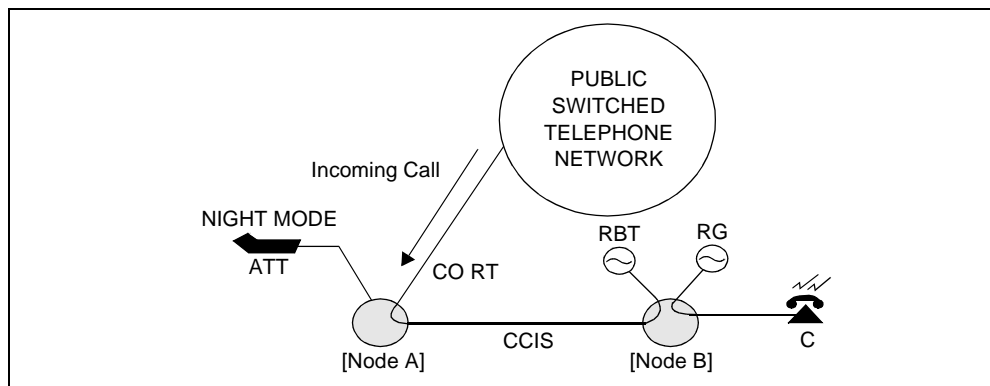
Operating Procedure (cont'd)

3. Station C answers and is connected with the CO RT. If necessary, the call can be transferred to another station by means of Call Transfer-All Calls service.
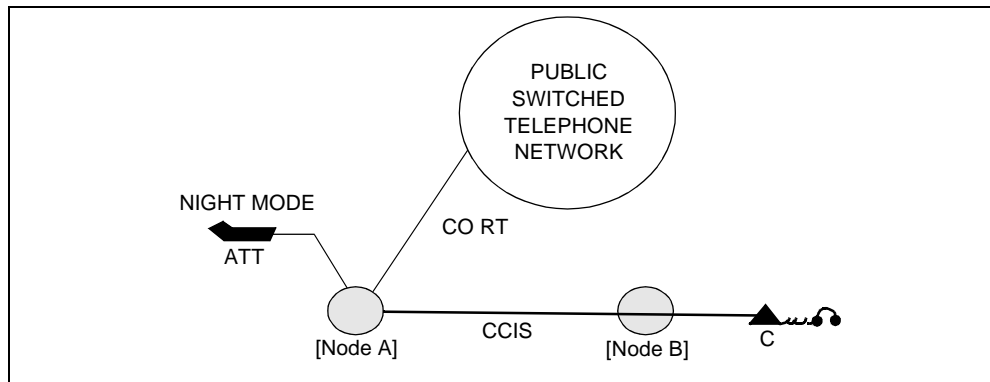
Service Conditions

1. Calls that are being processed, or are in the Hold state when the NIGHT mode is entered, will be disconnected after the mode changeover has been completed.
2. If the NIGHT CONNECTION station to which an incoming call has been directed is busy, the calling party will hear ringback tone until the station becomes idle.
3. This service feature may be provided with NIGHT CONNECTION-FLEXIBLE [N-2] and TRUNK ANSWER FROM ANY STATION [T-8] in the same system.
4. If the NIGHT CONNECTION station is set for CALL FORWARDING-ALL CALLS [C-5], incoming Central Office trunk calls terminated to that station will be forwarded to the designated station.
5. Incoming calls that will be routed to NIGHT CONNECTION stations are limited to Ring Down trunks.
6. Such calls programmed in the ALDN command should use LDN NIGHT CONNECTION - CCIS [L-29].

Programming

STEP 1: **ACSI** - Assign the Night Connection-Fixed station number to the route and trunk number.
     RT= ☐ , TK= ☐
     CSI=6 (Night Connection-Outside)
     ADC= ☐

STEP 2: **ACFR** - Release the call forwarding restriction by Night Connection Fixed (TSFI = 2).

STEP 3: **ARSC** - Release the incoming connection restriction of the route and station assigned in ACSI. (RRI = 0, 1)

STEP 4: **ASPD** - Assign Speed Dial number.

N-16 Night Connection - Flexible - CCIS

General Description

This feature provides inter-office flexible Night Connection service through the CCIS network, when the NIGHT CONNECTION-FIXED - CCIS and NIGHT CONNECTION-FLEXIBLE - CCIS stations are located in different nodes.

Operating Procedure

To set NIGHT CONNECTION-FLEXIBLE - CCIS:

1.   The NIGHT CONNECTION-FIXED - CCIS station in the destination office sets CALL FORWARDING-ALL CALLS - CCIS [C-45] to a station in another node.

To answer a NIGHT CONNECTION-FLEXIBLE - CCIS call:

1.   In the Night mode, an incoming call to the Attendant Console is automatically routed through CCIS to a NIGHT CONNECTION-FIXED - CCIS station located in another node. This station is then forwarded to a NIGHT CONNECTION-FLEXIBLE - CCIS station in a different node.

2.   The calling party hears ringback tone.

3.   Ring signal is sent to the NIGHT CONNECTION-FLEXIBLE - CCIS station.

4.   The NIGHT CONNECTION-FLEXIBLE - CCIS station goes off-hook to answer the incoming call.

Service Conditions

1.   Destination stations are assigned on a flexible basis using CALL FORWARDING-ALL CALLS - CCIS [C-45].

2.   For NIGHT CONNECTION-FLEXIBLE - CCIS to function, a NIGHT CONNECTION-FIXED - CCIS [N-15] station must be assigned to the trunk via the Maintenance Administration Terminal (MAT).

3.   The NIGHT CONNECTION-FLEXIBLE - CCIS destination station can be in the same node as the Attendant Console, which has set NIGHT CONNECTION-FIXED - CCIS [N-15].

4.   If an incoming call has terminated to a flexible Night station and that station is busy, the call will queue to the Night station.

5.   The destination telephone number at the distant office is stored in SPEED CALLING-SYSTEM [S-3] memory.

Interactions

1.   NIGHT CONNECTION-FLEXIBLE - CCIS is the combination of CALL FORWARDING-ALL CALLS [C-5] and NIGHT CONNECTION-FIXED [N-1] or NIGHT CONNECTION-FIXED - CCIS [N-15].

2.   CLASS OF SERVICE-INDIVIDUAL [C-15]: The station chosen as the NIGHT CONNECTION-FLEXIBLE - CCIS station should be assigned a class of service capable of performing the Night station functions.

Programming

See CALL FORWARDING-ALL CALLS [C-5] and NIGHT CONNECTION-FIXED [N-1] features.

N-37   Name Display - System - CCIS

General Description

In between CCIS networks, this service allows calling or called party information (user's name, telephone number, etc.) to be displayed on the LCD of the D^{term}.

Operating Procedure

No manual operation is required.

Service Conditions

1. When the called party is being rung, the LCD of the calling D^{term} displays the name of the called party.
2. When the caller or called party's name information is not available, name information is not displayed. Instead, the calling party's number/called party's number is displayed.
3. When both 8-digit display and 16-digit display are used for this Name Display - System - CCIS service, the calling party's/the called party's names are displayed as shown in the table below.

Name Display - System - CCIS Originating Office → Terminating Office	Calling Party's Name Display (LCD 3-Line Display D^{term})	Called Party's Name Display (LCD 3-Line Display D^{term})
16 digits → 8 digits	Middle Line: 16 digits (Right 8 digits: Blank)	Top Line: 8 digits (Front 8-character display)
8 digits → 16 digits	Top Line: 8 digits (Front 8-character display)	Middle Line: 16 digits (Right 8 digits: Blank)
8 digits → 16 digits → 8 digits	Top Line: 8 digits	Top Line: 8 digits
16 digits → 8 digits → 16 digits	Middle Line: 16 digits	Middle Line: 16 digits

4. When a call from a D^{term} sub-line has terminated to the called side via a CCIS, the calling party's sub-line name information is displayed on the LCD of the called station.
5. Name display by both 8 digits and 16 digits at the call destination is made only for the My-Line.
6. ASCII characters can be displayed by this service.
7. Name information for this service is assigned by ANDD command on each station number basis.
8. The routes to the offices where this service is provided and the routes to the office where this service is not provided must be separated from each other.
9. The terminals subject to the Name Display service are limited only to the D^{term} equipped with LCD.
10. Office Code + Telephone Number is usually displayed. However, when use of a telephone number is specified, the telephone number is displayed. (A CCIS network is assigned only one telephone number.)

Service Conditions (cont'd)

11. When a call has been transferred by Call Forwarding-All Outside Line Calls or Call Forwarding-Busy Outside Line service, the LCD of the calling party's D^{term} displays the name information of the transfer destination instead of the name information of the originally dialed station.
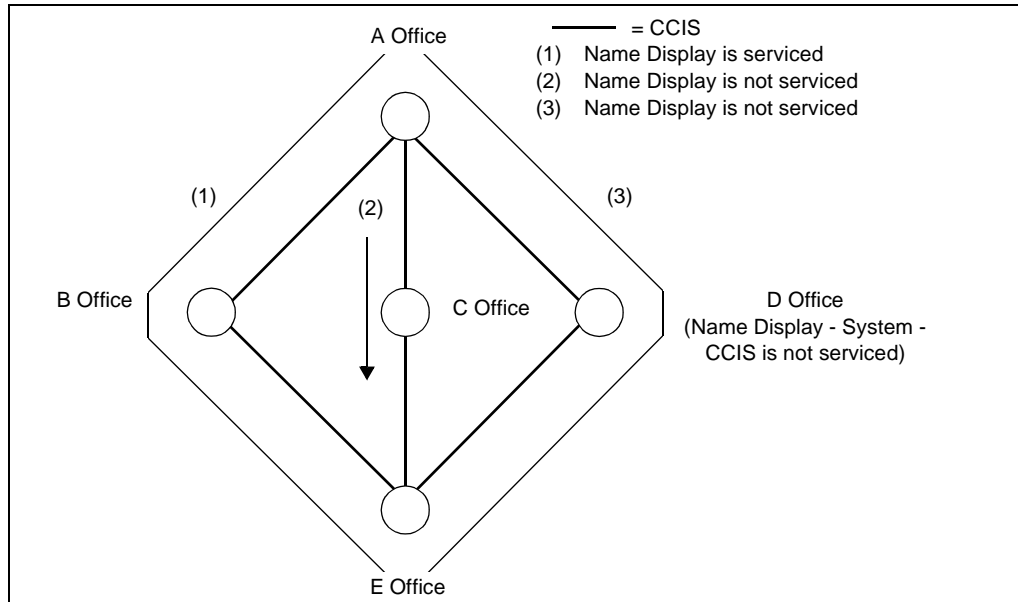
12. This service cannot be used in conjunction with ISDN Information Transfer - CCIS service.

13. When changing the Station Number of a station, be sure to change the user's information.

14. The CCIS services for which Name Display - System - CCIS can be valid are as follows:
    - Voice Call
    - Call Forwarding-All Calls - CCIS
    - Call Forwarding-Busy Line - CCIS
    - Call Forwarding-Don't Answer - CCIS
    - Camp On - CCIS (Ringing only)
    - Message Reminder (Outgoing call only)

15. The intra-office services, inclusive of CCIS trunks, for which Name Display - System - CCIS can be valid are as follows:
    - Call Pickup
    - Ringing for Call Hold
    - Answering of Call Park
    - Call Waiting
    - Call Termination from UCD Queuing
    - Message Reminder (Outgoing call only)

Programming

STEP 1: **ASYD** - System 1, Index 78, Bit 5: (1) Name Display service in service.

System 1, Index 79, Bit 6: (0) OAI/ACD in service.

System 1, Index 241, Bit 1: User's Information display service. 0/1: 8-Digit Display service/16-Digit Display service.

Programming (cont'd)

STEP 2:   **ARTD** - Assign route class data for CCIS trunk route.

RT:

43-BT   :1   50-DPLY   :1   98-CI   :0   112-IND   :1

N-46 Number Portability - CCIS
(Series 7400 software feature)

General Description

This feature allows telephone number data in an FCCS group (a network where multiple NEAX2400 IMXs are connected via FCCS link) to be carried to another FCCS group. This feature also allows telephone number data to be carried in a NEAX2000 IVS via CCIS link. This feature is available by simple command operation from the sole Centralized MAT. **(Note 1)**

Note 1: *See Centralized Maintenance - CCIS [C-167] for explanation of the Centralized MAT.*

Note 2: *Requires NEAX2000 IVS Series 2000 or later software.*

Operating Procedure

Refer to the CCIS No.7 System Manual.

Service Conditions

1. The closed numbering network is recommended for the numbering plan.
2. Only telephone numbers (maximum of 8 digits) are allowed to be used as extension numbers in the network.
3. Telephone numbers used in the other FCCS groups and the connected NEAX2000 IVS are managed by the NDM (Network Data Memory) separately from telephone numbers used in the self FCCS group.
   a.) Telephone number data in a NEAX2000 IVS is managed by the NDMs of NCNs (Network Center Nodes) within all FCCS groups and the NEAX2000 IVS.
   b.) Telephone number data in a NEAX2400 IMX is managed by the NDMs of NCNs within all FCCS groups.
4. Up to 120,000 telephone numbers (including telephone numbers in the NEAX2000 IVS) can be assigned in the entire network, and up to 48,000 in one FCCS group.
5. Number Portability depends on which node requires data programming or data change.
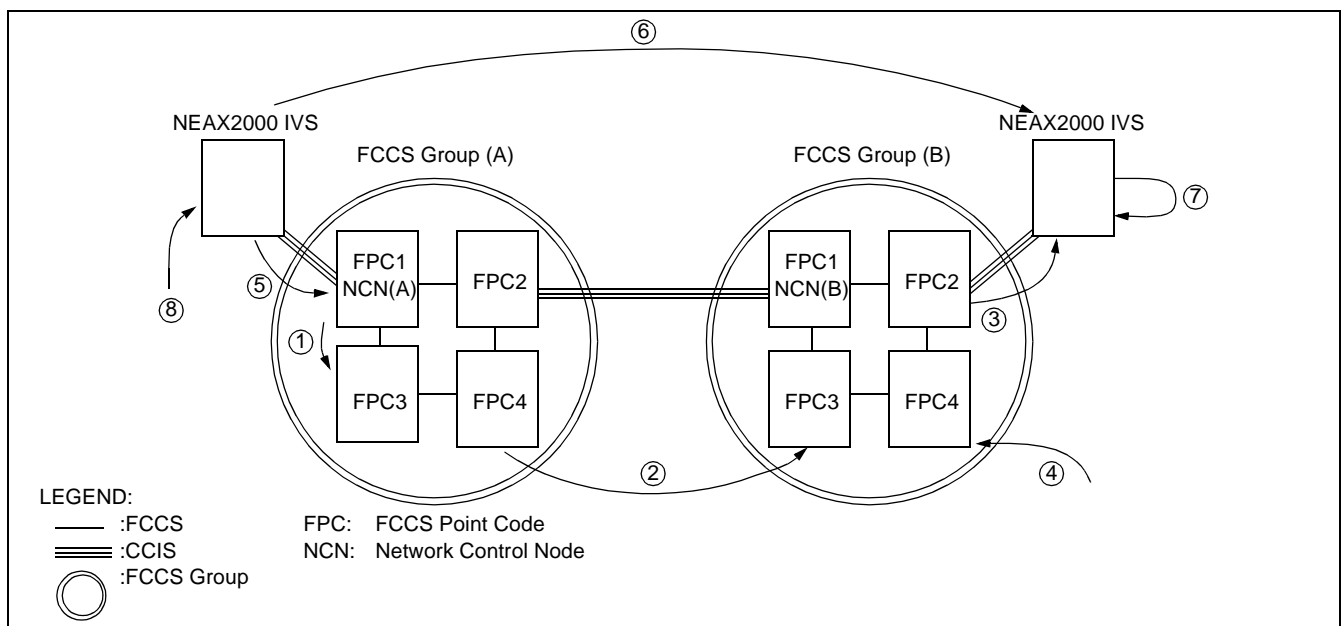
Service Conditions (cont'd)

No.	Pattern (telephone number is moved from A to B)	Node Requiring Data Change
1.	Moving number within the same FCCS group.	NCN in Center FCCS group
2.	Moving number in FCCS group to another FCCS group.	NCN in Center FCCS group
3.	Moving number in FCCS group to NEAX2000 IVS	NCN in Center FCCS group + NEAX2000 IVS *
4.	Adding new number to FCCS group	NCN in Center FCCS group + NEAX2000 IVS **
5.	Moving number in NEAX2000 IVS to FCCS group	NCN in Center FCCS group + NEAX2000 IVS ***
6.	Moving number from NEAX2000 IVS to another NEAX2000 IVS	NCN in Center FCCS group + NEAX2000 IVS *** + another NEAX2000 IVS *
7.	Moving number within the same NEAX2000 IVS	NEAX2000 IVS *, ***
8.	Adding new number in NEAX2000 IVS	NCN in Center FCCS group + NEAX2000 IVS *

Legend:

*   Destination node

**   Node to be connected to the FCCS group where the new number is added

***   Node where the telephone number is located before the Number Portability activation

FCCS Programming

This data setting describes only the additional or replacement commands used to activate FCCS services. When used as an FCCS feature, these commands replace the non-network commands (for example, AAED is replaced by AAEDN). Note that the data setting for FCCS service varies depending on the node.

Assign FCCS data following FCCS Data Assignment Procedure in the No. 7 CCIS System Manual.

STEP 1:   Set the data for the Centralized MAT following programming of Centralized Maintenance - CCIS [C-167]. Note that AEADN command in STEP 2 and AELGN command in STEP 3 are not valid when the self FCCS group (self-FUG) number has not been assigned by the AFUGN command.

STEP 2:   **AEADN** - Assign Abbreviated Digit Code (ADC) for connected FUG. Enter the FUG number assigned by AFUGN command, TN, and ADC to be assigned.

         FUG: FCCS group number of destination group (1-4) **(Note 1)**

Note 1: *The self-FUG cannot be entered.*

         TN: Tenant number

         ADC: Abbreviated Digit Code for the destination FUG (maximum of 6 digits)

STEP 3:   **AELGN** - Assign telephone number (must be a unique number in the network). When assigning the data logging in to the NCN of Center FUG by using this command, the data in NDM of all the LNs in the self-FUG and NCN/LN in other FUGs are updated simultaneously.

         UGN: Fixed to 1

         TELN: Enter the unique telephone number (maximum of 6 digits)

FCCS Programming (cont'd)

SYSTEM: Checkbox either of the checkboxes, depending on system type (NEAX2400 IMX 1/4/16 IMG system or NEAX2000 IVS system)

TYPE: Checkbox either of the checkboxes, allocation of the telephone numbers is executed by designating LENs or station number **(Note 2)**

FUG: Enter the FUG number the designated station belongs to **(Note 2)**

FPC: Enter the FCCS network Point Code the designated station belongs to **(Note 2)**

LENS: When LENS is checked in the TYPE parameter, enter the Line Equipment Number of the designated station **(Note 2)**

TN: Enter the Tenant Number when STN is checked in the TYPE parameter **(Note 2)**

STN: Enter the Station Number when STN is checked in the TYPE parameter **(Note 2)**

PC: Enter the Point Code assigned to the CCIS network. This parameter is required for the NEAX2000 IVS only (1-16367)

CON_FUG: (display only) FUG number connected to the self-FUG (1-4)

Note 2: *These parameters are required when NEAX2400 IMX is selected in SYSTEM parameter.*

Note 3: *Only the readout function is activated in this command when both self-FUG number and Connected FUG number are already assigned, provided that the self-FUG is not the Center FUG.*

Note 4: *When reading out the assigned AELGN data, designate UGN (1) and TELN.*

O-11 Off-Hook Queuing - CCIS

General Description

This feature allows a user in a CCIS network to remain off-hook and automatically enter a first-in, first-out queue at the calling and distant nodes when an all-trunk-busy condition has been encountered. As soon as an outgoing trunk becomes available, the off-hook station is connected to that trunk through CCIS.

Operating Procedure

1. Dial the trunk access code and the desired number.
2. The distant PBX determines that no trunks are available and automatically places the call in an available queue slot.
3. The calling party receives service set tone and remains off-hook.
4. When a trunk becomes available, the dialed number is automatically forwarded.

Service Conditions

1. This feature is used in conjunction with LEAST-COST ROUTING-3/6 DIGIT (LCR) [L-5].
2. A maximum of 256 stations at each office can use OFF-HOOK QUEUING - CCIS simultaneously.
3. The queue slots for OFF-HOOK QUEUING - CCIS are used in common with OUTGOING TRUNK QUEUING [O-2] and OUTGOING TRUNK QUEUING - CCIS [O-12].
4. If no queue slots are available, the user will receive a Trunk Busy signal.
5. The LCR Route Restriction Class can provide the OFF-HOOK QUEUING - CCIS option.
6. OFF-HOOK QUEUING - CCIS and OUT-GOING TRUNK QUEUING [O-2, O-2D] services are mutually exclusive.
7. ACCOUNT CODE [A-18] and FORCED ACCOUNT CODE [F-7] information can be recorded on STATION MESSAGE DETAIL RECORDING [S-10] when used in conjunction with OFF-HOOK QUEUING - CCIS.
8. OFF-HOOK QUEUING - CCIS can be set concurrently to a maximum of eight connecting PBX systems (including the self node).
9. OFF-HOOK QUEUING - CCIS is, by definition, set to a connecting CCIS node.
10. A maximum of 1024 stations per system can use OFF-HOOK QUEUING - CCIS simultaneously.

Interactions

1. UNIVERSAL SENDER [U-3] must be provided first.
2. The PBX attempts trunk seizure every four seconds until the connection has been completed.
3. LEAST-COST ROUTING-3/6 DIGIT [L-5] information will be applied to these attempts. Therefore, OUTGOING TRUNK QUEUING [O-2, 12] will be set against all routes in the outgoing pattern routing (OPR).
4. If all queuing memory slots are in use, the user will receive a trunk busy signal.
5. The time a call may remain in queue is unlimited.

Interactions (cont'd)

6. The following features cannot be activated toward the busy station:

CALL WAITING-ORIGINATING	[C-31]
CALL WAITING-TERMINATING	[C-12]
ATTENDANT CAMP-ON WITH TONE INDICATION	[A-1, 45]
BUSY VERIFICATION	[B-3, 9]
EXECUTIVE RIGHT-OF-WAY	[E-1, 8]

7. To disable constant service set tone, change ASYD System Data 1, Index 42 Bit 7 to data "1". This changes constant service set tone to burst special dial tone, and special dial tone to burst special dial tone, followed by a constant dial tone.

Programming

STEP 1: **ASYD** - System Data 2, Index 4, Bit 1. Enable AUTOMATIC OUTGOING QUEUING [O-2, 12]? 0/ 1: Off-hook Queuing/Automatic Outgoing Queue. (OFF-HOOK QUEUING and AUTOMATIC OUTGOING QUEUING [O-2, 12] are mutually exclusive.) Assigning data "0" allows OFF-HOOK QUEUING - CCIS.

STEP 2: **ASFC** - Assign a Service Feature Class that allows SFI 21 (= Off Hook OG Queuing) to stations that will have OFF-HOOK QUEUING - CCIS. Also assign SFI 21 at the remote Node for SFC 0.

STEP 3: **ARTD** - Routes to be used for OFF-HOOK QUEUING - CCIS must be flagged in CDN 9:TQ. Outgoing Queuing service. Also allow trunk queuing to Route 31, the LCR(S) flag route, except the CCIS route. Assign CDN 41:TDMQ = 1 in the ARTD command at the remote site CCIS voice route.

O-12   Outgoing Trunk Queuing - CCIS

General Description

This service feature allows Inter-Office, On-Hook OUTGOING TRUNK QUEUING (OGQ) when an outgoing C.O. line call from a station in a PBX to another station in a different PBX, in the CCIS network, encounters an all C.O. Lines Busy.

Operating Procedure

1. Station (b) goes off-hook; receives dial tone.
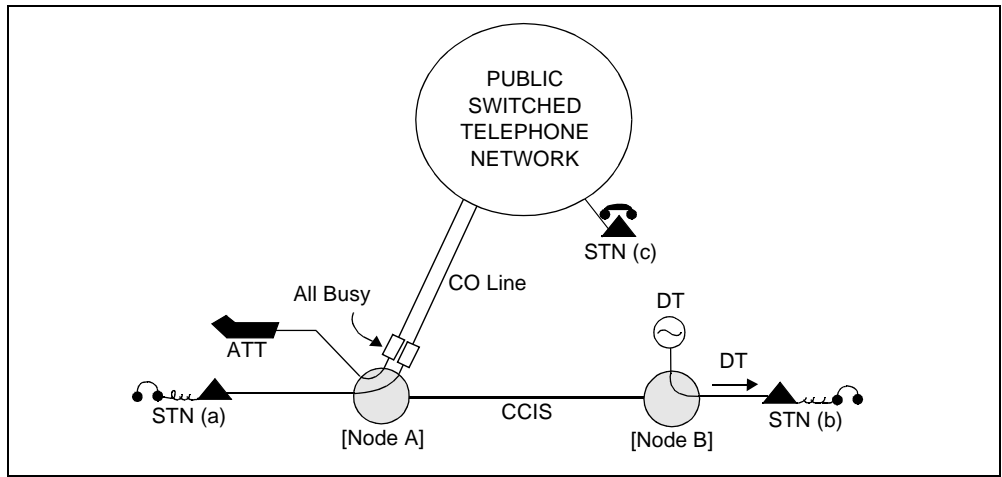
2. Station (b) dials the C. O. Line Outgoing Call Access Code; receives second dial tone.
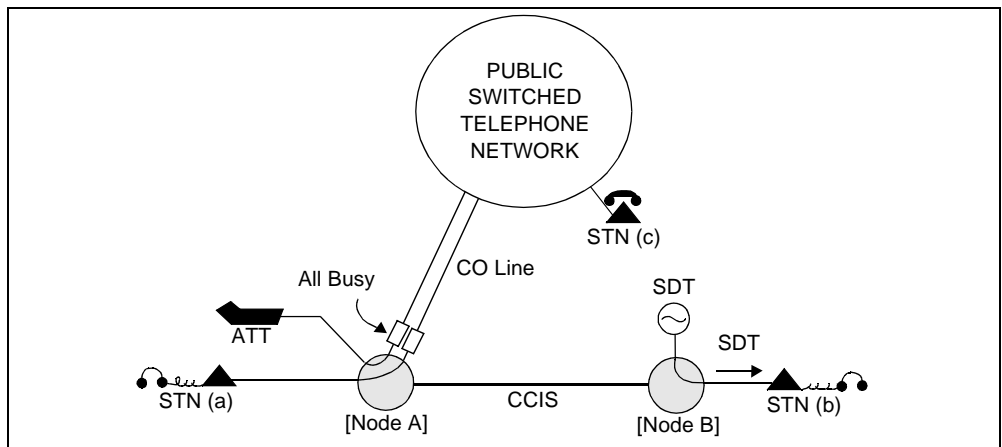
Operating Procedure (cont'd)

3. Station (b) dials Station (c) in the Center Office and receives a busy tone.
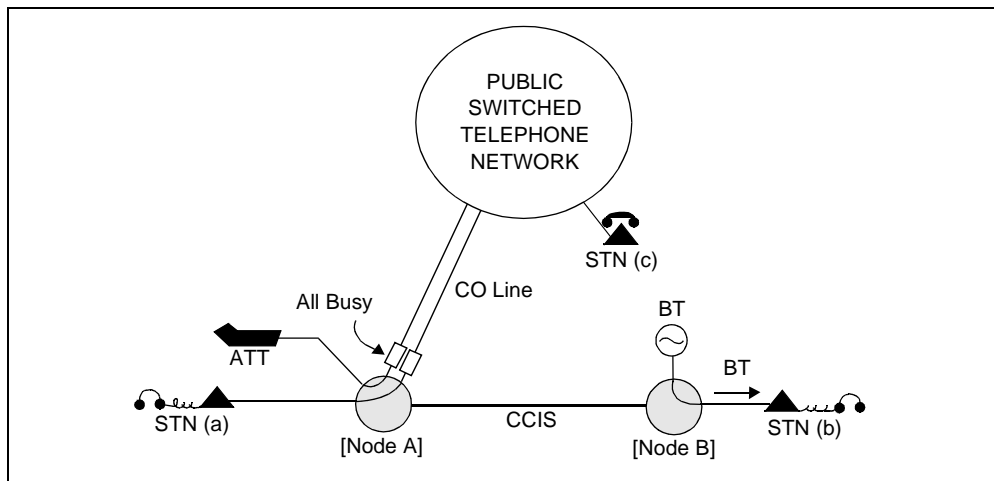
4. Station (b) switch hook flashes and receives the special dial tone.
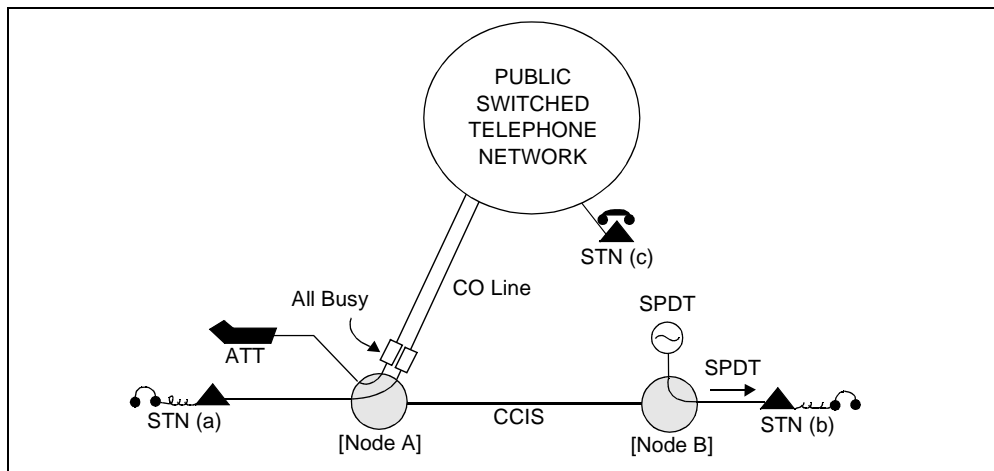
Operating Procedure (cont'd)

5. Station (b) dials the OGQ Access Code and receives a service set tone.
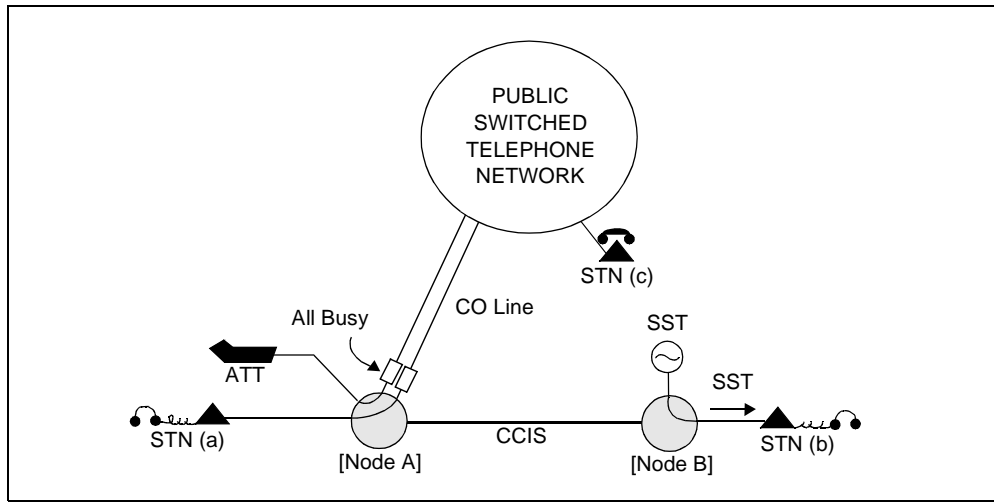
6. Station (b) hangs up. Outgoing Trunks become available for processing the call from Station (b). Station (b) is rung.
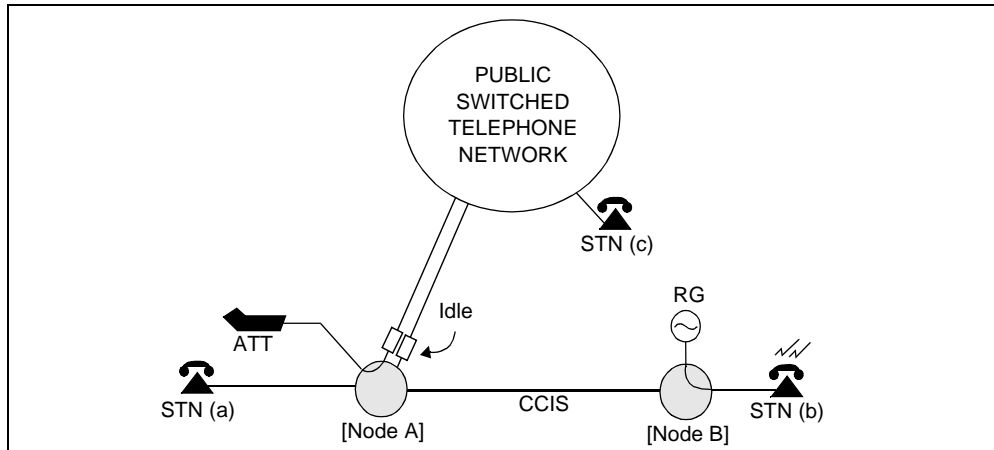
Operating Procedure (cont'd)

7. Station (b) goes off-hook and is connected to the Public Switched Telephone Network. Station (b) receives ringback tone while Station (c) is rung.
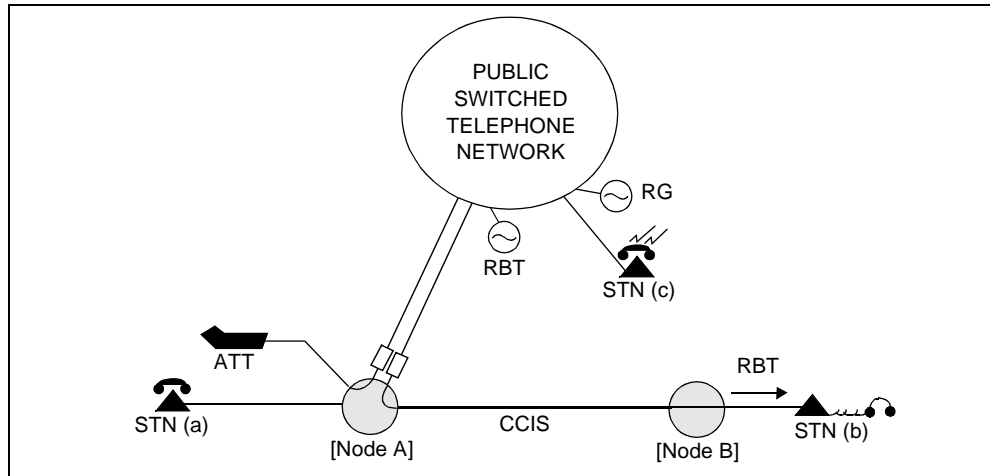
Service Conditions

1. After an OUTGOING TRUNK becomes available, the user's station will ring for 20 seconds. If not answered within that time, the station will be automatically dropped from the queue.

2. When this feature is used in conjunction with SPEED CALLING-SYSTEM [S-3] or LEAST COST ROUTING-3/6-DIGIT [L-5] if a sender is involved, the sender will automatically dial out the called subscriber number when the handset is lifted.

3. If the user wishes to remove himself from the queue prior to being rung, the specified cancel code must be dialed.

4. Individual stations may only initiate one OGQ at a time. Subsequent attempts will result in a Reorder tone.

5. This feature is not available for an ATTENDANT CONSOLE [A-3].

6. The OGQ is common to all Central Office type groups (DDD, FX, WATS, etc.) in the system.

7. The OGQ call back will return to the originating station, not the CALL FORWARDING terminating station.

8. OGQ is denied to a station line when the CALL BACK [C-1] or CALL HOLD [C-6] feature is already activated.

9. If a user goes on-hook within 6-8 seconds after encountering all trunks busy, OGQ can be set automatically to the station.

10. The station is set for OGQ for a maximum of 30 seconds to one hour. This time is adjustable through the System Data base. After this timing, OGQ will be cancelled automatically.

11. ACCOUNT CODE [A-18] and FORCED ACCOUNT CODE [F-7] information can be recorded on SMDR when used in conjunction with OGQ.

Programming

STEP 1: **ASYD** - System 1, Index 68, Bit 3: (1) OGQ (ON-HOOK) automatic cancel.

System 1, Index 159: Assign the OGQ (ON-HOOK) automatic cancel timer when SYS1 INDEX 68 b3 = 1. (ROM data = 30 minutes)

Programming (cont'd)

System 2, Index 4, Bit 0: Call Back and OG Trunk Queuing access code. 0/1 = Separate/Common.

Bit 1: Automatic setting of OG Trunk Queuing by On-Hook. 0/1 = Not Required/Required.

Note: *0 = SHF + Access Code.*

System 3, Index 3, Bit 5: 3-Burst on the time above Ringer Patter. 0/1 = Not Required/Required.

System 3, Index 7: Assign OGQ Ring Back Pattern.

STEP 2: **ANPD** - Assign minimum necessary number of digits for the first number of the OGQ access codes.

STEP 3: **ASPA** - Assign the OGQ access codes.

To set: CI = B (Busy), SRV = SSC (Service Code), SID = 19

To cancel:CI = N (Normal), SRV = SSC (Service Code), SID = 20

STEP 4: **ARTD** - Assign the OGQ service for each route except the CCIS route.

9:TQ = 1: OGQ in service

STEP 5: **ASFC** - Allows Outgoing Queuing (SFI = 1) to the SFC of the stations.

P-28 Paging Access - CCIS

General Description

This feature provides dial access to paging equipment from an ATTENDANT CONSOLE [A-3] or station through the CCIS network.

Operating Procedure

To access Paging through CCIS:
1. Lift the handset and receive dial tone.
2. Dial the office code and the Paging access code.
3. Connection to paging equipment is established.

Service Conditions

1. Paging equipment must be provided by the customer.
2. One trunk circuit is required for each PAGING ACCESS.
3. If TENANT SERVICE [T-12] is provided, separate access codes and hardware should be provided for each TENANT.
4. A maximum of three digits can be used for the PAGING ACCESS code.
5. The DIGITAL DISPLAY - TRUNK - CCIS [D-73] at the ATTENDANT CONSOLE [A-3] shows the Route and Trunk Number of the CCIS trunk.
6. Following services are not available when this service is activated:

ALL ZONE PAGING	[A-53]
MEET-ME PAGING	[M-1]
PAGING TRANSFER	[P-10]
Paging Answer	

Interactions

1. MEET ME PAGING and PAGING ACCESS [P-1] can be provided simultaneously in the same system.
2. To directly answer PAGING ACCESS by the ATTENDANT CONSOLE [A-3], the Paged party should use the INDIVIDUAL ATTENDANT ACCESS [I-4] feature.
3. Paging is limited to stations, ATTENDANT CONSOLES [A-3], or Tie Trunks. Other parties (CO trunk calls) must have the ATTENDANT CONSOLE [A-3] or user perform the PAGING operation.
4. BUSY VERIFICATION [B-3], EXECUTIVE OVERRIDE [E-1] - These features will be denied if the Paging route has been assigned for Privacy. Verify the data in the Assignment of Route Data command, ARTD, CDN 44:PRV. If CDN 6:TCL is assigned as data "8", CDN 44:PRV is not required.
5. For simple PAGE ACCESS, assignments in ASFC are not required. Refer directly to the other Paging service features such as PAGING TRANSFER [P-10].
6. The ATTENDANT CONSOLE [A-3] can dial Priority Page access code and release a station.
7. When disconnecting from a Paging trunk, the trunk becomes idle immediately.
8. PAGING ACCESS is possible from CONSULTATION HOLD [C-17]. Therefore, Station A places party B on Soft hold and dials the access code to the Paging Trunk. Another switch hook flash disconnects the Page trunk immediately and reconnects party B to Station A.
9. CALL HOLD [C-6] - A Paging trunk cannot be placed on CALL HOLD.

Interactions (cont'd)

10. BUSY is displayed on the 16-button D^{term} LCD display when the paging trunk is busy. Reorder tone is returned.

11. If Priority Page is to be used with PAGE ACCESS; in ARTD, CDN 6:TCL must be assigned as Data 8, Page with ringback tone. SYS1, Index 73 affects the operation of page routes assigned Page with ringback tone. Therefore, if Priority Page is used with PAGE ACCESS then MEET ME PAGE [M-1, 11] and PAGING TRANSFER [P-10] are not available to the system.

12. Priority Page access will not disconnect an ATTENDANT CONSOLE [A-3] engaged in a paging trunk connection.

Programming

STEP 1:   **ASYD** - SYS1, Index 73, bits 0 & 1. For PAGE function only, assign data "00".

STEP 2:   **ARTD** - Assign the Paging route as shown below:

RT:1

1-OSGS	:2	2-ONSG	:3	5-TF	:1	6-TCL	:11	7-L/T	:1
8-RLP	:2	15-LSG	:1	30-PAD	:7	44-PRV	:1		

STEP 3:   **ATRK** - Assign the LEN Number, Paging Trunk Route Number, Trunk Number, and Tenant Number.

STEP 4:   **MBTK** - Assign the Make Idle status to the Paging Trunks.

STEP 5:   **ANPD** - Assign a level for trunk access. Assign for a Connection Index (CI) for Normal (N) and Hooking (H) service. Assign the Number of Necessary Digits according to a predetermined numbering plan. Busy Lamp Field is not activated.

STEP 6:   **ASPA** - Assign the PAGE ACCESS code. Type of service, SRV = OGC (Outgoing Call). Assign the proper route number that is associated with this access code. Assign for Normal (N) and Hooking (H).

STEP 7:   **ARSC** - Assign to the station that is allowed access to paging trunks a Route Restriction Class (RSC) that is allowed these routes in Route Restriction Index (RRI) 2 & 3.

R-22　　　　Restriction from Outgoing Calls - CCIS

General Description

This feature automatically restricts preselected stations from placing certain outgoing calls through CCIS without Attendant assistance.

Operating Procedure

No manual operation is required. Restricted stations will receive reorder tone when trying to place a restricted call.

Service Conditions

1.　This feature is programmed in system data from the MAINTENANCE ADMINISTRATION TERMINAL (MAT) [M-18].

2.　The Attendant can allow restricted stations to place outgoing calls via the ATTENDANT CONSOLE [A-3] using NON-DELAY OPERATION [N-3].

3.　Restriction from particular trunk routes is determined by the station's Route Restriction Class.

4.　If a restricted station calls another station, the called station cannot use the CALL TRANSFER - ALL CALLS - CCIS [C-50] feature to connect the calling station to a trunk route from which it is restricted. If transfer is attempted, it will recall to the called station.

5.　THREE-WAY CALLING [T-2] is denied if a restricted station calls another station and the called station attempts to add on an outside party in a trunk route from which the calling station is restricted.

6.　If a user accesses a Tie trunk to a PBX outside the CCIS network, access to outside exchanges is controlled by the outside PBX.

7.　For a particular station, Day mode and Night mode restrictions can differ.

8.　Non-restricted stations within the systems can CALL TRANSFER - ALL CALLS [C-11] outgoing calls to stations restricted by this feature.

9.　Station line access to a given trunk group is controlled by assigning a Route Restriction class (RSC) to each line. There can be a maximum of 15 different RSCs per system, each of which can be programmed to restrict an assigned station from none, one or more than one trunk group (maximum 255 trunk groups on NEAX2400 IMX).

10.　Two outgoing trunk group restriction tables are provided per system. The Direct Dial Access table is indexed when a user dials the trunk group access code, and the ATTENDANT CONSOLE [A-3] table is indexed on Attendant-completed calls. The restriction options per RSC can differ per table thus allowing Attendant-completion of outgoing calls for restricted stations.

11.　TIE LINE ACCESS [T-3]: If the user accesses a Tie trunk to a distant PBX (outside the CCIS network), access to outside exchanges can only be controlled by the distant PBX.

Interactions

1.　Transferring restrictions may not be desired for a restricted station.

2.　CALL TRANSFER-ALL CALLS [C-11]: Station A is allowed access to outgoing on route 1. Station B is restricted access for outgoing on route 1 via RRI 2 & 3. The unrestricted Station A makes an outgoing call on Route 1 and cannot use the CALL TRANSFER - ALL CALLS feature to connect station B to Route 1, If CALL TRANSFER - ALL CALLS is attempted, station A is immediately rung back.

3.　CONSULTATION HOLD [C-17]: Station A may consult with Station B when Route 1 is on soft hold.

Interactions (cont'd)

4. THREE-WAY CALLING [T-2]: Station A cannot include restricted Station B in a THREE-WAY CALLING connection with Route 1.

5. DAY/NIGHT CLASS OF SERVICE [D-15]: Restricted Station B may be allowed access to Route 1 when the system is placed in the Night mode. See DAY/NIGHT CLASS OF SERVICE [D-15].

6. RESTRICTION FROM OUTGOING CALLS are constructed on a per-route restriction basis. Two Route Restriction Indexes are constructed; RRI 2, Outgoing calls via the ATTENDANT CONSOLE [A-3] and RRI 3, Outgoing Call via Direct Dial Access.

Programming

STEP 1: **ASYD** - SYS1, Index 75. Should the following commands be developed for Day/Night. 0/1: No/Yes.
Bit 0 - Develop ARSC command for Day/Night?
Bit 3 - Develop ATDP command for Day/Night?
SYS2, Index 3, bits 4 & 5. Should a toll restricted station be routed to the ATTENDANT CONSOLE [A- 3] or receive Reorder tone? Reorder Tone: bit 4 = 0, 5 = 0.
ATTENDANT CONSOLE [A-3]:bit 4 = 1, bit 5 = 0. Route Restriction Class

STEP 2: **ARSC** - 16 different Route Restriction Classes may be constructed either allowing, denying, or Toll Restricting access to the various routes of the stem. Assign the RSC using Route Restriction Indexes 2 (Outgoing via the ATTENDANT CONSOLE [A-3]) and 3 (Outgoing Direct).

STEP 3: **ASDT** - Assign Tenant No., Station No., LENS No., and the Telephone Equipment Class (TEC) to the station. This is used in regular Business systems. Also assigned to the telephone is the Service Feature Class (SFC) and Route Restriction Class RSC.

TN: Tenant Number
STN: Station Number
LENS: Line Equipment Number (6 digits)
TEC: Telephone Class (1 -31)
      1:   DP (10pps)
      2:   PB
      3:   DP/PB
      11: VMM
      12: D^{term} V (IV)
      13: Data terminal via D^{term}
      14: Hot Line
      15: CAS Line
      16: Data Terminal Via Data Module
      18: Virtual Circuit
      19: TMM
      20: PSM
      23: ISDN Terminal
      27: Eight Conference Equipment
⟶ RSC: Route Restriction Class (0-15)
For assignment of RSC, ARSC command.
SFC: Service Feature Class (0-15)
For assignment of SFC, ASFC command.

S-52 Serial Call - CCIS

General Description

This service feature is the Inter-Office serial call service to be provided when the ATTCON and the called party respectively, belong to a different PBX (Main PBX Satellite PBX) in the CCIS network.

Operating Procedure

1. Station (c) in the Public Switched Telephone Network places a call to Node A and receives ringback tone. The Attendant in Node A receives an audible tone.
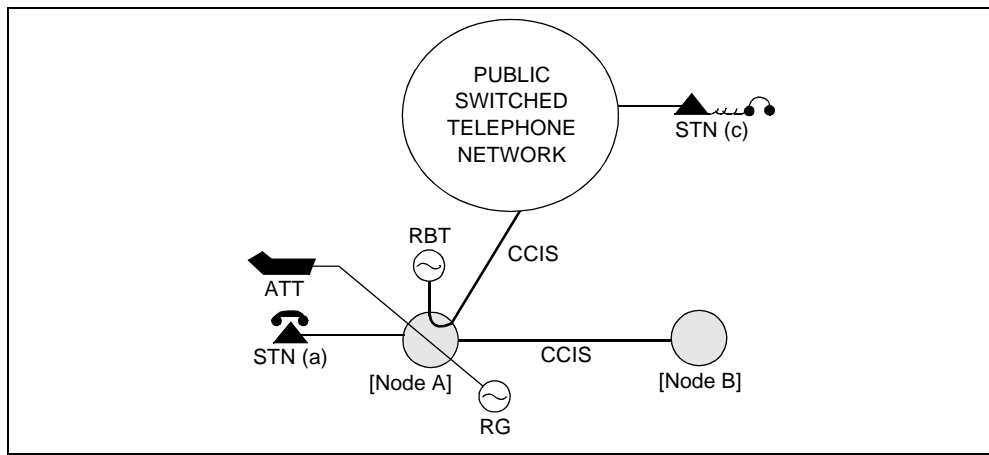
2. The Attendant presses the ANSWER key and is connected with Station (c). The user at Station (c) asks the Attendant to set up a connection first with Station (b1) and then with Station (b2) in Node B.
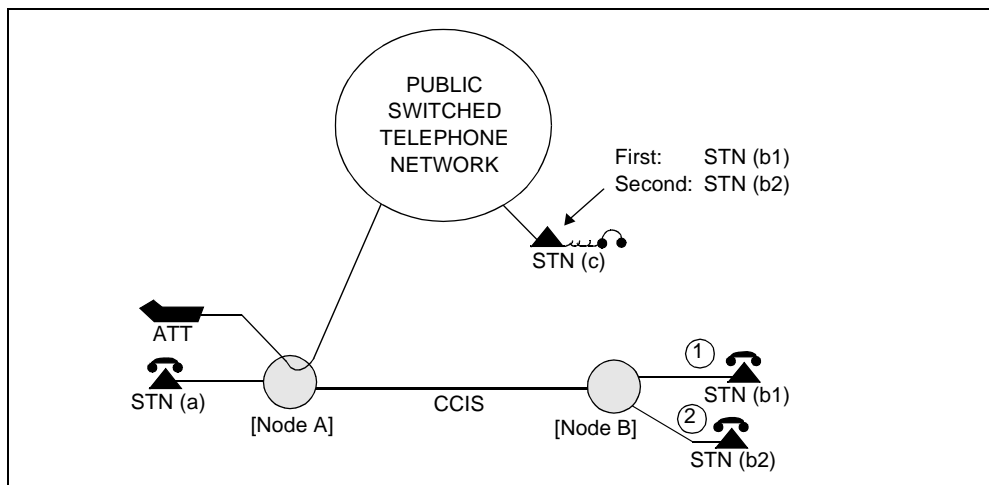
Operating Procedure (cont'd)

3. The Attendant dials Station (b1) in Node B; receives ringback tone. Station (b1) is rung and Station (c) receives Hold Tone.
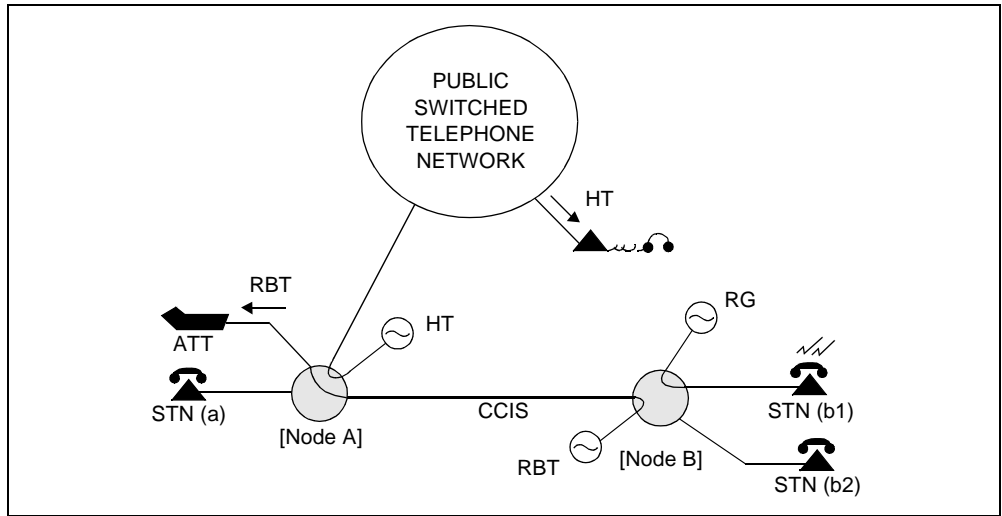
4. The Attendant presses the Serial Call (SC) key and Station (c) receives ringback tone. The HOLD and RING status are shown on the Attendant Console.
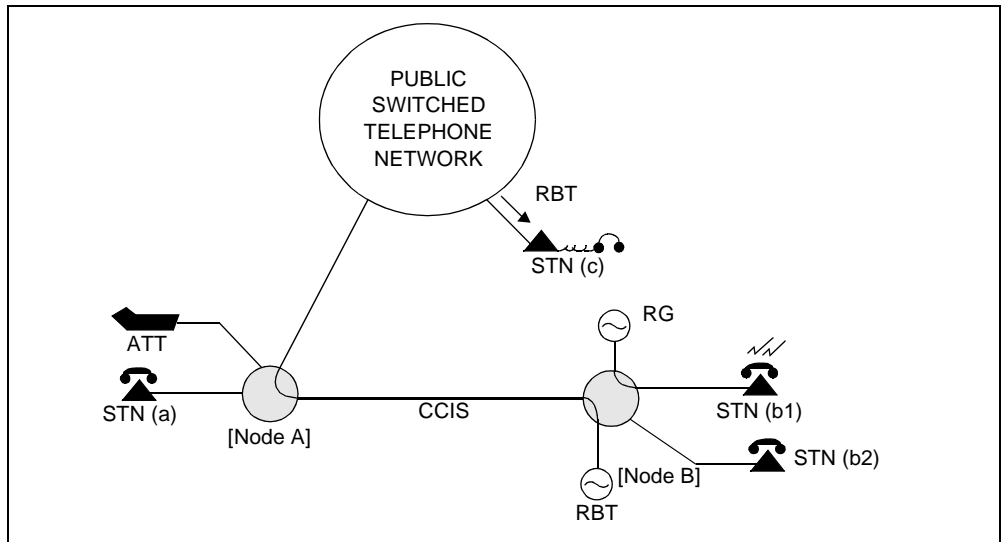
Operating Procedure (cont'd)

5. Station (b1) answers and is connected with Station (c). The HOLD status remains on the Attendant Console.
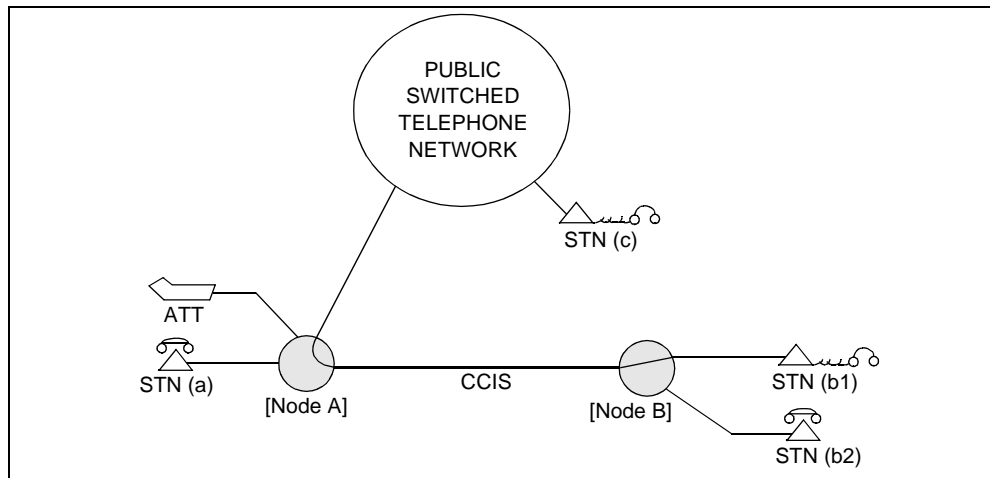
6. Station (b1) hangs up. On the Attendant Console, the lamps in the loop key section corresponding to the incoming call keep flashing at 60 ipm, and the bell rings. Station (c) receives ringback tone.
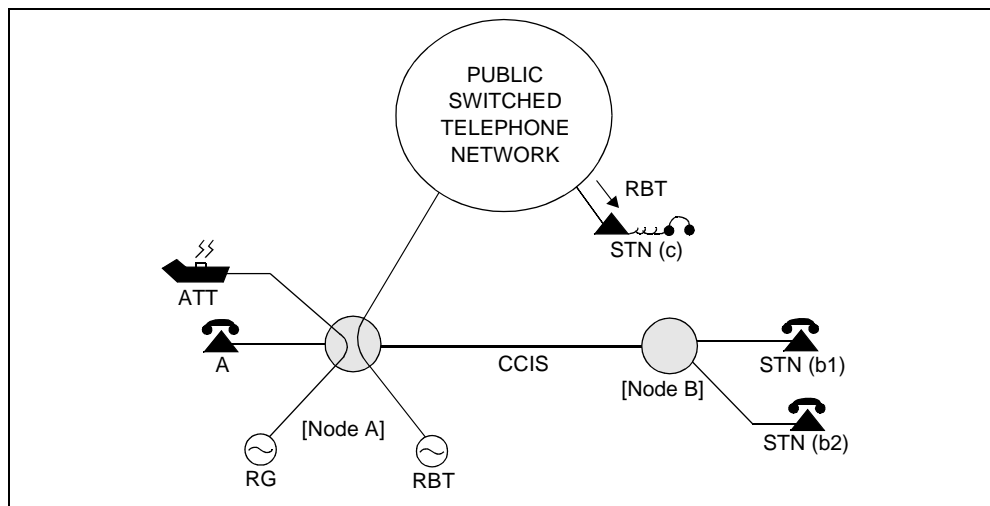
7. The Attendant presses the loop key corresponding to the flashing lamps. Station (c) and the Attendant are connected again. The Attendant assists the connection to the next station.

Service Conditions

1. If the attendant enters a loop that is already set up for a SERIAL CALL, the service is automatically cancelled.
2. SERIAL CALL is not provided for Station-to-Station calling.
3. SERIAL CALL can be provided on a TENANT [T-12] basis.
4. A called station that has the SERIAL CALL feature activated will automatically recall the attendant if the station switch hook flashes.

Service Conditions (cont'd)

5.   This feature is not applicable for tandem connections.

6.   The following services cannot be used while SERIAL CALL - CCIS is activated:

ATTENDANT CAMP-ON WITH TONE INDICATION - CCIS [A-45]
BUSY VERIFICATION - CCIS   [B-9]
CALL HOLD - CCIS / CALL HOLD - D^{term} [C-6/C-6D]
EXECUTIVE RIGHT-OF-WAY   [E-8]

Programming

ASYD - System 1, Index 43, Bit 4:(1): Allow ATT to reenter loop on serial call.

System 1, Index 186, Bit 4: At the time of serial call, 0/1: ATT Loop Wait/ATT Loop Release.

System 2, Index 7, Bit 2:(1) Serial Call service.

Note: *The Serial Call key is the button right of the DEST key.*

S-53D Service Display - D^{term} - CCIS

General Description

This feature allows a D^{term} user to receive LCD displays corresponding to the various features as they are initiated.

Operating Procedure

Each display is automatically generated when a service feature is initiated.

Service Conditions

1. Each display is controlled by system data and is produced accordingly. A display may be allowed or denied in system data programming on a per-system basis.
2. The contrast on the LCD display panel is controlled by the UP/DOWN key of the D^{term}. Press the UP key for a darker image or the DOWN key for a lighter image.

Programming

STEP 1:   **ASYD** - SYS1, Index 78, bit 1. Is SERVICE DISPLAY in service? 0/1: No/Yes.

S-54   Simultaneous Voice and Data Transmission - CCIS

General Description

This feature allows a voice signal and a digital data signal of up to 56 Kbps to be transmitted simultaneously through CCIS, via a D^{term} equipped with a Data Adapter. Voice and data calls can be placed to different locations.

Operating Procedure

To place a data call to a terminal already connected by a voice call:

1. Press the DTX key on the D^{term}. The DTX lamp lights and the DATA lamp flashes. The LCD displays:

```
                                         Data Port
┌──────────────────────────────────────────────┐
│   DATA                           XXXX          │
│              (Time Display)                    │
│                                                │
│                                                │
└──────────────────────────────────────────────┘
```

2. When the data call is connected, the DATA lamp and DTX lamp will light steadily. The LCD displays:

```
                                         Data Port
┌──────────────────────────────────────────────┐
│   READY D                        XXXX          │
│              (Time Display)                    │
│                                                │
│                                                │
└──────────────────────────────────────────────┘
```

To place a data call to a Data Adapter of Data Module when not connected to a voice call or to a different data station:

1. Press the DATA key. The DATA lamp lights steadily. The LCD displays:

```
┌──────────────────────────────────────────────┐
│   DATA                                         │
│              (Time Display)                    │
│                                                │
│                                                │
└──────────────────────────────────────────────┘
```

2. Dial the desired number. The DATA lamp will flash. The LCD displays:

```
                                       Called Number
┌──────────────────────────────────────────────┐
│   DATA                        XXXXXXXX         │
│              (Time Display)                    │
│                                                │
│                                                │
└──────────────────────────────────────────────┘
```

3. When the data call is answered, the DATA lamp will light steadily. The LCD displays:

```
                                         Data Port
┌──────────────────────────────────────────────┐
│   READY D                        XXXX          │
│              (Time Display)                    │
│                                                │
│                                                │
└──────────────────────────────────────────────┘
```

Service Conditions

1. An asynchronous Data Adapter and Data Module are available at speeds of up to 19.2 Kbps.
2. The Data Adapter and Data Module require a 117V AC wall outlet.
3. The Data Adapter mounts in the base of the D^{term} telephone set. Additional hardware is required.

Service Conditions (cont'd)

4. If the D$^{\text{term}}$ DTX button is pressed when connected station-to-station within the CCIS network, the voice line connection is switched to MODEM POOLING - CCIS [M-39] from the D$^{\text{term}}$ Data line.

Interactions

1. It is recommended that the numbering plan be set up so that voice numbers occupy one level and data levels occupy another. Therefore, a voice number of 310 can have a data number of 210.
2. The LEN of the data extension is assigned as TEC 13. The voice LEN is assigned as a TEC 12. The voice and data LENs are associated as follows:

Voice Data								
LEN	xx	x	xx	0	LEN	xx	x	xx	4
LEN	xx	x	xx	1	LEN	xx	x	xx	5
LEN	xx	x	xx	2	LEN	xx	x	xx	6
LEN	xx	x	xx	3	LEN	xx	x	xx	7
	MG	U	GP	LV		MG	U	GP	LV

3. The data extension number is automatically assigned to the key programmed as DATA.
4. For Data Terminals, assign RSCs that allow access to the routes to be used for data transmission, and the SFC or the data terminal should include SFI 11 = 0, Data Privacy.
5. Only DTE-to-DTE direct internal connections are possible. The DTE would then be set for AUTO answer and the DTX key could not be used.
6. This programming description is limited only to the station programming.

Programming

STEP 1:   **ASYD** - System Data 1, Index 16, bits 0-4. Place one-to five-digit station numbers in service. Assign 1FH.

STEP 2:   **ASDT** - Assign Tenant No., Station No., LEN, and the Telephone Equipment C lass (TEC) to the station. This is used in regular Business systems. Also, assign the Service Feature Class and Route Restriction Class.

TN: Tenant Number
STN: Station Number
LEN: Line Equipment Number (6 digits)
TEC: Telephone Class (1-31)
    1: DP (10pps)
    2: PB
    3: DP/PB
    11: VMM
⟶   12: D$^{\text{term}}$
⟶   13: Data Terminal via D$^{\text{term}}$
    14: Hotline
    15: CAS Line
⟶   16: Data Terminal via Data Module
    18: Virtual Circuit

Programming (cont'd)

     19: TMM

     20: PSM

     23: ISDN Terminal

     27: Eight Conference Equipment

   RSC: Route Restriction Class (0-15).

   For assignment of RSC, ARSC command.

   SFC: Service Feature Class (0-15)

   For assignment of SFC, ASFC command.

STEP 3: **ANPD** - Reserve a number level for station access. Assign for Normal (N), Hooking (H) and Busy (B). Assign NND in accordance with a predetermined numbering plan. BLF is on.

STEP 4: **ASPA** - For a Connection Index as Normal (N) and Hooking (H), assign the SRV= STN (Station), assign Tenant (TN); BLF is on.

STEP 5: **AKYD** - Assign the station according to the following parameters:

   TN: 1

   STN: Station Number

   TP: Type of D$^{\text{term}}$ 0/1:

   RING:

     0: No Ringing

     1: Ringing All Lines

     2: Ringing on Prime Line Only

     3: Flexible Ring Assignment, enables RG parameter.

   KYN = 1-16 (TP= 0)

   KYN = 1-40 (TP= 1)

   KYI: Service Index

     0: Key Not Used

  ⟶ 1: Feature Key

     2: Multi-line Key

   KD: Not assigned for Feature Key

   FKY: Feature Key Number

  ⟶ FKY = 29, DATA

  ⟶ FKY = 30, AUTO (Optional)

  ⟶ FKY = 31, DATA TRANSFER, DTX

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S-55   Single-Digit Station Calling - CCIS

General Description

This feature allows single-digit station numbers to be assigned.

Operating Procedure

1.   Lift the handset; receive dial tone,
2.   Dial the single-digit station code,
3.   The called station will ring.

Service Conditions

1.   The single-digit number must not duplicate the first digit of:
     a.) Trunk Access Codes
     b.) Feature Access Codes
     c.) Other Telephone Numbers
2.   Timing Start is not available with this feature.

Interactions

1.   An entire number level is eliminated for each station with one-digit access. Do not plan to have more than one or two such phones in a system.
2.   The Attendant Console Busy Lamp Field (BLF) is not available for this feature.

Programming

STEP 1:   **ASYD** - System Data 1, Index 16, Bit 0. Assign this Bit as data "1", enabling station numbers.
STEP 2:   **ANPD** - Reserve a number level for station access. Assign an NND = 1, and BLF is 0.
STEP 3:   **ASPA** - For the desired station number assign SRV = STN (Station), NND is not required. Assign Connection Index (CI) of Normal (N), Hooking (H), and Busy (B).
STEP 4:   **ASDT** - Assign the station number to a specific station within the system.

S-56 Station-Controlled Conference - CCIS

General Description

This feature allows any PBX station to establish a conference through CCIS. The conference can be any combination of stations and trunks (on-network and off-network parties).

Operating Procedure

To establish a conference call:
1. The user wishing to establish the conference (Conference Leader) calls each party to be included and advises them of the conference.
2. All participating stations then call the conference extension number or the Conference Leader, who will transfer them to the conference number.
3. The conferees are automatically connected.
4. Any push-button station within the conference can dial "9" to lock out additional parties using the MMCB model.

To release from a conference call:
1. If any pushbutton station in the conference dials "0", all conferees will be disconnected. Otherwise, the conference is terminated after all parties have hung up.
2. Any individual conferee can release from the conference call by hanging up. All other conferees will remain connected.

Using the PA-CFTB, the conference leader can dial "0" to lock out additional parties. Dialing "0" again will allow more parties to be connected. If the conference leader dials "#", all conferences will be disconnected. Otherwise, the conference is terminated after all parties have hung up.

Service Conditions

1. Conference Units are designed to provide adequate amplification, but the condition of the Central Office connections will affect transmission.
2. Conference Unit extension numbers should be placed in a STATION HUNTING-TERMINAL [S-9] group. Only the Pilot number of this group should be published.
3. Each Conference Unit can provide up to an eight-party conference.
4. Override services, such as BUSY VERIFICATION [B-3, B-9], ATTENDANT OVERRIDE [A-7], or EXECUTIVE RIGHT-OF-WAY [E-1, E-8], are denied to stations engaged in a conference call.
5. The following additional hardware is required:
   - External Conference Unit MMCB
   - PA-16LCQ or PA-16LCBE circuit card
6. The PA-CFTB may be used instead of the MMCB. The PA-16LCBE or PA-16LCQ is not required by the PA-CFTB.

Interactions

The PA-16LCBE or PA-16LCQ circuit card provides a momentary open for all 16 circuits. This is required to provide a release signal when line circuits are connected to external equipment such as conference and page units. This keeps reorder tone from being sent to the conference unit. This is not used in conjunction with a PA-CFTB.

Programming

ASHP - Assign a Pilot hunting group using eight of the PA-16LCBE line circuits. These ports are connected to an external conference unit, MMCB Model 37008. Make sure that SFI 4 is denied to the conference stations.

S-57   Station-to-Station Calling - CCIS

General Description

This feature allows any user to dial another station directly, through CCIS, without operator assistance.

Operating Procedure

1. Lift the handset; receive dial tone.
2. Dial the desired telephone number.

Service Conditions

1. The maximum number of digits per telephone number is eight.
2. Either Calling-Party Release or First-Party Release can be selected on a system basis.
3. Inter-node STATION-TO-STATION CALLING - CCIS is based on the Route Restriction Class of the calling and called parties.

Interactions

1. The ATNR command is required for STATION-TO-STATION CALLING - CCIS.
2. The normal 5 dB PAD loss inserted for STATION-TO-STATION CALLING - CCIS may be eliminated on a per-station basis. For these stations, assign a Service Feature Class that allows SFI 50. Remove 5 dB pad for Off-Premises Extensions, OPX.

Programming

STEP 1:   **ASYD** - System Data 1, Index 4, Bits 2 & 3. Assign data "10" for First-Party Release.

STEP 2:   **ATNR** - Assign for Tenant Restriction Index (TRI) 1. This index allows for station-to-station calling between stations with the same tenant, and between different tenants.

S-58 Station-to-Station Calling - Operator Assistance - CCIS

General Description

This feature allows a user to call another station, through CCIS, with the assistance of the Attendant Console operator.

Operating Procedure

To place a station-to-station call through the Attendant Console:
1.   Lift the handset; receive dial tone.
2.   Dial the operator access code (normally "0").
3.   Give the desired telephone number to the Attendant.
4.   The Attendant dials the telephone number.
5.   The calling and called parties are connected when the Attendant presses the RELEASE key.

Service Conditions

1.   The Attendant can drop out of the connection before or after the called party has answered.
2.   When Loop Release is in service, AUTOMATIC RECALL [A-8] will not be activated if the called station does not answer.
3.   The Attendant can connect the calling party to a fully restricted station.
4.   STATION-TO-STATION CALLING-OPERATOR ASSISTANCE - CCIS is based on the Route Restriction Class of the calling and called station.

Interactions

1.   The ATNR command is required for STATION-TO-STATION CALLING-OPERATOR ASSISTANCE - CCIS.
2.   The normal 5 dB PAD loss inserted for STATION-TO-STATION CALLING-OPERATOR ASSISTANCE - CCIS may be eliminated on a per-station basis. For these stations, assign a Service Feature Class that allows SFI 50. Remove 5 dB pad for Off-Premises Extensions, OPX.
3.   The Attendant Console must first be provided.
4.   ATTENDANT CAMP-ON WITH TONE INDICATION [A-1, 45]: The Attendant Console cannot camp-on a station-to-station call.

Programming

STEP 1:   **ASYD** - System Data 1, Index 4, Bits 2 & 3. Assign data "10" for First-Party Release.
STEP 2:   **ATNR** - Assign for Tenant Restriction Index (TRI) 1. This index allows for STATION-TO-STATION CALLING-OPERATOR ASSISTANCE - CCIS between station within the same tenant, and between different tenants. The tenant in which the Attendant resides must also be allowed STATION-TO-STATION CALLING-OPERATOR ASSISTANCE - CCIS to assist in placing the call.

S-59 Step Call - CCIS

General Description

This service feature allows Inter-Office Step Call when the calling station and the called station belong to different PBX's in the CCIS network.

Operating Procedure

1. While Station (a1) and (b1) are engaging in a call, Station (a2) goes off-hook and receives dial tone.
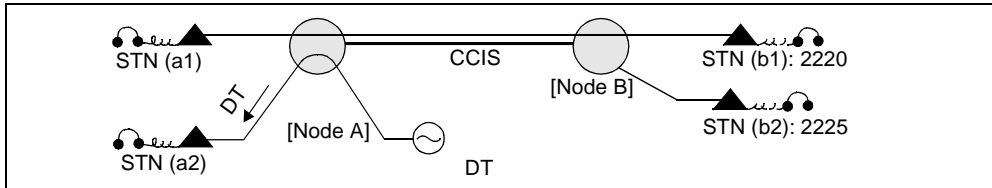
2. Station (a2) dials No. 2220 for Station (b1) and receives busy tone.
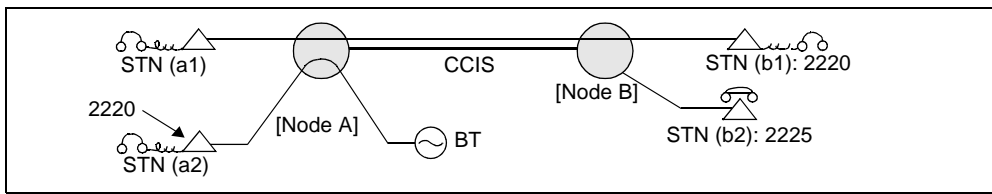
3. Station (a2) dials the lowest digit of the number ('5' of N= 2225) of Station (b2) and receives ringback tone while Station (b2) is rung.
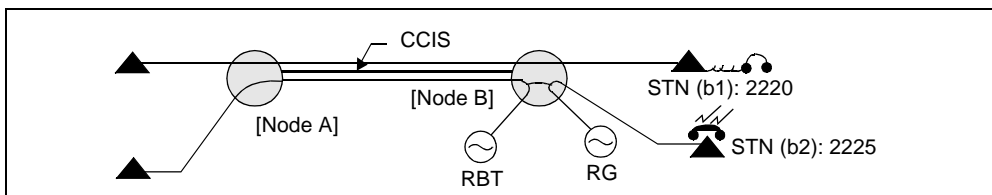
4. Station (b2) answers and is connected with Station (a2).
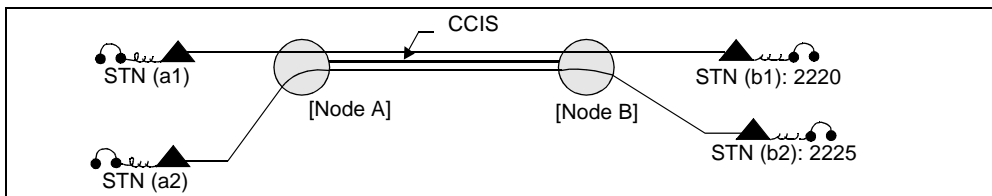
Service Conditions

1. This service feature can be provided for all stations and the ATTENDANT CONSOLE(s) [A-3].
2. STEP CALLING can be in any order, 1-9 or 9-1.
3. If the second selected station is also busy, STEP CALLING can continue until a station rings.

Service Conditions (cont'd)

4. If a station is set for any type of CALL FORWARDING-ALL CALLS, BUSY LINE, DON'T ANSWER, the CALL FORWARDING [C-2, C-3, C-5] will take effect.

Programming

ASYD - System 1, Index 68, Bit 0: SHF method (Step Call becomes effective).

S-60   Synchronous Data Switching - CCIS

General Description

This feature allows a synchronous data terminal connected to a D^{term}/Data Adapter to call a synchronous data terminal connected to a synchronous D^{term}/Data Adapter through the CCIS network.

Operating Procedure

To originate a synchronous data call from a D^{term} equipped with a Data Adapter:
1.   Press the DATA key on the D^{term}. The DATA lamp lights steadily and the LCD displays:

DATA	Data
(Time Display)	Port

2.   Dial the telephone number of the DTE.
3.   The DATA lamp flashes. The LCD displays:

READY D XXXX	Data
(Time Display)	Port

4.   When the DTE answers, a communication path is established and the DATA lamp lights steadily.

To release from a data call:
1.   Press the DATA key.
2.   The LED of the DATA key is extinguished and the call is disconnected.

To receive a data call at a D^{term} equipped with a Data Adapter:
1.   When a data call is received, the DATA lamp flashes and the D^{term} rings.
2.   Press the DATA key to answer the call.
3.   The DATA lamp lights steadily.

Note: *If the Data Adapter is set for AUTOMATIC ANSWER [D-18], no manual operation is required.*

Service Conditions

1.   SYNCHRONOUS DATA SWITCHING - CCIS supports transmission speeds of up to 56 Kbps.
2.   A D^{term} or Data Module must be used.
3.   A synchronous data terminal connected to a Data Module can originate a call by using CCITT X.21, or V.24 bis procedures, or by DATA HOT LINE [D-86]. Synchronous Data Modules can also be placed at both ends of a fixed (Nailed Down) connection.
4.   The calling and called DTEs must be code and speed compatible.
5.   Synchronous DTEs connected to NEAX2400 IMX Data Modules or Data Adapters receive their timing signals from the NEAX2400 IMX.

Interactions

1.   When assigned, the DATA feature key acts as the telephone number of the data station.
2.   The telephone number of the data station will only appear on one D^{term} set.
3.   The telephone number of the data station may be used as a DID number.

Interactions (cont'd)

4. For greater detail, refer to ETI: 010, D^{term} IV, V Asynchronous Data Adapter - Installation and Programming.

5. Switched Synchronous Communication Using The DT-003 Data Module:

   Typically, switched (dialed) synchronous connections are attached to computers using Half Duplex protocols. In most cases where a Half Duplex protocol is used, the DM has to be set for Full Duplex (via SW0) because the NEAX2400 IMX provides a Full Duplex link. This will normally not affect the Half Duplex protocol handshaking.

   Internal: Internal switched synchronous connections can be provided up to 56 Kbps.

   T1:
   a.) Over T1, a switched synchronous speed of up to 48 Kbps can be provided using the 8DST (PA-8DSTB) circuit card.
   b.) With T1 synchronous communication between two NEAX2400's, one of the sites must be a Primary or Sub Primary (PLO-A); otherwise, slips will occur, increasing the Bit Error Rate.
   c.) At the NEAX2400 IMX secondary site, T1 (24DTI) cards are connected via a PLO card to derive Primary Clock from the network in priority order. If priority is set up incorrectly, or if two primary clocks are coming in, slips may occur which will not cause a T1 error, but will cause improper data synchronization. Also, Zero Suppression (ZCS) using the 24DTI switch setting must be turned ON (SW1-3UP).

   CCIS:
   a.) With CCIS, switched speeds up to 56 Kbps can be provided when bit stealing is not used by the 24 DTI and associated T1 facilities.
   b.) In order to have switched synchronous data at 56 Kbps with CCIS, a 24DTI (PA-24DTA-B or higher) circuit card is required. Switched synchronous data at 56 Kbps is not presently provided on the 8DST circuit card.

   Nailed Down Connection:
   Internal:
   a.) When the nailed down connection is within the NEAX2400 IMX, use the AFCD command to set EAD Data as follows:
   - EAD-A: Originating Station - 00-DT-003 or DA-007
   - EAD-B: Terminating Station - 00-DT-003 or DA-007

   Internal Nailed Down connections can be provided up to 56 Kbps **(Note 2)**.

   T1:
   a.) When the connection is over a T1 channel, use the AFCD command to set EAD Data as follows:
   - EAD-A: Originating Station: 00
   - EAD-B: Terminating Station (T1 channel): 05

   The above must also be programmed at the second site.

Note 1: *The AFCD command will not work unless SYS Data 1, Index 60, Bit 4 is set to 1 (Fixed Connection in service).*

Note 2: *Nailed Down connections up to 56 Kbps over T1 channels can be used, as long as the PAD selected in the AFCD command for the T1 channel is 5.*

   Switched Connection Via The 24 DIT:
   a.) The routes used for communication with the DT-003 Data Module via the 24DTI are programmed in ARTD:
   - CDN 45:A/D = 1 (Digital Line Data)
   - CDN 30:PAD = 5 (for Bit Stealing - reverses order of DO and S bits)

   Setting Attributes 02, 03, & 10 Via DTE Keyboard:
   a.) Cable connections and switch settings on the PA-4DTLA card must be performed before these attributes are set.

Interactions (cont'd)

   b.) Voice and data must both be idle. Turn OFF power to the Data Module. Move the SW3 switch to the right (ON), then turn power back ON. The Data Module will enter Menu Mode.

   c.) The initial menu will appear on the DTE display. Enter "5" (Attribute data) to the INPUT NO.? prompt. Input the parameter number (02, 03 or 10) when the INPUT NO.? prompt appears again, then enter the data for that parameter. After entering the required data, enter RETURN to go back to the menu display.

   d.) To return the Data Module to the idle state, enter "0" (End) while in Menu mode, then move the TEST2 switch to the left (OFF).

Programming

STEP 1: **ASDT** - Assign levels 4, 5, 6, & 7 of a PA-4DLC as a TEC = 13. Data level 4 corresponds to voice level 0, level 5 to level 1, level 6 to level 2, level 7 to level 3.

   TN: Tenant Number
   STN: Station Number
   LENS: Line Equipment Number (6 digits)
   TEC: Telephone Class (1-31)

         1: DP (10pps)
         2: PB
         3: DP/PB
         11: VMM
         12: D^{term} V
   →   13: Data terminal via D^{term}
         14: Hot Line
         15: CAS Line
         16: Data Terminal via Data Module
         18: Virtual Circuit
         19: TMM
         20: PSM
         23: ISDN Terminal
         27: Eight Conference Equipment

   RSC: Route Restriction Class (0-15)
   For assignment of RSC, ARSC command.
   SFC: Service Feature Class (0-15)
   For assignment of SFC, ASFC command.

STEP 2: **AKYD** - Despite the fact that a station number is assigned in ASDT for the data number, only the voice station number must be assigned to the D^{term}. Assign the DATA and DTX key. The AUTO key is an optional assignment. Assign as follows:

   TN: 1
   STN: Station Number
   TP: Type of D^{term} 0/1:
   RING: Type of Ringing (0-3
   → KYN: Key Number (1-40)
   KYI: Service Index
         0: Key Not Used

Programming (cont'd)

> $\longrightarrow$ 1: Feature Key
>
> 2: Multi-line Key

KD: Assign as 0.

$\longrightarrow$ FKY: Feature Key Number

The feature keys, DATA TRANSFER DTX (FKY = 31), DATA (FKY = 29) must be assigned. DISPLAY/AUTO (FKY = 30) is optional.

STEP 3: **ASFC** - for TEC = 13 stations, construct an SFC in which SFI 11 = 0 for DATA LINE SECURITY.

STEP 4: **ARSC** - Construct a Route Restriction Class that allows access to the desired incoming and outgoing routes. Those routes include PA-24DTA ACIS and CCIS routes.

STEP 5: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Restriction Index (TRI) = 1.

STEP 6: **ACFR** - Allow all incoming Call Class Index (CCI) for Transfer Service Feature Index (TSFI) = 1.

STEP 7: **ADA1** - The following attributes are assigned via the MAT using this command:

MEDIA: 2
CNTP: 0
TCP: 0
FCY: 0
PRI: 0
REST: 0
SRP: 0

STEP 8: **ADA2** - It is possible to program Attribute Data 2, 3, and 10 from the MAT.

STEP 9: **ARTD** - The CCIS Tie Line voice/data route(s) over T-1 should be assigned as follows. For SYNCHRONOUS DATA SWITCHING - CCIS CDN 45:A/D must be assigned as data "1" and CDN 30:PAD must be assigned as data "5".

RT:1

2-ONSG	:2	4-ISNG	:2	5-TF	:3	6-TCL	:4	7-L/T	:1
8-RLP	:2	13-AC	:1	15-LSG	:12	30-PAD	:5	45-A/D	:1
43-BT	:1	49-TRKS	:0/1*						

Note: *First Press DATA; then DTX key. This is an on-hook condition.*

Programming (cont'd)

The following parameters will be displayed. Assign attribute data according to the following table:

No.	Parameter	Display	Data	Description
00	DTR	ER Check	00	DTR Check Necessary
			01	DTR Check Not Necessary
01	AUT	Auto Answer	00	Manual Response
			01	Auto Response
02	MDM No. 1	OG Modem	00	Delete MDM Group No.
			01-15	OG Modem Group No.
03	MDM No. 2	IC Modem	00	Delete MDM Group No.
			01-15	IC Modem Group No.
04 (*)	Speed (Set via Rotary Select Switch)	Speed	05	300 bps
			06	600 bps
			07	1200 bps
			08	2400 bps
			09	4800 bps
			10	9600 bps
			11	19.2 K
05 (*)	PRT	Parity	00	No Parity
			01	Parity
06 (*)	ASY	ASYNC	00	Asynchronous
			01	Synchronous
07 (*)	HDX	H DUPLEX	00	Full Duplex
			01	Half Duplex
08 (*)	STP	Stop Bit	00	1 Stop Bit
			01	2 Stop Bit
09 (*)	CODE	Code	01	ASCII - Even Parity (7 Bit; For 8 Bit, D-SW Position 7 Must Be Off)
			02	ASCII - Odd Parity (7 Bit; For 8 Bit, D-SW Position 7 Must Be Off)
10 (*)	PRFN	Profile	00	TV910
			01	VT100
			02	ADM3A
			03	HP2621
			04	TV950

Programming (cont'd)

For Data Module

STEP 1: **ASDT** - Assign levels 1, 2, & 3 of a PA-4DTL as TEC = 16. Also assign an RSC and SFC.

STEP 2: **ASFC** - For TEC = 16 stations, assign an SFC that, at a minimum, SFI 11 = 0, DATA LINE SECURITY.

STEP 3: **ARSC** - Construct a Route Restriction Class that allows access to the desired incoming and outgoing routes. Those routes include PA-24DTA ACIS and CCIS routes.

STEP 4: **ATNR** - Allow tenant-to-tenant connection for Inter and Intra-tenant connections. Assign Tenant Re subtraction Index (TRI) = 1.

STEP 5: **ACFR** - Allow all incoming Call Class Index (CCI) for Transfer Service Feature Index (TSFI) = 1.

STEP 6: **ADA1** - The following attributes are assigned via the MAT using this command:

MEDIA: 2
CNTP: 0
TCP: 0
FCY: 0
PRI: 0
REST: 0
SRP: 0

STEP 7: **ADA2** - It is possible to program Attribute Data 2, 3, and 10 from the MAT.

STEP 8: **ARTD2** - The CCIS Tie Line voice/data route(s) over T-1 should be assigned as follows. For SYNCHRONOUS DATA SWITCHING - CCIS CDN 45:A/D must be assigned as data "1" and CDN 30:PAD must be assigned as data "5".

RT:1

2-ONSG	:2	4-INSG	:2	5-TF	:3	6-TCL	:4	7-L/T	:1
8-RLP	:2	13-AC	:1	15-LSG	:12	30-PAD	:5	43-BT	:1
45-A/D	:1	49-TRKS	:0/1*	50-DPLY	:1				

Note: **Optional*

S-73 Supervisory Call - CCIS

General Description

This feature allows an Attendant, in a CCIS network, to set Supervisory Call status before releasing a Central Office call to a station. When the call is extended to a station, the loop will remain up until the called station answers. This overrides ATTENDANT LOOP RELEASE [A-6] on a per call basis.

Operating Procedure

To activate a SUPERVISORY CALL - CCIS from the ATTENDANT CONSOLE [A-3]:
1. The Attendant answers an incoming Central Office call.
2. The Attendant extends the call to the desired station.
3. The Attendant presses the SP SET key; the HOLD lamp corresponding to the loop will light.
4. The called station and incoming call are connected.
5. The called station switch hook flashes; the HOLD lamp on the ATTENDANT CONSOLE [A-3] flashes at 60 IPM. If an Attendant position is available, an audible indication will be provided.
6. The Attendant presses the associated loop key to return to the called station; the calling station is placed on hold (MUSIC ON HOLD [M-7]).

Service Conditions

1. If the Attendant enters a loop that is already set up for a SUPERVISORY CALL - CCIS, the service is automatically cancelled and a three-party connection is established.
2. SUPERVISORY CALL - CCIS is not provided for station-to-station intra-node calling.
3. SUPERVISORY CALL - CCIS can be provided on a TENANT [T-12] basis.
4. A station at which SUPERVISORY CALL - CCIS has been activated will automatically recall to the Attendant if that station switch hook flashes.
5. If the incoming Central Office call or the station releases during the SUPERVISORY CALL - CCIS, the loop becomes idle at the ATTENDANT CONSOLE [A-3].
6. When the Attendant answers a recalled SUPERVISORY CALL, the service is complete. If the call is to be extended to another station, SUPERVISORY CALL - CCIS can be re-established.
7. SUPERVISORY CALL - CCIS is provided for inter-node station-to- station calling in a CCIS network.
8. The SUPERVISORY CALL status will also provide simultaneous SERIAL CALL [S-15] [S-52] service.
9. The following services are restricted while this service is activated:

   AUTOMATIC CAMP-ON WITH TONE INDICATION - CCIS [A-45]
   BUSY VERIFICATION - CCIS   [B-9]
   CALL HOLD   [C-6]
   EXECUTIVE RIGHT-OF-WAY   [E-8]

Interactions

SUPERVISORY CALL - CCIS is normally used in a loop-release ATTENDANT CONSOLE [A-3] setup, so that calls that are normally released from the Attendant loop can be monitored on a per-call basis.

Programming

> **ASYD** - SYS2, Index 7, bit 3. Supervisory Call service. 0/1. Out/In Service. SYS1, Index 43, bit 4. Attendant re-enters loop on supervisory call? 0/1: Restricted/Allowed.

T-26   Toll Restriction - 3/6-Digit - CCIS

General Description

This feature allows the NEAX2400 IMX to restrict outgoing calls through CCIS according to specific Area and/or Central Office codes. This restriction is determined on the basis of a three-digit Area Code or six-digit Area and Office Code numbering plan.

Operating Procedure

No manual operation is required.

Service Conditions

1.   The programmed restriction pattern can consist of codes to be allowed or codes to be restricted.
2.   TOLL RESTRICTION - CCIS is assigned on a CLASS OF SERVICE - INDIVIDUAL [C-15] basis.
3.   The system can be programmed to ignore digit "1" prefixing in an area code pattern.
4.   When a toll call is denied, the calling party receives reorder tone. If desired, the calling party can be routed to the ATTENDANT CONSOLE [A-3].
5.   A Restriction table is assigned to each trunk group.
6.   Tandem calling does not override TOLL RESTRICTION - 3/6-DIGIT - CCIS.
7.   TOLL RESTRICTION - 3/6-DIGIT - CCIS is assigned on a TENANT [T-12] basis.
8.   Through Dialing Feature: The Through Dialing feature does not override the Toll Restriction feature.
9.   The Toll Restriction feature is assigned on a per-line Class of Service basis. When provided, the feature is applicable on a per-trunk group basis.

Interactions

1.   When Toll Restriction is specified in ARRC, all possible dialing patterns must be assigned in ATDP. If office codes within an area code do not need to be restricted, allow the area code only. Always provide the system with the most economical configuration of digits when constructing TOLL RESTRICTION tables.
2.   In the ARRC command, ARI-A-RES must be programmed to allow two trunks and a station in a conference. ARI-D-RES is programmed if the two trunks are to remain connected after the station drops off or if TOLL RESTRICTION applies to a direct trunk-to-trunk connection such as a Tie line to DDD.
3.   ROUTE ADVANCE [R-6] - Station A dials a toll call by accessing route 1. Route 1 is busy and advances to route 2. Station A is restricted from making this call on route 2. The call will be restricted.
4.   PASSING DIAL TONE [P-2] - The ATTENDANT CONSOLE [A-3] cannot use the PASSING DIAL TONE feature to allow a TOLL RESTRICTED station to use a restricted route.
5.   OUTGOING TRUNK QUEUING [O-2] - When a station is restricted from all other routes, a station may use this feature to queue a trunk to complete a call over the unrestricted route(s).
6.   LEAST COST ROUTING [L-5] - Transactions in AFRS must be such that the digits dialed in the trunk-to-trunk connection should be recognizable in terms of choosing a route. If a route cannot be chosen, TOLL RESTRICTION 3/6-DIGIT cannot be applied.

Programming

STEP 1:   **ASYD** - SYS1, Index 75. Should the following commands be developed for Day/Night? 0/1: No/Yes.
          Bit 0 - Developed ARSC command for Day/Night?
          Bit 3 - Develop ATDP command for Day/Night?

Programming (cont'd)

        See DAY/NIGHT CLASS OF SERVICE [D-15].

        SYS2, Index 1, bit 3. Does TOLL RESTRICTION apply to SPEED CALLING - STATION? 0/1: Yes/No.

        SYS2, Index 1, bits 4 & 5. If TOLL DENIAL is required assign these bits as data "00". If TOLL DIVERSION is required assign these bits as "01".

        SYS2, Index 1, bit 7. Does TOLL RESTRICTION apply to SPEED CALLING - SYSTEM? 0/1: Yes/No.

STEP 2:   **ARSC** - Assign Route Restriction Classes. When assigned to stations these classes will determine whether or not a station will be allowed access to a specific route or specific dialing sequence. Assign the following:

        DAY/NIGHT:Day/Night Mode

        D: Day Mode

        N: Night Mode

        TN: Tenant Number

        RT: Route Number

        RSC: Route Restriction Class

        RRI: Route Restriction Index

                0:   IC Restriction via ATTENDANT CONSOLE [A-3] (DDD, etc.)

                1:   IC Restriction Direct Connection (DID, etc.)

                2:   OG Restriction via ATTENDANT CONSOLE [A-3]

      →   3:   OG Restriction Direct Connection (DDD, etc.)

        RES: Restriction Data

                0:   Connection is Restricted

                1:   Connection is Allowed

      →   2:   Connection is Toll Restricted

STEP 3:   **AMND** - This command is used to tell the system the total number of digits to expect based upon the first few DIGITS DIALED. 9 plus a local call will equal 8 digits, 9 plus 1 plus an Area Code call will equal 12 digits. Assign the DIALED DIGITS information and the corresponding MAXIMUM NECESSARY DIGITS (MND) data. Flag this data as a Toll call, (data 1), or a local call, (data 0).

Note: *The digits underlined are to be listed in the DC parameter. Overseas or Operator assisted calls should be listed with an MND = 24. Special dialing sequences such as 911 with an MND = 4 should also be listed.*

        N = 2 - 9, P = 0 or 1, X = 0 - 9

STEP 4:   **ATDP** - This command is used along with AARP. This command designates the digit codes that will be allowed, denied, or toll restricted. These codes are designated by Route Restriction Class. The Number of Necessary Digit data is used to specify where a 3 or 6-digit translation should begin. The digits to be examined for 3- or 6-digit translation are listed in AARP. Assign the following:

        DAY/NIGHT:Day/Night Mode

      →   D: Day Mode

           N: Night Mode

        TDM/OG:Tandem Connection/Outgoing Connection

             T: Tandem Connection

      →   O: Outgoing Connection

        ICRT: Incoming Route Number (Tandem Connection Only)

        RSC: Restriction Class (0-15)

        OGRT: Outgoing Route Number

Programming (cont'd)

DC: Destination (Area) Code (Maximum 11 digits)

TDI: Restriction Data*

    0: Connection is Restricted

    1: Connection is Allowed

    2: 3/6-Digit Toll Restriction [Go to AARP]

    3: C.O. Operator Call 9 + 0.

NND: Number of Necessary Digits (Used only when TDI = 2).

Note: *TDI 4 may appear when the digits input under the DC parameter are incorrect. The switch is looking for more digits.*

STEP 5: **AARP** - This command is used to designate digits translated for 3 and 6-digit restriction. In ATDP, a digit code is listed. The system will examine these digits and if the Restriction Code (TDI) is assigned as data "2," Toll Restriction, the program will do two operations. The first is to examine the NND value. If NND is "6," then the AARP information will apply to the sixth digit dialed. For example, assume 9-1-301-555-1212 is dialed. AARP will look at the sixth digit dialed for translation. Translation will begin with 555.

Assign the following:

OGRT: Outgoing Route Number

RSC: Route Restriction Class

FLAG: 1: 3 Digits

    2: 6 Digits

DC: 555

RES: Restriction Data

    0: Restricted

    1: Allowed

Note: *Only 3 digits or 6 digits may be entered for the DC parameter of this command.*

Examples Of Toll Restriction

Listed below are several examples of the use of TOLL RESTRICTION. For these examples refer to the following sample user requirements:

RSC 1: Allowed local only.

RSC 2: Allowed local plus Area Codes 718, 212, 201, & 914

RSC 3: Allowed local plus Area Codes 718, 212, 201, & office codes 239, 465 & 798 only within the 914 Area Code.

RSC 4: Allowed local plus all Area Codes except 808, 213, 408, 714.

RSC 5: Allowed local plus all Area Codes but restricted from 976 within each Area Code.

To simplify the examples, only one route, (route 1, DDD) will be used. There will be no difference between day and night restrictions. 1 + dialing is assumed with an LCR access code of 9.

Example 1 - RSC 1 Assignment

ATDP Command -

TDM/OG:O (Outgoing Connection)

DAY/NIGHT:D (Day)

OGRT: 1 RSC:1

DC: 92TDI:1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

Notice that assignments for digit codes 90 and 91 which cover operator calls and all 1 + Area Codes calls are not assigned. Digit Codes (DC) which are not assigned are automatically restricted.

Programming (cont'd)

AARP Command -

Not Required. This command is only required when TDI = 2 is assigned in ATDP.

Example 2 - RSC 2 Assignment

ATDP Command -

TDM/OG:O (Outgoing Connection)

DAY/NIGHT:D (Day)

OGRT: 1 RSC:2

DC: 92TDI:1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

To allow Area Codes 718, 212, 201, & 914 repeat the ATDP command for the following Digit Codes:

DC: 91718TDI: 1 (Connection is Allowed)

DC: 91212TDI: 1 (Connection is Allowed)

DC: 91201TDI: 1 (Connection is Allowed)

DC: 91914TDI: 1 (Connection is Allowed)

This allows these specific Area Codes. All Area Codes not assigned are Automatically restricted.

AARP Command -

Not Required.

Example 3 - RSC 3 Assignment

ATDP Command -

TDM/OG:O (Outgoing Connection)

DAY/NIGHT:D (Day)

OGRT: 1   RSC: 3

DC: 92 TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

To allow Area Codes 718, 212, & 201 repeat the ATDP command for the following Digit Codes (DC):

DC: 91718TDI:1 (Connection is Allowed)

DC: 91212TDI:1 (Connection is Allowed)

DC: 91201TDI:1 (Connection is Allowed)

To allow office codes 239, 465, & 798 within the 914 Area Code, assign the ATDP command as follows:

TDM/OG:O (Outgoing Connection)

DAY/NIGHT:D (Day)

OGRT: 1 RSC:3

DC: 91914TDI:2 (Go to AARP Command)

NND: 6 (Begin restriction after 91914, i.e.; the 6th digit dialed.)

AARP Command -

OGRT: 1   RSC: 3   FLAG: 1

DC: 239 RES: 1 (Connection is Allowed)

Repeat these same assignments for the following Digit Codes

OGRT: 1   RSC: 3   FLAG: 1   DC: 465   RES: 1

OGRT: 1   RSC: 3   FLAG: 1   DC: 798   RES: 1

This allows office codes 239, 465, & 798 to Area Code 914. All other office codes are automatically restricted.

Programming (cont'd)

Note that this method of assignment allows office codes 239, 465 & 798 to any Area Code that is assigned as TDI = 2 in ATDP.

For example, if the assignment for Area Code 718 was changed from TDI = 1 (allowed) to TDI = 2, then the office codes 239, 465, & 798 would also be allowed for Area Code 718.

If different Office Codes are to be allowed in the 718 Area Code (for example 623 and 567) then the assignments for 914 and 718 must be made as indicated in the ATDP Command.

ATDP Command -

TDM/OG:	O (Outgoing Connection)		
DAY/NIGHT:	D (Day)		
RSC:	3	OGRT:	1
DC:	919	TDI:	2 (Go to AARP Command)
NND:	3		
TDM/OG:	O (Outgoing Connection)		
DAY/NIGHT:	D (Day)		
RSC:	3	OGRT:	1
DC:	917	TDI:	2 (Go to AARP Command)
NND:	3		

This tells the system to check AARP tables for restrictions for all Area Codes beginning with 9 and 7.

AARP Command -

OGRT: 1	RSC: 3	FLAG:	2		
DC:	914239	RES:	1 (Connection is Allowed)		
DC:	914465	RES:	1 (Connection is Allowed)		
DC:	914798	RES:	1 (Connection is Allowed)		
OGRT:	1	RSC:	3	FLAG:	2
DC:	718623	RES:	1 (Connection is Allowed)		
DC:	718567	RES:	1 (Connection is Allowed)		

This allows just these office codes within these particular Area Codes. All other area codes beginning with 7 or 9 are also restricted. If at this point allowing Area Code 714 is desired, assign AARP as follows:

AARP Command -

OGRT:	1	RSC:	3	FLAG:	1
DC:	714	RES:	1 (Connection is Allowed)		

Example 4 - RSC 4 Assignment

ATDP Command -

TDM/OG:	O (Outgoing Connection)		
DAY/NIGHT:	D (Day)		
OGRT:	1	RSC:	3
DC:	92	TDI:	1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

TDM/OG:	O (Outgoing Connection)		
DAY/NIGHT:	D (Day)		
OGRT:	1	RSC:	4
DC:	912	TDI:	2 (Go to AARP Command)
NND:	3		

Programming (cont'd)

DC:	913	TDI:	2 (Go to AARP Command)NND:3				
DC:	914	TDI:	2 (Go to AARP Command)NND:3				

\\\\ (Through) \\\\

DC: 919   TDI: 2 (Go to AARP Command)NND:3

This tells the system to check AARP tables for all Area Code restrictions.

AARP Command -

OGRT:	1	RSC:	4	FLAG:	1	DC:	808	RES:	0*
OGRT:	1	RSC:	3	FLAG:	1	DC:	213	RES:	0*
OGRT:	1	RSC:	3	FLAG:	1	DC:	408	RES:	0*
OGRT:	1	RSC:	3	FLAG:	1	DC:	714	RES:	0*
OGRT:	1	RSC:	3	FLAG:	2	DC:	000000	RES:	1**

* This assignment restricts the Area Codes listed.

**"DC: 000000" indicates all other Destination Codes except those already assigned destination codes.

RES: Restriction Data: (0/1)

0: Not assigned Area Codes are restricted.

1: Not assigned Area Codes are allowed.

The above assignment allows all other dialing patterns (Area Codes) except 808, 213, 408, and 714.

Example 5 - RSC 5 Assignment

ATDP Command -

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 3

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

TDM/OG: O (Outgoing Connection)

DAY/NIGHT: D (Day)

OGRT: 1   RSC: 5

DC: 912   TDI: 2 (Go to AARP Command)

NND: 6

DC: 913   TDI: 2 (Go to AARP Command)

NND: 6

DC: 914   TDI: 2 (Go to AARP Command)

NND: 6

 \\\\ (Through) \\\\

DC: 919   TDI: 2 (Go to AARP Command)

NND: 6

This tells the system to check AARP tables for all Area Code restrictions.

AARP Command -

OGRT: 1   RSC: 5   FLAG: 1

DC: 976   RES: 0 (Restricted)

OGRT: 1   RSC: 5   FLAG: 2

DC: 000000   RES: 1 (Allowed)

This will restrict 976 and allow every other Office Code.

Programming (cont'd)

STEP 6: **ARRC** - This command provides trunk-to-trunk connection abilities according to the requirements of the system. The applicable trunk-to-trunk will be those connections provided by parameter ARI-D-RES direct connection. For example, REMOTE ACCESS TO THE SYSTEM [R-2] and TANDEM SWITCHING OF TIE TRUNKS - 2/4 WIRE [T-1].

ICRT: Incoming Route Number

OGRT: Outgoing Route Number

ARI-A-RES: Alternative Route Index

This allows/restricts trunk-to-trunk and tandem connection via the ATTENDANT CONSOLE [A-3] (and stations).

⟶ D: This allows/restricts trunk-to-trunk and tandem connections via direct dial access from a station.

RES: Restriction Data

Attendant Console (ARI-A-RES)

0:        Alternate routing is restricted.

1:        Alternate routing is allowed.

Dial Access (ARI-D-RES)

0:        Alternate routing is restricted.

1:        Alternate routing is allowed.

⟶ 2: Toll Restriction is required.

STEP 7: **ATDP** - When TOLL RESTRICTION is required for trunk-to-trunk connections, ATDP will provide all digit information. Up to 11 digits may be listed as being allowed for a specific trunk-to-trunk connection. TDI = 2 should not be assigned because AARP cannot be used for Tandem connections.

Example 6 - Trunk to Trunk Connection

(Allow all Local Calls)

ATDP Command -

TDM/OG: T (Tandem Connection)

ICRT: 2   OGRT: 1

DC: 92   TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

Notice that assignments for digit codes 90 and 91 which cover operator calls and all 1 + Area Code calls are not assigned. Digit Codes (DC) which are not assigned are automatically restricted.

Example 7 - Trunk to Trunk Connection

(Allow Limited Area Codes)

ATDP Command -

TDM/OG: T (Tandem Connection)

ICRT: 2   OGRT: 1

DC: 92 TDI: 1 (Connection is Allowed)

Repeat these same assignments for Digit Codes (DC) 93 - 99 to allow all local office codes.

To allow Area Codes 718, 212, 201, & 914 repeat the ATDP command for the following Digit Codes:

DC: 91718 TDI: 1 (Allow)

DC: 91212 TDI: 1 (Allow)

DC: 91201 TDI: 1 (Allow)

DC: 91914 TDI: 1 (Allow)

This allows these specific Area Codes. All Area Codes not assigned are automatically restricted.

T-27   Trunk Answer from Any Station - CCIS

General Description

This feature allows any station not restricted from incoming calls to answer incoming calls when the network is in Night mode.

When this feature is activated, incoming Central Office calls will activate a common TRUNK ANSWER FROM ANY STATION (TAS) signal. By dialing a specified code, any station may answer the call and extend it to any other station in the CCIS network using CALL TRANSFER - ALL CALLS - CCIS [C-50].

Operating Procedure

To answer an incoming call:
1. The TAS signal sounds indicating an incoming call.
2. Lift the handset and receive dial tone.
3. Dial the TAS access code; the incoming call is connected.

Service Conditions

1. An incoming call terminating in the Night mode will be forwarded to the TAS equipment of the terminating node.
2. An incoming call to the main node in the Night mode will not be forwarded to TAS equipment in a satellite node through the CCIS network. Therefore, the main node must provide TAS equipment for incoming Central Office calls.
3. When Night mode is set at the main node, satellite nodes not equipped with an ATTENDANT CONSOLE [A-3] can automatically be set to the Night mode by CENTRALIZED DAY/NIGHT MODE CHANGE - CCIS [C-56] service.
4. A TAS indicator can be provided for each node's incoming trunks.
5. An incoming call terminating in the Night mode will have the following order of priority:
   a.) NIGHT CONNECTION - FLEXIBLE - CCIS [N-16],
   b.) NIGHT CONNECTION - FIXED - CCIS [N-15],
   c.) TRUNK ANSWER FROM ANY STATION - CCIS [T-27]. Incoming calls will overflow to TAS [T-27], if this feature is provided, when the NIGHT CONNECTION FIXED/FLEXIBLE [N-1] [N-2] [N-15] [N-16] stations are busy.
6. TAS indication will be activated for the LDN, WATS, FX, CCSA incoming calls.
7. TAS indication can be provided on a TENANT [T-12] basis.
8. Individual stations can be denied access to this feature via CLASS OF SERVICE - INDIVIDUAL [C-15].
9. If the system is changed to the Day mode while a TAS call is being indicated, a call terminating at a node without an ATTENDANT CONSOLE [A-3] will not be transferred through the CCIS network to an ATTENDANT CONSOLE [A-3].
10. This feature is also referred to as Universal Night Answer (UNA).
11. The TAS indicator must be locally provided.
12. All ATTENDANT CONSOLES [A-3] assigned to handle calls for a particular group of stations (whether or not they belong to the same TENANT [T-12]) must have NIGHT CONNECTION [N-15, 16] set before this feature will be activated.

Interactions

The system must be in the Night Mode for TAS to operate. Take into consideration the type of ATTENDANT CONSOLE [A-3] system that is in service. Take special care when setting the resistance value via switch settings on the PA-CS07 ATTENDANT CONSOLE [A-3] Circuit Card.

Programming

STEP 1:   **ASYD** - SYS1, Index 68, bit 2. Type of TAS ringing; 0/1: Continuous/Interrupted.

SYS1, Index 77, bit 0. Is Day/Night change accomplished by removing ATTENDANT CONSOLE [A-3] handset? 0/1: No/Yes.

STEP 2:   **ANPD** - Reserve a number level for service feature access. Assign for Normal (N), Hooking (H) and Busy (B). Assign NND in accordance with a predetermined numbering plan.

STEP 3:   **ASPA** - Assign an access code to TRUNK ANSWER FROM ANY STATION, SRV = SSC (Service Code), SID = 16 TAS. Connection Status CI = N, Normal (N).

STEP 4:   **ASFC** - Assign station to receive TRUNK ANSWER FROM ANY STATION a Service Feature Class that allows SFI = 13.

STEP 5:   **ACFR** - Allow the types of incoming calls to be answered by TAS listed in Call Class Index (CCI) a Transfer Service Feature Index of 5, TAS. The Call Class Indexes will correspond to ARTD, CDN 6:TCL; Trunk Class parameter.

CCI: 1-LDN

2 - DDD2

3 - DDD3

4 - TIE LINE

5 - DDD4

STEP 6:   **ATAS** - Assign the TAS circuit to the TN, LP, PIM, and the CKT #0/1 based on the circuit location. TAS CKT # = ATTENDANT CONSOLE [A-3] CKT #.

U-5 Uniform Numbering Plan - CCIS

General Description

In a CCIS network, a Uniform Numbering Plan enables a user to call any other station in the network using a Uniform Numbering system. Two alternative numbering plans are provided:

- In the first plan, the user dials a four or five-digit station number. The node in which the called station is located is identified by either the first digit or the first two digits of the station number. More than one location number can be assigned to a particular node.
- In the second plan, the user dials a single-digit access code, a three-digit code identifying the particular node in the CCIS network, and a two, three, or four-digit station code.

Operating Procedure

To call a station at another office using Numbering Plan 1:
1. Lift the handset; receive dial tone.
2. Dial the four or five-digit telephone number.
3. The call is routed to another node according to programmed routing information, and the called station rings.
4. The called station answers and the parties are connected.

To call a station at another office using Numbering Plan 2:
1. Lift the handset; receive dial tone.
2. Dial <u>access code + office code - station code</u>:

     X-XXX-XX, or
     X-XXX-XXX, or
     X-XXX-XXXX
3. The call is routed to the node designated by the Office Code. The called station rings.
4. The called station answers, and the parties are connected.

Service Conditions

1. Numbering Plan 1:
   a.) All telephone numbers must be four or five digit numbers.
   b.) The location of the PBX can be identified by either the first digit or the first two digits of the telephone number.
2. Numbering Plan 2:
   a.) The calling and called party's LCD can display the office and station codes or the station code only. This option is selected via the Maintenance Administration Terminal (MAT).
   b.) Within the same PBX, a station-to-station call is made by simply dialing the two, three, or four-digit telephone number.
3. The maximum number of digits per telephone number is eight.

Interactions

If seven-digit Uniform Numbering Plans are used, an access code to the CCIS network may be added. Thus, a total of eight digits will be dialed. For example, a user in Illinois wishes to reach a CCIS station number (753-4526) in New York. Two options exist for network setup. The digit 8 may be programmed as a CCIS network access code, such as a Least Cost Routing access code. The user then dials 8-753-4526. With this option, the 8 is assigned as the CCIS access code. Digits 8-753 and all other CCIS office codes must then be listed in the AFRS command. The second option is to program 753 as the CCIS access code, as in an LCR access code. If 753 is assigned as the CCIS access code, then 753 and all other CCIS office codes must be listed in the AFRS command. In this case, the user only dials 753-4526.

Programming

STEP 1: **ARTD** - The CCIS TIE Line voice/data route(s) over T-1 should be assigned as follows:

RT:1

2-ONSG	:2	4-INSG	:2	5-TF	:3	6-TCL:4	7-L/T:1
8-RLP	:2	13-AC	:1	15-LSG	:12	28-ANS:1	30-PAD:7 Optional
43-BT	:1	49-TRKS	:0/1*	50-DPLY	:1

Note: *When data "0" is assigned at one office, data "1" must be assigned at the opposite office.*

The CCIS TIE Line signal link route(s) should be assigned as follows:

RT:2

6-TCL	:4	7-L/T	:1	9-TQ	:*0	15-LSG:13	30-PAD:7 fixed

Note: ** CDN 9:TQ is optional. Only use if an LCR route requires trunk queuing.*

STEP 1: **ARTD** - The LCR Flag route should then be assigned as follows:

RT:31

6-TCL	:1	7-L/T	:1	9-TQ	:1	13-AC	:1

STEP 2: **ATRK** - Assign the LEN of the CCIS voice/data trunks, Route Number, Trunk Number, and Tenant Number. The trunk LENs will correlate to channels 8-31 of the sub-highway in which the PA-24DTA/24CCTA is mounted when 1.5M DTI/CCT is used. The LEN corresponding to the last level of the last group is reserved for the CCIS signal link route.

STEP 3: **MBTK** - Assign the Make Idle status to the CCIS voice/data trunk.

Numbering Plan

STEP 4: **ANPD** - Reserve a number level for LCR. This level should correspond to the station numbering plan of the opposite office. Assign for Normal (N) and Hooking (H) service. Number of Necessary Digits will be the length of the digits assigned in ASPA.

STEP 5: **ASPA** - Assign the access code of the LCR flag route. Type of service, SRV= LCR (Least Cost Routing), LEAST-COST ROUTING-3/6 DIGIT [L-5]. Assign the LCR flag route (usually route 31).

STEP 6: **ARNP** - Assign the physical route numbers (CCIS voice TIE Lines), as assigned in ARTD, and relate these routes to the LCR access code as assigned in ASPA for SRV= LCR (Least Cost Routing). The LCR access code is the first digit of the opposite offices' station numbers.

STEP 7: **AMND** - Assign the Maximum Necessary digits the system must translate for a proper route selection. In this case, assign the first digit of the opposite system's station numbering and the number of digits in the station numbering plan.

STEP 8: **AFRS** - List the dialing patterns in groups that will be served by a specific sequence of routes. In this case, the CCIS routes and the first digit of the station numbering will be considered. Also, if overflow to DDD is used, the off-net numbers must be listed. These numbers will include the added digits from the AOPR command. Assign this dialing sequence to an OPR.

Programming (cont'd)

STEP 9: **AOPR** - The AFRS command designates the dialing sequence and the OPR to be selected. The AOPR defines the routes and in what order these routes will be selected. In this case, the DTI routes will be assigned. Also, it may be desirable to include DDD trunks as an overflow. Assign the following parameters:

TDC NO. - Time-of-Day Pattern Change. Usually, this parameter does NOT apply and data "0" must be entered. However, if different OPRs will be required as a function of time for an AFRS assignment, designate 1-7 for which Time-of-Day Pattern Change Number (TDC NO) this OPR is assigned.

OPR No. - Outgoing Pattern Route. The number referenced in AFRS, consisting of a series of routes to be chosen based on number dialed.

Route Advance Number (RA) - The order in which a route will be selected (0-7). Usually only one or two routes are involved with DTI Tie lines.

Route Advance End Display - The last route in the route advance group. Indicate with data "0". All other routes are indicated by data "1".

Route Number - The physical Route Number to be selected, as programmed in ARTD.

Skip Digits - Do Not skip any digits. Usually the LCR access code is the opposite system's station level. This digit must be sent to the opposite PBX.

If dialing pattern 2 is being used from the final node, send only the two, three, or four-digit station number before the node dialed.

Pattern Number Location - Digits to be added after translating the dialed digits in AFRS. Go to AADC command. This is usually not applicable to the DTI trunks, but will be used for DDD overflow. Add a 1 if required, and possibly the area code.

Overflow Tone - Assign if a tone is wanted for the Last Choice Route. If so, assign data "1" for DDD. Assign the primary RSC as data "0".

STEP 10: **ARRC** - Assign trunk-to-trunk connection capabilities between the various CCIS routes within each node of the network. Assign for both Alternative Route Index ARI-D-RES, Direct Connection and ARI-A-RES, via the Attendant Console. Assign RES: 1, allowed.

STEP 11: **ARNP** - For Pattern 2 dialing, route 0 must be used to assign the access code and an office code to this office. This information is transmitted to the D^{term} display at the other offices of the network. Therefore, when an incoming call is received at a distant office, the called party will recognize which office is originating the call. This information will also appear in characters 96-103 in the SMDR output for an O/G call record. It is also required for MESSAGE REMINDER - CCIS [M-34].

V-7   **Voice Call - CCIS**

General Description

This service feature allows Inter-office VOICE CALL when the calling D^{term}/Single-line Station and the called D^{term} belong to different PBX's in the CCIS network.

Operating Procedure

From a D^{term} to a D^{term}:

1. D^{term} (a) places a call to D^{term} (b) through a CCIS line; receives ringback tone. D^{term} (b) rings.
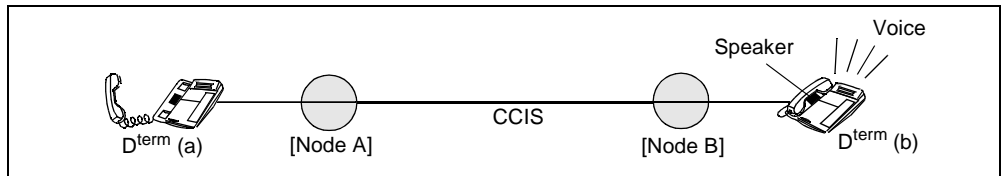

2. D^{term} (b) still does not answer. D^{term} (a), then presses the VOICE key and sends a tone to D^{term} (b). The LCD on D^{term} (a) displays:

VOICE XXXX

called D^{term}

Note: *If D^{term} (a) turns on MIC key on the D^{term}, D^{term} (a) can talk with D^{term} (b) hands-free.*
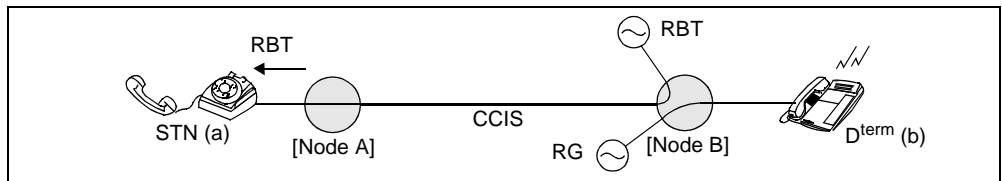
3. D^{term} (a) talks with D^{term} (b) via the speaker.

Note: *If D^{term} (b) turns on MIC key on the D^{term}, D^{term} (b) can talk with D^{term} (a) hands-free.*
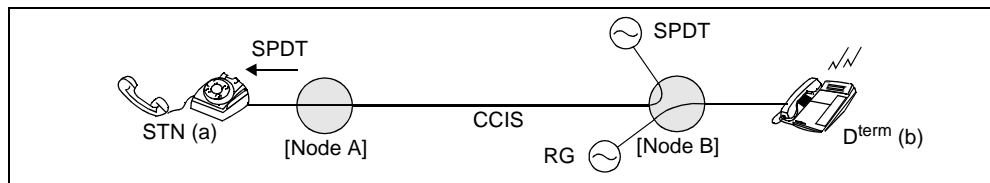
From a single-line station to a D^{term}:

1. Station (a) places a call to D^{term} (b) through a CCIS line and receives ringback tone while D^{term} (b) is ringing.
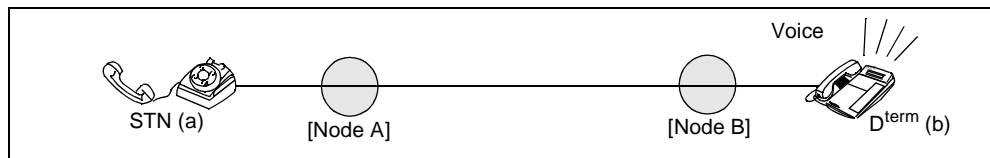
Operating Procedure (cont'd)

2. Station (a) switch hook flashes and receives special dial tone. D^{term} (b) still does not answer.

3. Station (a) dial the Access Code of VOICE CALL service and sends out a signal tone to D^{term} (b) via the speaker. D^{term} (b) talks with Station (a) via the speaker.

Service Conditions

1. Once a VOICE CALL is executed, the message "VOICE on multi-line set" is displayed on the called station.
2. Call Forwarding-All Calls/-Busy Line/-Don't Answer can be serviced by VOICE CALL.
3. VOICE CALL will terminate at the station whose My-line equals the extension called.

Programming

Setting by VOICE button:
STEP 1:   **AKYD** - Assign data to Feature key. FKY= 14
STEP 2:   **ADSL** - Assign SN=2 (Originating; RBT Connection) and FKY=14 (Voice Call; VOICE).
           This command is used for assigning the function to each soft key.
STEP 3:   **ASFC** - With respect to SFC of the stations that set Voice Call, cancel the restriction of SFI= 52.
           (SFI= 52: Voice Call service)
           (SFI= 93: Voice Call Restrict)
Setting by SHF + Access Code (Individual Station):
STEP 1:   **ASYD** - System 1, Index 17, bit 0: (1)
           SHF + ACC Code during RBT.
STEP 2:   **ANPD** - Assign minimum necessary number of digits for the first number of the Access Code of Voice Call.
STEP 3:   **ASPA** - Assigns Access Code of Voice Call.
           CI= H (Hooking), SIDA= 41, SRV= SSCA (Service Code Appendix)