

Section 1
Introduction

About This Edition...

The release of the fifth edition of the ADIX Technical Manual contains new features, components, enhancements, and programming classes and items that were included in Engineering Bulletins circulated throughout the year. Below is a list of the new items added to the 5th Edition ADIX Technical Manual:

New!- Features

- Alphanumeric Speed Dial by Name
- Voice Mail Monitor
- Call Logging
- Flexible Call Forward
- Group Monitoring
- Hunt Group Delayed Ringing
- ISDN Calling/Called Party Option
- Package/Version Displayed on Terminal
- Release Loop Operation on Analog E & M Tie Lines
- Station Based Recall, Camp-On, Forward Timer
- E-Response Help Call Feature
- Intercom Group Call Feature
- Relay Control from Single Line Telephones and Voice Mail Ports
- Automatic Relay Control

New!- Components

- IX-MKT
- IX-HCIF
- IX-CTILINK
- IX-8SUBM-3
- IX-8ESUBM
- IX-PMMSG

New!- Enhancements

- Whisper Page Enhancements
- Network Enhancements
- Monitor Improvements
- ISDN Trunk Feature Enhancements

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New!- Database Programming Guide

Class 04

Class.Item	Description	Change	Function
04.35 <rly1-32></rly1-32>	Miscellaneous Function Port	New Element	Relay or sensor location
04.36	Miscellaneous Relay Timer	New Element	
04.37 <rly1-32></rly1-32>	Miscellaneous Function	New Element	Relay Control
04.70 <num36></num36>	Call Logging	New Element	Designates whether Caller ID/ANI/DNIS information is saved for All Calls or Abandoned Calls Only
04.70 <num37></num37>	Network Switch Type	New Element	Designate the Network Switch Type
04.71 <num 41=""></num>	E-Response Help Call Time Out	New Element	Time in seconds
04.71 <num 42=""></num>	Automatic Relay Control Number	New Element	Relay Number 1-32
04.76 <num 01=""></num>	Automatic Relay Activation Time	New Element	Time of day HH:MM
04.77 <num23></num23>	Voice Mail Packet Code	New Element	Voice Mail Stop Recording/Delete Message
04.79 <num 08=""></num>	E-Response Help Call LCD Display	New Element	ASCII characters.

Class 07

Class.Item	<num></num>	Description	Range	Default	Note
07.06	43	SLT Relay Feature Access	null, 1-4 digits	null	Relay to control
		Number			

Class 08

Class.Item	<e1></e1>	<e2></e2>	Description	Range	Default	Note
08.04	01-60	1-64	E-Response Help Call Group Station/Zone			
08.05	01-60	6	E-Response Help Call Paging Group Setting	0-1	0	0=paging group 1=ICM Call Group
08.05	01-60	7	E-Response Group Relay Number	0-32	0	Relay Number 1-32

Class 10

Class.Item	Description	Change	Function
10.70 <extlxxx-4></extlxxx-4>	Enable/Disable Group Monitoring	New Element	Designates whether the speaker is available when user presses [SPKR] at off-hook state
10.72 <extlxxx- 7=""></extlxxx->	Voice Mail Monitor	New Element	Enables extension to use the Voice Mail Monitor Function
10.74 <extlxxx-1></extlxxx-1>	Station Hold Recall Timer	New Item	Designates the Hold Recall Timer for an individual station
10.74 <extlxxx-2></extlxxx-2>	Station Camp-On Recall Timer	New Item	Designates the Camp-On Recall Timer for an individual station
10.74 <extlxxx-3></extlxxx-3>	E-Response Help Call Extension	New Item	0=Disable 1=Enable, Day Only 2=Enable, Day and Night
10.74 <extlxxx-4></extlxxx-4>	E-Response Help Call Group Destination	New Item	Group Number (1-60)
10.75 <extlxxx-2></extlxxx-2>	Station No Answer Call Forward Timer	New element	Designates the No Answer Call Forward Timer for an individual station

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Class 11

Class.Item	Description	Change	Function
11.70 <trklxxx-4></trklxxx-4>	Trunk Packet	New Element	Enable/Disable Extension Information
	(Centralized Voice Mail)		
11.70 <trklxxx-5></trklxxx-5>	Extension Information	New Element	Enable/Disable Trunk Packet
	(Centralized SMDR)		
11.70 <trklxxx-6></trklxxx-6>	ISDN Numbering Option	New Element	ISDN Calling/Called Party Number
			Coding Option
11.73 <trklxxx-3></trklxxx-3>	Hunt Group as Delayed Call	New Element	Set Hunt Group as the delayed call destination
	destination		

Class 14.01/15.01

Class.Item	Description	Change	Function
14/15.01	Voice Mail Monitor Key	New Key	Enables Voice Mail Monitoring
<num175></num175>			

I ntroduction

Years of research and development have made the ADIX the most technologically advanced system ever designed by Iwatsu. This edition of the ADIX Technical Manual builds on the ADIX Technical Manual 4th Edition by adding new features and enhancements.

How to Use This Manual

This manual is designed to be the nexus between the technician and the ADIX. What you need to know, from installation to programming to troubleshooting is contained herein. Each of this manual's six sections and the appendixare listed below followed by a brief description of its subject matter.

Section 1 – Introduction • Overview of the ADIX Technical Manual, Fourth Edition.

Section 2 – System Specifications • Listing of technical specifications.

Section 3 – Features and Operations • A description of each system feature.

Section 4 – Component Description • A description of each piece of system hardware.

Section 5 – Installation Guide • Installation instructions and procedures.

Section 6 – Database Programming Guide ● A detailed description of the ADIX programming database.

Appendix • Other important information.

ADIX Technical Manual Section 1 Introduction

Typographical Conventions

The typographical conventions used in this manual are listed below. They will help you quickly locate and identify specific information.

Formatting:	Identifies:
PC bullet	Important programming information.
pointer bullet	Step-by-step instructions.
boldface type	Important instructions.
	Programming examples.
	A reference to another section in the ADIX Technical Manual
italic type	Specialized terms.
	Variable information that must be dialed.
	A reference to a programming class/item
[KEY]	A specific button on the telephone.
[KEY]	A button on the telephone not included in default key patterns 1, 129 or
	130 which must be programmed using Class 14.01 – Station Flexible
	Key Assignment or Class 15.01 – Attendant Key Assignment.



Section 2

System Specifications

System Overview

The ADIX is a fully digital communications system that was designed to provide a multitude of voice and data communication features with the reliability that Iwatsu products are famous for. The system architecture of the ADIX is compliant with TAPI (Telephony Application Programming Interface) and TSAPI (Telephony Services Application Programming Interface) standards to allow for computer telephony integration (CTI).

System Architecture

The ADIX series is a stored program, distributed-control multi-microprocessor system that provides a wide variety of features and fast service. The main processor is either a high-speed 16-bit/12.5 MHz or 32-bit/25 MHz chip. Peripheral processing units (PPU) are also used for a number of features. The system supports an open architecture that is expandable to a maximum of 448 non-blocking ports.

The ADIX uses a digital control system based on time-division multiplexing and pulse-code modulation (PCM32) technology. Time-division multiplexing allows several low-speed transmission circuits to share a single high-speed channel by assigning each sub-channel exclusive use of the communications bank for a brief period or *time slot*. PCM32 is a technique in which an analog signal is converted to digital code. The amplitude of a voice conversation in the ADIX is sampled 8000 times per second, converted to digital code then transmitted and switched digitally. Together with the digital control system that optimizes the advantages of this switching system, the ADIX provides a universal port system that standardizes the unit interface thus simplifying system installation. Figure 2.1-1 illustrates the basic architecture of the ADIX universal port system.

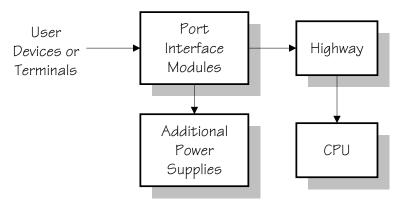


FIGURE 2.1-1 UNIVERSAL PORT SYSTEM

The system consists of four basic components as illustrated in figure 2.1-1.

Central Processing Unit (CPU) The central processing unit controls all the system functions through the ADIX operating system software and communicates to the outside world through the universal ports. For example, central office lines, system extensions.

Highway Controller The highway controller manages all the voice and data switching under control of the CPU.

Port Interface Modules These are the port interface cards which translate information such as voice energy and electric impulses into digital signals which communicate with the CPU and highway cards. Basic interface types are illustrated in figure 2.1-2.

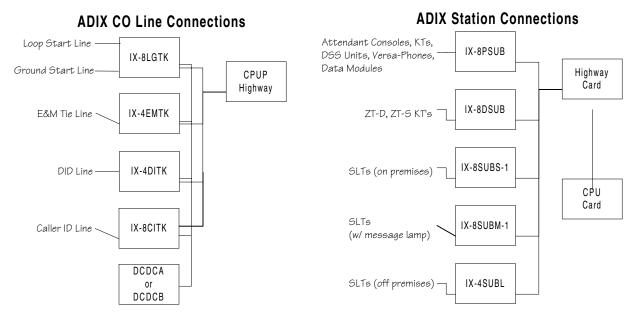


FIGURE 2.1-2 BASIC CONNECTIONS

Power Supplies The power supply provides operating power to the port interface units. Power supply requirements vary according to the types of services and features used in the system.

System Specifications

Modular Design

The ADIX can be expanded to a maximum of 448 ports by adding expansion modules. The ADIX-M can be expanded to a maximum of 136 ports. The ADIX-S supports a maximum of 52 ports and easily migrates to an ADIX-M.

ADIX-S System and ADIX-M System Overview

IX-CMM-1 Common Module

■ 5 Universal Card Slots

■ Dimensions (HxWxD): 15.5"x19"x11.5"

■ Weight: 26 lbs.

IX-EXPMM Expansion Module

■ 2 Maximum

■ 6 Universal Card Slots

■ Dimensions (HxWxD): 11.5"x19"x11.5"

■ Weight: 16 lbs.

IX-PWSS Power Supply

■ Dimensions (HxWxD): 9.2"x2.7"x11"

■ Weight: 4.3 lbs.

IX-PWSM Power Supply

■ Dimensions (HxWxD): 9.2"x2.7"x11"

■ Weight: 5.5 lbs.



ADIX-S



ADIX-M

Switch Parameters

Time Division Multiplexed PCM32

Mu-law Speech Compression

Time Slots:

IX-CPUP/HW:.....512

Stored Program

Distributed Multi-microprocessor

System Memory

Component	Flash Memory	RAM
IX-CPUP/HW	none	4 MB
IX-CPU20 MEM-M IX-CPU20 MEM-L	4MB 4MB	0 MB 2MB
	4MB	·

Heat Dissipation

IX-PWSS (maximum):......... 130 BTU/hr IX-PWSM (maximum):........ 162 BTU/hr

Environment

Operating Temperature: 0° to 40°C/32° to 104°F Storage Temperature: -10° to 50°C/14° to 122°F

Relative Humidity

(non-condensing): 10% to 90%

Seismic Withstanding

Applied Force	Sweep Cycle/Wave	Applied Waves	Simulated Installation
0.25g vertical 0.125g horizontal	0.5-10Hz	30	Ground level, floor mount
0.5g vertical	0.5-5Hz	30	2 nd to 6 th floor mount

0.25g horizontal

Power

	Nominal	Maximum
IX-PWSS Input:	86 watts	122 watts
IX-PWSM Input:	167 watts	250 watts

AC Input

AC Input Voltage Tolerance:

IX-PWSS: 108V-132V @ 120V IX-PWSM: 90V-135V @ 110V

Frequency Tolerance:

IX-PWSS: 54 Hz-66 Hz **IX-PWSM:** 47 Hz-63 Hz

Maximum Input Current

Ringing Generator

Frequency:......20 Hz **Amplitude:** 90 Vac Maximum Simultaneous Ringing (SLT):20

Battery Backup

ADIX-M (IX-PWSM) power supplies include a battery interface. Backup time is dependent upon battery array, system size and system usage.

ADIX-S (IX-PWSS) power supplies do not include a battery interface.

FCC Registration Numbers for ADIX-S and ADIX-M

KF: BD6MLA-21247-KF-E MF:.....BD6MLA-21244-MF-E

IC Registration Number

577 3326 A

Facility Interface Codes

Loop Start Trunks:...... 02LS2 Ground Start Trunks:.......... 02GS2 DID Trunks:......02RV2-T E&M Tie Lines:TL31M/TL32M OPS Lines: 0L13C T1-SF: 04DU9-BN T1-ESF:.....04DU9-1KN ISDN BRI: 02IS5 ISDN PRI:04DU9-1KN

Software Capacities

Outgoing Trunk Groups:60 Incoming Trunk Groups:60

Incoming Call Ringing Assignment: 16 Stations/Line, 32 Stations/Line if delayed ringing

assignment is not programmed.

Incoming Call Delayed Ringing Assignment:16 Stations/Line

Doorphone Ringing Assignment:......16 Stations/Doorphones

Call Pick-up Groups:.....60 **CO/ICM Hunt Groups:.....**60 Maximum Stations per Hunt Group:.....32 Paging Groups Internal:30 Maximum Stations per Paging Group:.....64 External Paging Zones:30 Station Speed Dial:10 System Speed Dial:900

Maximum Digits per Speed Dial Number:.....32 Speed Dial Alphanumeric ID:10 characters CO/Station Alphanumeric ID:.....8 characters DID Alphanumeric ID:16 characters Account Codes:.....12 digits

Software Capacities (Cont.)

Forced Verified Account Codes:800	
Park Orbits	
Attendant/System:60	
Station: 1	
Call Forwarding:10 steps	
No Answer:no limit	
Programmable System Announcement Time:120 seconds (IX-CMS	G) or 320 seconds (IX-CMSG-1)
Flexible Numbering Plan:1-4 digits	
Station Text Messages:10	
System Text Messages:90	
Text Message Groups:60	
Maximum Stations per Text Message Group:16	
Circuits Per Card	
Digital Station Card (IX-8PSUB):8 Circuits	
Digital Station/Caller ID Trunk Card (IX-408):4 Caller ID Trunks and	8 Digital Station Circuits
Digital Station/On-premise SLT Card (IX-044):4 On-premise SLT and	-
ZT-D Station Card (IX-8DSUB):8 circuits	•
On-premise SLT Card (IX-8SUBS):8 circuits	
Off-premise SLT Card (IX-4SUBL):4 circuits	
MSG Lamp SLT Card (IX-8SUBM):8 circuits	
Ground/Loop Start Trunk Card (IX-8LGTK):8 circuits	
Caller ID Trunk Card (IX-8CITK):8 circuits	
Caller ID Trunk Module (IX-400):4 circuits	
E & M Tie Line Trunk Card (IX-4EMTK):4 circuits	
DID Trunk Card (IX-4DITK):4 circuits	
T1 Trunk Card (IX-T1DTI):1 circuit	
ISDN BRI Trunk Card (IX-2ICOTB)2 circuits	
ISDN PRI Trunk Card (IX-ICOTP):1 circuit	
Attendant Console (ADIX-M Only)	
`	
Maximum Attendant Positions:8	
Loop Keys (Incoming Lines):8	
Programmable Function Keys:16	
Programmable DSS Keys:30	
Menu Driven Software Function Keys:8	
Call Waiting Indications:12	
Alphanumeric LCD:	
BLF Indications:200 x 2	
Telephone Requirements	
Digital Telephones	
Wiring:1 pair	
Total End-to-end Distance	
22 AWG Twisted Pair:1,000 ft.	
24 AWG Twisted Pair:	

Single Line Telephones

Wiring:	1 pair
Wiring w/Message Lamp:	1 or 2 pair
Maximum Loop Resistance (Includes SLT)	
On-premise SLT:	600 ohm
Off-premise SLT:	1,200 ohm
Ringing Frequency:	20Hz

ADIX-S and ADIX-M Hardware Capacities Table

SYSTEM ¹	ADIX-S	ADIX-M			
Power Supply	IX-PWSS	IX-PWSM IX-PWSM		IX-PWSM	
Expansion Modules	0	0 1		2	
Universal Card Slots	5	5	11	17	
Number of Ports ²	52	72	136	200	
Trunk Ports ³	28	32	80	128	
Station Ports	32	32	80	120	
Digital Station Ports	24	32	80	120	
Attendant Positions	8	8	8	8	
Attendant Consoles	0	8	8	8	
BLF Units	0	8	8	8	
DSS Units	8	8	8	8	
On-premise SLTs	16	24	64	96	
Off-premise SLTs	4	4	8	12	
Doorphones	23	31	79	119	
Busy Bypass Units4	12	16	40	60	
Loop Start Trunks	16	32	80	128	
Ground Start Trunks	16	32	80	128	
E & M Tie Lines	4	16	40	64	
DID Trunks	4	16	40	64	
Message Cards (IX-MSGU)	3	3	6	8	
IX-EDVIFCards ⁵	1	1	1	1	
Conference Circuits	8	8	8	8	
T1 Cards ³	1	1	3	5	
ISDN BRI Cards ³	3	3	6	9	
ISDN PRI Cards ³	1	1	3	5	

- This table lists the maximum quantity supported for each component type. The combined total number of ports for each system is limited to the
 "Number of Ports" category of this table. The capacities listed are based on the total number of card slots available, software restrictions and the
 power consumption of each component. It is recommended to use the ADIX Power Calculator Program to determine the exact power supply
 required.
- 2. The combined number of Station, Trunk, and Miscellaneous ports may not exceed the number of ports listed in this category.
- The total number of trunks programmed may not exceed 160 for IX-CPU16M and 200 for IX-CPU32M. Based on configuration and usage, actual numbers may be less.
- 4. When Busy Bypass Units are used, the total number of Digital Stations may not exceed these numbers.
- 5. For additional serial card functions, IX-SCIF or IX-HCIF cards can be added based on available card slots and power consumption.

ADIX APS System Overview

IX-CML Common Module

- 5 Universal Card Slots
- Dimensions (HxWxD): 12.5"x19"x11.5"
- Weight: 17 lbs. Empty; 30.4 lbs. Full Capacity
- Power Supply: IX-PWSL, IX-PWSM, IX-PWSS

IX-EXPML1 Expansion Module

- 3 Maximum (2nd, 3rd, and 5th Shelf)
- 6 Universal Card Slots
- Dimensions (HxWxD): 11.5"x19"x11.5"
- Weight: 16 lbs. Empty; 29.7 Full Capacity
- Power Supply: IX-PWSL or IX-PWSM

IX-EXPML2 Expansion Module

- 1 Maximum (4th Shelf only)
- 6 Universal Card Slots
- Dimensions (HxWxD): 11.5"x19"x11.5"
- Weight: 16 lbs. Empty; 29.7 Full Capacity
- Power Supply: IX-PWSL or IX-PWSM

IX-PWSL Power Supply

- Dimensions (HxWxD): 10.5"x2.75"x11.5"
- Weight: 5 lbs.

IX-PWSM Power Supply

- Dimensions (HxWxD): 9.2"x2.7"x11"
- Weight: 5.5 lbs.

IX-PWSS Power Supply

- Dimensions (HxWxD): 9.2"x2.7"x11"
- Weight: 4.3 lbs.

System Architecture

Time Division Multiplexed PCM32

Mu-law Speech Compression

Time Slots:

IX-CPUP/HW:.....512

Stored Program

Distributed Multi-microprocessor



Fully Expanded ADIX APS

System Memory

Component	Flash Memory	RAM
IX-CPUP/HW	none	4 MB
IX-CPU20 MEM-M	4MB	0 MB
IX-CPU20 MEM-L	4MB	2MB

Heat Dissipation

IX-PWSS (maximum):.......... 130 BTU/hr IX-PWSM (maximum):.......... 162 BTU/hr IX-PWSL (maximum):.......... 243 BTU/hr

Environment

Operating Temperature: 0° to 40°C/32° to 104°F Storage Temperature: -10° to 50°C/14° to 122°F

Relative Humidity

(non-condensing): 10% to 90%

Seismic Withstanding

Applied Force	Sweep Cycle/Wave	Applied Waves	Simulated Installation
0.25g vertical	0.5-10Hz	30	Ground level, floor mount
0.125g horizontal			
0.5g vertical	0.5-5Hz	30	2 nd to 6 th floor mount
0.25g horizontal			

Power

Model	Nominal	Maximum
IX-PWSS Input:	86 watts	122 watts
IX-PWSM Input:	167 watts	250 watts
IX-PWSL Input:	252 watts	360 watts

AC Input

AC Input Voltage Tolerance:

Frequency Tolerance:

IX-PWSS: 54 Hz-66 Hz IX-PWSM: 47 Hz-63 Hz IX-PWSL: 47 Hz-63 Hz

Maximum Input Current

Ringing Generator

Battery Backup

ADIX APS (IX-PWSL) power supplies include a battery interface. Backup time is dependent upon battery array, system size and system usage. See the table below to determine which power supplies allow a Battery Backup connection:

Power Supply	
IX-PWSS	No connection
IX-PWSM	Battery Backup Connection
IX-PWSL	Battery Backup Connection

FCC Registration Numbers for ADIX APS

Key Telephone Systems:	BD6MLA-21247-KF-E
Multi-Function System(Hybrid):	BD6MLA-21244-MF-E
PRX.	BD6MLA-21246-PF-F

IC Registration Number

577 3326 A

Facility Interface Codes

Loop Start Trunks:	02LS2
Ground Start Trunks:	02GS2
DID Trunks:	02RV2-T
E&M Tie Lines:	TL31M/TL32M
OPS Lines:	0L13C
T1-SF:	04DU9-BN
T1-ESF:	04DU9-1KN
ISDN BRI:	02IS5
ISDN PRI:	04DU9-1KN

Software Capacities

Abandon Call Storage	500 call records
Account Codes:	12 digits
Call Forwarding:	10 steps
No Answer:	no limit to steps
Call Pick-up Groups:	60
CO/ICM Hunt Groups:	60
CO/Station Alphanumeric ID:	8 characters
DID Alphanumeric ID:	16 characters
Doorphone Ringing Assignment:	16 stations/doorphones
External Paging Zones:	30
Flexible Numbering Plan:	1-4 digits
Forced Verified Account Codes:	800
Incoming Call Delayed Ringing Assignment:	16 stations/line
Incoming Call Ringing Assignment:	16 stations/line, 32 stations/line if delayed ringing
	assignment is not programmed.
Incoming Trunk Groups:	60
Maximum Digits per Speed Dial Number:	32
Maximum Stations per Hunt Group:	32
Maximum Stations per Paging Group:	64
Maximum Stations per Text Message Group:	16
Outgoing Trunk Groups:	60
Paging Groups Internal:	30
Park Orbits	
Attendant/System:60	
Station: 1	
Programmable System Announcement Time:	120 seconds (IX-CMSG), 320 seconds (IX-CMSG-1
Speed Dial Alphanumeric ID:	
Station Speed Dial:	10
Station Text Messages:	10
System Speed Dial:	900
System Text Messages:	90
Text Message Groups:	60

Circuits Per Card

Caller ID Trunk Card (IX-8CITK):8 circuits
Caller ID Trunk Module (IX-400):4 circuits
Conference Card (IX-8CNFBOX-1):8 circuits
DID Trunk Card (IX-4DITK):4 circuits
Digital Station Card (IX-16PSUB):16 circuits
Digital Station Card (IX-8PSUB):8 circuits
Digital Station/Caller ID Trunk Card (IX-408):12 circuits
Digital Station/On-premise SLT Card (IX-044):8 circuits
E & M Tie Line Trunk Card (IX-4EMTK):4 circuits
Ground/Loop Start Trunk Card (IX-8LGTK):8 circuits
ISDN BRI Trunk Card (IX-2ICOTB)2 circuits
ISDN PRI Trunk Card (IX-ICOTP):1 circuit
MSG Lamp SLT Card (IX-8SUBM):8 circuits
Off-premise SLT Card (IX-4SUBL):4 circuits
On-premise SLT Card (IX-8SUBS):8 circuits
T1 Trunk Card (IX-T1DTI):1 circuit
ZT-D Station Card (IX-8DSUB):8 circuits
Attendant Console
Maximum Attendant Positions:
Loop Keys (Incoming Lines):8
Programmable Function Keys:16
Programmable DSS Keys:30
Menu Driven Software Function Keys:8
Call Waiting Indications:12
Alphanumeric LCD:4 rows, 40 characters
BLF Indications:200 x 2
Telephone Requirements
Digital Telephones
Wiring:1 pair
Total End-to-end Distance
22 AWG Twisted Pair:1,000 ft.
24 AWG Twisted Pair:1,000 ft.

1,000 ft.
1,000 ft.
1,500 ft.
8,500 ft.

Single Line Telephones

Wiring:	1 pair
Wiring w/Message Lamp:	•
Maximum Loop Resistance (Includes SLT)	
On-premise SLT:	600 ohm
Off-premise SLT:	1,200 ohm
Ringing Frequency:	

ADIX APS System Capacity 1

Туре					
Configuration	IX-MEM-M	IX-MEM-M	IX-MEM-L	IX-MEM-L	IX-MEM-L
Shelf 5					IX-EXPML1
Shelf 4				IX-EXPML2	IX-EXPML2
Shelf 3			IX-EXPML1	IX-EXPML1	IX-EXPML1
Shelf 2		IX-EXPML1	IX-EXPML1	IX-EXPML1	IX-EXPML1
Shelf 1	1 IX-CML	IX-CML	IX-CML	IX-CML	IX-CML
IX-PWSL Power Supplies Required	1	2	3	4	5
Universal Card Slots	5	11	17	23	29
Number of Ports ²	88	184	280	376	472
Trunk Ports ³	36/52	84/116	132/180	180/200	200/200
Station Ports	72	144	216	288	360
Digital Station Ports ⁴	72	144	216	288	360
Attendant Positions	8	8	8	8	8
Attendant Consoles	8	8	8	8	8
BLF Units	8	8	8	8	8
DSS Units	8	8	8	8	8
On-Premise SLTs	36	84	132	180	228
Off-Premise SLTs	4	8	12	16	20
Doorphones	71	143	215	287	359
Busy Bypass Units ⁵	36	72	108	144	180
Loop Start Trunks	36	84	132	180	200
Caller ID Trunks	36	84	132	180	200
Ground Start Trunks	32	80	128	176	200
E & M Tie Trunks	16	40	64	88	112
DID Trunks	16	40	64	88	112
IX-MSGU Message Cards	3	7	8	8	8
IX-EDVIF Cards ⁶	1	1	1	0	0
Conference Circuits	32	32	32	32	32
T1 Cards (IX-T1DTI)	2	4	6	8	8
ISDN BRI Cards (IX-2ICOTB)	4	10	16	22	28
ISDN PRI Cards (IX-ICOTP)	2	4	6	8	8

- This table lists the maximum quantity supported for each component type based on the type of power supply installed on
 the shelf. The combined total number of ports for each system is limited to the "Number of Ports" category of this table.
 The capacities listed are based on the total number of card slots available, software restrictions and the power consumption
 of each component.
 - The combined number of Station, Trunk, and Misc ports may not exceed the number of ports listed in this category.
- 2. The maximum number of station ports per shelf may not exceed 72.
- 3. First number indicates the maximum trunk ports when IX-T1DTI or IX-ICOTP cards are not utilized. The second number indicates the maximum number of trunk ports when IX-T1DTI and IX-ICOTP cards are utilized. Based on configuration and usage, actual numbers may be less.
- 4. When Busy Bypass Units are used, the total number of Digital Stations may not exceed these numbers.
- **5.** The IX-EDVIF card may only be installed in the first 3 shelves of the system. For additional serial card functions, IX-SCIF or IX-HCIF cards can be added based on available card slots and power consumption.

ADIX System Overview

IX-CM Common Module

■ 12 Universal Card Slots

■ Dimensions (HxWxD): 29.5"x20"x11.5"

ADIX

■ Weight: 73 lbs.

IX-EXPM Expansion Module

■ 6 Maximum

■ 8 Universal Card Slots

■ Dimensions (HxWxD): 12"x20"x11.5"

■ Weight: 35 lbs.

IX-100PWS Power Supply

■ Dimensions (HxWxD): 6"x20"x11.5"

■ Weight: 22 lbs.

IX-200PWS Power Supply

■ Dimensions (HxWxD): 12"x20"x11.5"

■ Weight: 48.5 lbs.

IX-BATBOX Battery Cabinet

■ Dimensions (HxWxD): 17"x21.5"x12"

■ Weight: 35 lbs.

IX-20PBOX Power Supply Cabinet

■ Dimensions (HxWxD): 17"x21.5"x12"

■ Weight: 33 lbs.

Switch Parameters

Time Division Multiplexed PCM32

Mu-law Speech Compression

Time Slots:

IX-CPUP/HW:.....512

Stored Program

Distributed Multi-microprocessor

System Memory

Component	Flash Memory	RAM
IX-CPUP/HW	none	4 MB
IX-CPU20 MEM-M IX-CPU20 MEM-L	4MB 4MB	0 MB 2MB

Heat Dissipation

IX-100PWS (maximum): 1330 BTU/hr **IX-220PWS (maximum):** 3670 BTU/hr



Environment

Operating Temperature: 0° to 40° C/32° to 104° F Storage Temperature: -10° to 50° C/14° to 122° F

Relative Humidity

(non-condensing): 10% to 90%

Seismic Withstanding

Applied Force	Sweep Cycle/Wave	Applied Waves	Simulated Installation
0.25g vertical 0.125g horizontal	0.5-10Hz	30	Ground level, floor mount
0.5g vertical	0.5-5Hz	30	2 nd to 6 th floor mount

0.25g horizontal

Power

	Nominal	Maximum
IX-100PWS Input:	425 watts	1300 watts
IX-200PWS:	800 watts	1700 watts

AC Input

AC Input Voltage Tolerance:	90V-135V @ 110V
Frequency Tolerance:	47 Hz-63 Hz
Maximum Input Current	
IX-100PWS:	12A
IX-200PWS:	16A

Ringing Generator

Frequency:	20 Hz
Amplitude:	
Maximum Simultaneous Ringing (SLT)	20

Battery Backup

All power supplies include a battery interface. Backup time is dependent upon battery array, system size and system usage.

FCC Registration Numbers

KF:	BD620Q-60444-KF-E
	BD620Q-60087-MF-E
	BD6JPN-74017-PF-E

IC Registration Number

577 3326 A

Facility Interface Codes

Loop Start Trunks:	.02LS2
Ground Start Trunks:	
DID Trunks:	.02RV2-T
E&M Tie Lines:	.TL31M/TL32M
OPS Lines:	.0L13C
T1-SF:	.04DU9-BN
T1-ESF:	.04DU9-1KN
ISDN BRI:	.02IS5
ISDN PRI:	.04DU9-1KN
Software	
Outgoing Trunk Groups:	
Incoming Trunk Groups:	
Incoming Call Ringing Assignment:	, , ,
	assignment is not programmed.
Incoming Call Delayed Ringing Assignment:	
Doorphone Ringing Assignment:	·
Call Pick-up Groups:	
CO/ICM Hunt Groups:	
Maximum Stations per Hunt Group:	
Paging Groups Internal:	
Maximum Stations per Paging Group:	
External Paging Zones:	
Station Speed Dial:	
System Speed Dial:	
Maximum Digits per Speed Dial Number:	
Speed Dial Alphanumeric ID:	
CO/Station Alphanumeric ID:	
DID Alphanumeric ID:	
Account Codes:	G
Forced Verified Account Codes:	.800
Park Orbits	
Attendant/System:	
Station:	
Call Forwarding:	•
No Answer:	
Programmable System Announcement Time:	
Flexible Station Numbering Plan:	
Station Text Messages:	
System Text Messages:	
Text Message Groups:	
Maximum Stations per Text Message Group:	.16

Circuits Per Card

Digital Station Card (IX-8PSUB):	8 Circuits
ZT-D Station Card (IX-8DSUB):	8 circuits
On-premise SLT Card (IX-8SUBS):	8 circuits
Off-premise SLT Card (IX-4SUBL):	4 circuits
MSG Lamp SLT Card (IX-8SUBM):	8 circuits
Ground/Loop Start Trunk Card (IX-8LGTK):	8 circuits
Caller ID Trunk Card (IX-8CITK):	8 circuits

Circuits Per Card (Cont.)

Caller ID Trunk Module (IX-400):	4 circuits
E & M Tie Line Trunk Card (IX-4EMTK):	4 circuits
DID Trunk Card (IX-4DITK):	4 circuits
T1 Trunk Card (IX-T1DTI):	1 circuit
ISDN BRI Trunk Card (IX-2ICOTB)	2 circuits
ISDN PRI Trunk Card (IX-ICOTP):	1 circuit

Attendant Console

Maximum Attendant Positions:	8
Loop Keys (Incoming Lines):	8
Programmable Function Keys:	16
Programmable DSS Keys:	30
Menu Driven Software Function Keys:	8
Call Waiting Indications:	12
Alphanumeric LCD:	4 rows, 40 characters
BLF Indications:	200 x 2

Telephone Requirements

Wiring:	1 pair
Total End-to-end Distance	
22 AWG Twisted Pair:	1,000 ft.
24 AWG Twisted Pair:	1,000 ft.
1 Star Repeater:	1,500 ft.
2 Star Repeaters:	8,000 ft.

Single Line Telephones

Wiring w/Message Lamp:	1 or 2 pair
Maximum Loop Resistance (Includes SLT	· ·
On-premise SLT:	600 ohm
Off-premise SLT:	
Ringing Frequency:	

Wiring:.....1 pair

ADIX Hardware Capacities

POWER SUPPLY ¹	IX-100PWS		IX-200PWS		
Expansion Modules	0	1	2	6	
Universal Card Slots	12	20	28	56	
Number of Ports ²	96	160	224	448	
Trunk Ports ³	88	152	160	200	
Station Ports	88	152	200	400	
Digital Station Ports	88	152	200	400	
Attendant Positions	8	8	8	8	
Attendant Consoles	8	8	8	8	
BLF Units	8	8	8	8	
DSS Units	8	8	8	8	
On-premise SLTs	80	144	192	392	
Off-premise SLTs	40	72	104	216	
Doorphones	87	151	199	399	
Busy Bypass Units ⁴	44	76	100	200	
Caller ID Trunks	88	152	160	200	
Loop Start Trunks	88	152	160	200	
Ground Start Trunks	88	152	160	200	
E & M Tie Lines	44	76	108	200	
DID Trunks	44	76	108	200	
Message Cards (IX-MSGU)	7	8	8	8	
Misc. Cards (IX-MISC/IX-EDTCU)	2	3	4	7	
Serial Cards (IX-SCIF, IX-HCIF)	3	3	3	3	
IX-EDVIF Cards	1	1	1	1	
Conference Circuits ⁵	24	24	24	24	
T1 Cards ³	3	5	7	9	
ISDN BRI Cards ³	11	19	27	49	
ISDN PRI Cards ³	3	5	7	9	

^{1.} This table lists the maximum quantity supported for each component type. The combined total number of ports for each system is limited to the "Number of Ports" category of this table. The capacities listed are based on the total number of card slots available, software restrictions and the power consumption of each component. It is recommended to use the ADIX Power Calculator Program to determine the exact power supply required.

^{2.} The combined number of Station, Trunk, and Miscellaneous ports may not exceed the number of ports listed in this category.

^{3.} The total number of trunks programmed may not exceed 160 for IX-CPU16M and 200 for IX-CPU32-1. Based on configuration and usage, actual numbers may be less.

^{4.} When Busy Bypass Units are used, the total number of Digital Stations may not exceed these numbers.

^{5.} The IX-CPU16M has a maximum of 8 conference circuits. The IX-CPU32-1 can accommodate 24 conference circuits.

Key Telephone Lamp Indications

Status	Lamp Indication	
In Use (Green)	Modulation Steady (On)	
CO Incoming/Call Forward	0.1 sec. on, 0.9 sec. off	
On Hold (Green)	0.5 sec. on, 0.5 sec. modulated on	
System Hold/Non-Privacy	0.1 sec. off, 0.3 sec. modulated on	
Recall, ICM Incoming, MSG	0.7 sec. off, 0.3 sec. modulated on	
DND	0.5 sec. on, 0.5 sec. modulated on	
Busy	Steady (On)	

Station Port Requirements

Model	Description	Ports Required
IX-ATT	Attendant Console	2
IX-BLF	Busy Lamp Field	1
IX-DCKT900	Digital Wireless Telephone	1 or shared with
		digital telephone
IX-DSS-A	50 DSS & 20 function keys with display	1
IX-DSS-A-2	50 DSS & 20 function keys with display	1
IX-DSS-B	50 DSS keys	1
IX-8KTS	8 line keys	1
IX-8KTD	8 line keys with display	1
IX-12KTS-2	12 line keys (24 line keys with IX-ELK)	1
IX-12KTD-2	12 line keys (24 line keys with IX-ELK)	1
IX-24KTS	24 line keys	1
IX-24KTD	24 line keys with display	1
IX-VT	Versa-Phone	1
IX-DMS	Data Module	1
IX-DDPH	Digital Doorphone	1

Time Parameters

Hold Docall Times	O OFF accorde
Hold Recall Timer	0 - 255 seconds
Timed Trunk Queuing	1 - 20 minutes
Doorphone Answer Time	5 - 255 seconds
VSS Recording Time	0 - 120 seconds
Hunting Time	0 - 255 seconds
Night Mode Start Time	00:00 - 23:59
Auto CO Answer Start Time	00:00 - 23:59
MISC Relay Timer	10 - 255 ms
DISA-Waiting Time	0 - 255 seconds

ADIX Signal Characteristics

CO Dial Tone

Condition: When making an outgoing call through Optimized Routing

Frequency:352/432 HzDuration:ContinuousRepetition:Continuous

Pattern:

╝

ICM Dial Tone

Condition: When a station goes off-hook

Frequency: 432 Hz

Duration: Continuous

Repetition: Continuous

Pattern:

ICM Dial Tone (2nd)

Frequency: 432 Hz

Duration: 0.2 second on/0.2 second off

Repetition: Continuous

Pattern:

ICM Ringback Tone

Condition: When the called station is tone ringing

Frequency: 432/480 Hz

Duration: 1 second on/3 seconds off

Repetition:..... Continuous

Pattern:



ICM Voice Call Tone

Condition: When the called station is voice called

 Frequency:
 432 Hz

 Duration:
 1 second on

 Repetition:
 1 burst

Pattern:

1s

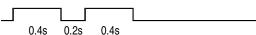
ICM Busy Bypass Tone

Frequency:..... 800 Hz

Duration: 0.4 second on/0.2 second off

Repetition: 2 bursts

Pattern:



ICM Busy Tone

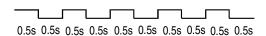
Condition: When the called station is busy

Frequency: 480/624 Hz

Duration: 0.5 second on/0.5 second off

Repetition: Continuous

Pattern:



ICM Busy Ringback Tone

Condition: When station busy override occurs

Frequency: 432/480 Hz

Duration: 0.5 second on/0.5 second off

Repetition:..... Continuous

Pattern:



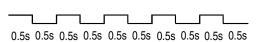
ICM Absence Tone

Frequency: 432 Hz

Duration: 0.5 second on/0.5 second off

Repetition:..... Continuous

Pattern:



ICM DND Tone

Condition: When the called station is in the "DND" mode

Frequency: 432 Hz

Duration: 0.1 second on/0.1 second off

Repetition: 5 bursts, intermittent with 1.1 seconds of silence

Pattern:



ICM Warning Tone

Condition: When a non-existing station number is dialed

Frequency: 480/624 Hz

Duration: 0.2 second on/0.2 second off

Repetition: 5 bursts, intermittent with 1.1 seconds of silence

Pattern:

Confirmation Tone

Condition: When feature access is acknowledged

Frequency: 432 Hz

Duration: 0.2 second on/0.2 second off

Repetition:..... 3 bursts

Pattern:

0.2s 0.2s 0.2s 0.2s 0.2s

ICM Howler Tone

Condition: When the receiver remains off-hook over a preprogrammed time without

completion of call processing

Pattern:

CO Incoming Call

Repetition:..... Continuous

Pattern:

1s 3s 1s

CO Incoming Call (Caller ID/ANI/DNIS Trunk)

Repetition:.....Continuous

Pattern:

Caller ID/ANI/DNIS Data

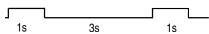
CO Camp-On Call

Condition: When another station camps on a CO line call

Duration: 1 second on/3 seconds off

Repetition: Continuous

Pattern:



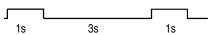
CO Callback

Condition: When a queue for a CO line access calls back

Duration: 1 second on/3 seconds off

Repetition: Continuous

Pattern:

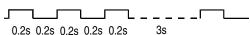


CO Consultation Hold Recall

Condition: When a consultation hold (by hook-flash) times out

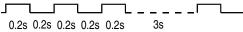
Duration: 0.2 second on/0.2 second off Repetition: 3 rings with 3 seconds of silence

Pattern:



CO Camp-On Recall/Call Coverage Button

Duration: 0.2 second on/0.2 second off Repetition:..... 3 rings with 3 seconds of silence Pattern:

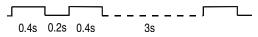


ICM Station-to-Station Call

Condition: When a station calls another station

Duration: 0.4 second on/0.2 second off Repetition: 2 rings with 3 seconds of silence

Pattern:

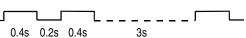


ICM Camp-On Call

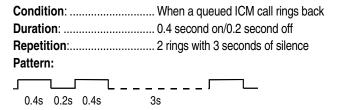
Condition: When an ICM call is camped on Duration: 0.4 second on/0.2 second off

Repetition: 2 rings with 3 seconds of silence

Pattern:



ICM Callback



Software Release & Hardware Introduction History

July 1989 Version 1.0 Introduction October 1994 **ADIX-M Introduced** February 1990 Version 3.0 Released CPU16M and EDVIF Cards Introduced Version 4.50/5.50 Released Multiple Trunk Group Access January 1995 Connect Key on KT Enhanced for new NANP compatibility Headset Connection - KT DID & DISA Ringing to UCD Group Remote CO FWD - External Control Attendant Paging Override Restriction Remote CO Forwarding - Activation Attendant Release Key Incoming CO Access Restriction Busy Camp-On from SLT Flexible Outgoing Call Restriction Simplified DISA Short-Cut Operation **Busy Override Station Programming** Two-Way DID on T1 trunks Hotel/Motel Indication Control **ACD Version 2.10 Released** January 1995 UCD Interval/Disconnect Timer Help Call Programmable ATT Recall Destination Emergency Recording/Help DIL Ringing Stations (up to 32) **ACD Supervisors** Auto Outgoing CO - Station SPD 99 Dual-Group Log In Call Pickup, Type of Calls Programming ACD/PBX Trunk-to-Trunk Conference SMDR Min. Call Duration Unit min./sec. Call Sequence Key June 1990 Version 4.0 Released Forced Qualification Code Voice Mail Integration Speed Dial Forward from Call Sequence Call Coverage Fixed Call Forwarding November 1995 Version 4.61/5.61 Released UCD Caller ID True Attendant Position Automatic Number Identification (ANI) Call Forward - Busy/No Answer Dialed Number Identification Service IX-CPUL-1, IX-EMEM-1 introduced (DNIS) **April 1991** IX-CPU32. IX-ROMP32 Introduced November 1995 **ACD Version 2.21 Released** October 1991 Version 4.2 Released Caller ID T1 Interface Automatic Number Identification (ANI) Forced Verified Account Code Dialed Number Identification Service DID/DNIS Alphanumeric ID (DNIS) **UCD** Enhancements June 1996 Version 4.62/5.62 Released Transfer ability to UCD group Enhanced Caller ID, ANI, DNIS Name Different 1st/2nd Msg. per UCD Group and Number Display Voice Mail Integration Enhancements Private and Out-of-Area Routing for Call-Out Function Caller ID Calls Packet Table Expansion DID Number External Call Forward No Double Packet Multiple Ringing Stations for DID, ANI, AA/VM Combination Mode DNIS, and Caller ID ZT-D X-Telephone Compatibility **IX-PMSLINK Property Management** Maximum 8 IX-MSGU per system

Call Coverage Enhancement

Version 4.30/5.30 Released International Optimized Routing

Released

ADIX ACD(optional software)

September 1992

November 1993

System Interface

Change to Default Database Settings

Expansion of Network Tables SLT Termination Signal (disconnect) UCD Enhancement (time parameter)

December 1996 Version 4.71/5.71 Released

Abandoned Call Storage

Voice Mail Integration Enhancements Improved VM/AA Packet Descriptions

Text Messaging

Eight Personal Ringing Tones Flexible Key Assignment for

IX-DCKT900
ISDN BRI Interface
ISDN PRI Interface
Call Recording

January 1997 ADIX-S Introduced

June 1997 4.75/5.73/ACD 2.31 Released

Caller ID, ANI, DNIS Name and Number

Display Enhancements (5.73/ ACD 2.31 only) ISDN PRI Support (IX-ICOTP)

April 1998 Omega-Voice VMI Card Introduced
May 1998 IX-CPUP/HW with IX-CPU20/MEM-X

Introduced

May 1998 ADIX Version 6.00/ ACD Version 6.00

Released Enhanced Networking

Enhanced ISDN PRI Line Feature

Whisper Page

Transfer to Guest Mailbox One Touch Optimized Key Name and Number Display Enhancements June 1999 September 1999 November 1999

December 1999

March 2000

Controller Card Modification IX-HCIF and IX-CTILINK introduced ADIX Version 6.20

Alphanumeric Speed Dial by Name

Voice Mail Monitor Call Logging Flexible Call Forward Group Monitoring

Hunt Group Delayed Ringing ISDN Calling/Called Party Number

Coding Option

ISDN Trunk Feature Enhancement

Monitor Improvements
Package/Version Display on
Programming Terminal
Release Loop Operation on Analog

E&M Tie Lines

Station Based Recall, Camp-On

Forward Timer

Whisper Page Enhancements
Iwatsu Utility CD Released
ADIX Software Version 6.30

E-Response Help Call Feature Intercom Group Call Feature

Relay Control from SLT and VM Ports

Automatic Relay Control IX-MKT Key Assignment



Section 3

Features and Operations

System-Wide Features

911 Support

At default, ADIX is programmed to automatically contact your local Public Safety Answering Point (PSAP) when 911 is dialed. In addition, ADIX is one of the only ysytem that supports Enhanced 911 Service. Enhanced 911 Service ensures that when 911 is dialed from a system extension, information that allows the PSAP to identify the caller's location in a building is sent to the PSAP along with the call. Check with your system installer or Authorized Iwatsu Distributor to make sure your system is programmed for Enhanced 911 Service.

Operation

- 1. From an outside or inside line:
 - 1. Go off-hook.
 - 2. Dial 911

You will be connected to your local Public Safety Answering Point (PSAP).

Abandon Call Storage

When a call on a Caller ID (IX-8CITK) or ANI (IX-T1DTI) line is disconnected before being answered, during transfer, or while on hold, system memory may retain caller information. This information includes the caller's telephone number and name, date and time of the call, trunk number, and destination station. This information can be output as a system event code or to SMDR. A maximum of 500 abandoned call records may be stored in memory.

The following types of incoming calls on Caller ID or ANI lines are considered abandoned calls:

- Caller hangs up or is disconnected before the call is answered.
- Caller hangs up or is disconnected while on hold or during hold recall.
- Caller hangs up or is disconnected during camp-on transfer or camp-on recall.
- Caller hangs up or is disconnected while in Auto Attendant or Voice Mail but before being answered by a station telephone.

Keys Used for Abandoned Call Storage

Three keys, [USATn], [USAT], and [USAS], have been added to provide access for the abandoned call information that has been saved in the system memory. The [USATn], [USAT], and [USAS] keys are programmed in Class 14.01 or 15.01 to the desired key pattern. Use Class 10.12 to assign a key pattern to a specific station. The function of each new key is explained below:

Abandoned Call System Key [USAT]. The [USAT] key (Class 14.01/15.01 d1=166) may be used to check abandoned calls on any trunk group in the system. This key allows the user to select a specific trunk group to check for abandoned call records (the trunk group is based on Class 11.39). This key does not provide a lamp indication.

Abandoned Call Trunk Group Key [USATn]. The [USATn] key (Class 14.01/15.01 d1=167, d2=trunk group number 01-60 programmed in Class 11.39) is used to check abandoned calls received on a specific trunk group. This key lights solid red to indicate abandoned calls were received on the associated trunk group.

Abandoned Call Station Key [USAS]. The [USAS] key (Class 14.01/15.01 d1=168) is used to check abandoned calls received at an individual station. This key lights solid red to indicate information about a Caller ID/ANI call that was abandoned while ringing at a specific station or group of stations has been saved in system memory. The tables below list the relationship between the type of abandoned call and the stations at which the [USAS] key lamp will light.

Incoming Call Abandoned During Ringing				
Type of Call	Status When Disconnected	Station(s) Receiving Indication on [USAS] Key Lamp		
Individual Station Call	Station is ringing	Ringing station		
Incoming Call to a Hunt Group	Ringing following hunting sequence programmed for the group	Station ringing when the call was abandoned		
Caller ID/ANI call with Multiple Stations Ringing	Ringing at multiple stations	All ringing stations		
Recall	Station is ringing with recall	Station receiving recall		
Attendant Intercept	Attendant station(s) ringing	Attendant station with lowest logical port number		

Call Abandoned After Answer by the System or a Station				
Type of Call	Status When Disconnected	Station(s) Receiving Indication on [USAS] Key Lamp		
UCD	Station Ringing	Ringing station		
Auto Attendant or Voice Mail Transfer to a Hunt Group	Ringing following hunting sequence programmed for group	Station ringing when the call was abandoned		
Auto Attendant or Voice Mail Transfer (Camp-On)	Camped-on station is ringing	Station ringing when the call was abandoned		
Forwarding, Camp-on or Recall of a Call in Progress	Ringing at a station	Station ringing when the call was abandoned		
Call in Progress on Hold	Call on hold	Station at which the call was placed on hold		

Note: The [USATn] and [USAS] keys remain illuminated until the abandoned call information is deleted from system memory. If abandoned call indication on either the [USAS] or [USATn] key occurs at more than one station for the same record, deleting the record from one station deletes the record at all stations.

Displaying Abandoned Call Information

When the [USATn], [USAT], or [USAS] key is pressed, the following information about the call is displayed on the station LCD:

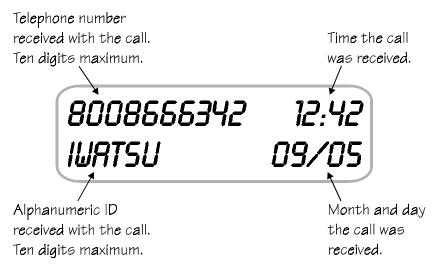


FIGURE 3.1-1 ABANDONED CALL LCD DISPLAY

Station users can view the next saved abandoned call information by pressing [#] and the previous abandoned call record by pressing [*].

Returning a Call Using the Stored Abandon Call Information

When a station user is displaying an abandoned call record, an outgoing call to the displayed number may be automatically initiated by pressing [FLT], [FLTn], or [COLn]. If optimized routing is programmed, a callout to the abandoned number can also be made by pressing the [USAT], [USATn], or [USAS] key a second time. Before initiating an outgoing call, up to four digits may be added to the abandoned call number. These additional digits, however, do not appear on the display during input, but do appear during call origination.

Note: In certain areas, local calls are received with ten Caller ID digits that include the area code. If the telephone company does not support local calls dialed with an area code, optimized routing must be used and correctly programmed to automatically remove the three-digit area code from the outgoing number.

Deleting Abandon Call Information

Abandoned call information can be deleted from memory either manually or automatically by the system.

Manual Deletion: Stations that have been assigned a [UAD] key can delete abandoned call information saved in system memory, one call at a time. When an abandoned call message is displayed, pressing the [UAD] key deletes the record from system memory. If an abandoned call record is accessible at more than one station via either the [USAS], [USATn] or [USAT] key, deleting the record from one station in effect deletes the same record at all stations.

All Record Manual Deletion: Any attendant station in the system can delete all of the abandoned call records in the system memory by pressing the [UAD] key and entering a station password (Class 10.05).

Automatic Deletion: Class 04.71, Element 40 determines the length of time, between 1 and 30 days, that abandoned call information will be retained in memory. The system automatically deletes the affected abandoned call information at 12:00 AM on the day following the retention period programmed. For example, if Class 04.71, Element 40 is programmed to retain abandoned call information for 10 days, messages will be deleted at 12:00 AM on the 11th day. By default, abandoned call information is deleted at 12:00 a.m. of the day following reception.

The ADIX has the capacity to store information on 500 abandoned calls at one time. When the number of abandoned calls in memory exceeds 500, information is deleted on a first in, first out basis.

SMDR Printout of Abandon Call Information

Abandoned call information can be sent to the SMDR port of the ADIX system. All call records for abandoned calls are indicated with "ABDN" in the note column of the printout. The system must be programmed (Class 04.52) to output incoming calls on SMDR in order to print abandoned call information.

Operation:

To view abandoned call information:

For station: At ICM dial tone press the [<u>USAS</u>] key once to display information about the first abandoned call that occurred at your station. Press [#] to scroll forward and [*] to scroll backward in sequence.

For trunk group: At ICM dial tone press the [<u>USAT</u>] key once or the [<u>USAT</u>] key + *trunk group number* to display information about the first abandoned call that occurred on a specific trunk group. Press [#] to scroll forward and [*] to scroll backward in sequence.

To return a call by automatically dialing the abandoned call Caller ID number:

With an abandoned call record displayed, Do one of the following:

For station: Press the [FLT], [OPT], or [COL], or press the [USAS] key a second time.

For trunk group: Press the [FLT], [OPT], or [COL], or press the [<u>USAT</u>] + *trunk group number* or [USATn] key a second time.

To cancel: Press [UAD] to cancel the outgoing call.

To add digits to the displayed number before calling out:

With an abandoned call record displayed,

- 1. Dial the additional digits to be added to the outgoing number. **Note:** The added digits do not appear on the display when entered.
- 2. Do one of the following:

For station: Press the [FLT] or [COL], or press the [USAS] key a second time.

For trunk group: Press the [FLT] or [COL], or press the [<u>USAT</u>] + *trunk group number* or [<u>USATn</u>] key a second time.

To cancel: Press [UAD] to cancel the outgoing call.

To delete abandoned call information for an individual call record:

With an abandoned call record displayed, press the [UAD] key.

To delete all abandoned call records from system memory (Attendant Only).

- 1. Press [SPKR].
- 2. Press the [UAD] key.
- 3. Enter your station password.
- 4. Wait for confirmation tone.
- 5. Press [SPKR].

Conditions:

1. Information on up to 500 calls may be stored in memory. When the number of abandoned calls exceeds 500, each new abandoned call will overwrite the abandoned call that has been saved in memory for the longest time.

- 2. Incoming trunk groups are programmed in Class 11.39. In order for a [USATn] key to function properly, the desired incoming trunks must belong to the specified incoming group of the key.
- 3. Class 04.71, Element 40 is used to determine the maximum retention period between 1 and 30 days that abandoned call information will be stored in memory. Abandoned call records scheduled for deletion are purged from memory at 12:00 AM of the day following the programmed duration.
- 4. Abandoned call information will remain on the station LCD for 20 seconds.
- 5. An outgoing call to the displayed dial destination may be made while the abandoned call information is being displayed. Up to four digits may be added to the number stored in memory but will not be displayed during input.
- 6. Abandoned call information output to SMDR includes the incoming trunk number, ringing or affected extension number, time call was received, duration of the call, Caller ID/ANI number and Caller ID Name. The Note column will indicate "ABDN."

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.71 Element 40 Abandoned Call Information Retention Period; 11.39 Incoming CO Group; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Hardware Required:

IX-8CITK for Caller ID, IX-T1DTI and IX-T1RCV for ANI. IX-SCIF, or IX-HCIF, or IX-EDVIF for SMDR or Event Record output.

Alphanumeric Speed Dial By Name

The Alphanumeric Speed Dial By Name feature allows users to access the speed dial list alphabetically. When a user wants to place a CO outgoing call with the Speed Dial feature, the desired Speed Dial destination can be searched by name alphanumerically.

When a user accesses the Alphanumeric Speed Dial Feature, the system displays the first name in the System Speed Dial or user's Station Speed Dial. The user can then scroll forward or backward through the Speed Dial list or enter specific characters or numbers using the keypad. As more characters are entered, the system narrows, or focuses the search. When the desired name is found, the number can then be dialed.

Operation:

2. To Access the Alphanumeric Speed Dial By Name Feature

- 1. Press [SPEED].
- 2. Press [SPEED].
- 3. To search for a registered name, press the dial pad until the desired characters are displayed.
- 4. To focus your search, enter a character, press [HOLD/DND], and then enter another character.
- 5. To scroll through the registered names, press FORWARD [#] or BACKWARD [*].
- 6. When the desired name is found, press [SPEED] to dial the number.

Conditions:

- 1. The Alphanumeric Speed Dial By Name feature allows users to access the speed dial list alphabetically. An outgoing call can then be made with searched Speed Dial number.
- 2. This feature is applied to both System Speed Dial and Station Speed Dial.
- 3. The system searches through the registered names in alphabetical order.
- 4. A registered name (up to 10 characters) can be searched, and the corresponding Speed Dial Code and telephone number are displayed.
- 5. Search is carried out in the order of characters (A, a, B, b, C, c, ..., Z, z), numbers (0, 1, 2, ..., 9), and symbols, (SP, !, ", #, ...,~).
- 6. An extension set to System Speed Dial Disabled (*Class 10.24*) cannot use this feature for dialing out, although the station can use this feature for Station Speed Dial.
- 7. When a dial digit interval timeout takes place (based on settings in *Class 11.06* and *Class 11.13*) during search, a warning tone is sent and the feature will timeout.

Database Programming:

05.01 System Speed Dial Number; 05.02 System Speed Dial ID; 05.03 System Speed Dial Invisible; 10.24 System Speed Access; 11.06 Inter-Digit Time; 11.13 Sender Time Out; 12.01 Station Speed Dial; 12.02 Station Speed Dial ID; 13.01 Station Speed Dial; 13.02 Station Speed Dial ID

Answering Machine Emulation (Voice Mail Monitor)

The Answering Machine Emulation feature allows a user to hear a caller leaving a message. The user can then pick-up the call if desired. The Answering Machine Emulation feature is useful for screening your calls just like a home answering machine.

When a station is set for call forward to voice mail, notification is sent to the station when a call is forwarded to voice mail. The station user may then choose to monitor the voice mail message as it is being recorded. During voice mail message monitoring, the station user may initiate a conversation with the calling party by pressing a [VML Monitor] key. The station user may turn this feature on or off and set the mode from the key telephone.

In order to use this feature at a system extension, the extension must be enabled in *Class 10.72 <EXTLxxx-07>* and assigned a [VML Monitor] key in *Class 14.01/15.01* (key data=175).

When a call is forwarded to voice mail, the forwarding station, if idle, will hear monitor start tone for 200 milliseconds. The Answering Machine Emulation feature will not operate if the called extension is off-hook or on another call. Monitoring will begin only if the station user presses the [VML Monitor] key. Once monitoring is initiated, the [VML Monitor] key red LED will begin to flash. When monitoring starts, the [VML Monitor] key LED indication will change from blinking red to solid green. While in the monitor state, the user has three options:

Continue monitoring until the caller hangs up and the disconnect packet is received (*Class 04.77 < NUM22>*).

Go on-hook to end the monitor.

Press the [VML Monitor] key to initiate a conversation with the calling party.

If the user chooses to terminate the voice mail monitoring without initiating a conversation, the [VML Monitor] key will revert back to a blinking red LED. If the user chooses to initiate a conversation with the caller, the [VML Monitor] key will revert to inactive and the voice mail message will be automatically deleted.

Operation:

3. To Set or Change the Voice Mail Monitor Mode

- 1. While your station is idle, press [SPKR]
- 2. Press [FEAT]
- 3. Press the Voice Mail Monitor key [VML Monitor]
- 4. Press 1 to deactivate (if previously activated)

Press 2 to set the mode as Manual

Press 3 to set the mode as Automatic

4. To initiate Voice Mail Monitoring

- 1. After the call is answered by voice mail at an idle station
- You will hear a Monitor Alert Tone
- 3. The Voice Mail Monitor key **[VML Monitor]** red LED will begin to flash
- 4. If set to manual, press the Voice Mail Monitor key **[VML Monitor]** If set to automatic, call monitoring begins immediately

5. When the Voice Mail Monitor key **[VML Monitor]** green LED lights, you will hear the caller's message as it is recorded.

5. To cancel Voice Mail Monitoring

- 1. Hang up or press [SPKR]
- 2. The Voice Mail Monitor key **[VML Monitor]** red LED will begin to flash
- 3. The voice mail message will be saved.

6. To begin a conversation with the caller during monitor

- 1. While listening to the caller record a message
- 2. Press the Voice Mail Monitor key [VML Monitor]
- 3. The Voice Mail Monitor key [VML Monitor] green LED will turn off
- 4. Begin speaking with the caller.
- 5. The voice mail message will be automatically deleted.

Conditions

- 1. Packet 23, (*Class 04.77*<*NUM23*>), *d1* must be programmed as "2222".
- 2. To monitor a call with this feature, the station must be enabled for Call Monitor in *Class* 10.72<EXTLxxx-07>.
- 3. In order take a call being monitored with this feature, the station must be enabled for Barge-In in *Class 10.40*.

Note: Enabling a station for Barge-In allows the user to barge into other stations' calls. This could potentially lead to phone abuse. The solution is to make certain stations protected in *Class 10.44*. If a station is protected, it cannot be overridden by stations programmed as barge-in stations. Protected stations deny barge-in and monitoring from occurring.

- 4. The station must be idle to monitor a call.
- 5. Monitoring will begin only if the station user presses the [VML Monitor] key if manual monitoring is engaged. Calls will be monitored automatically if automatic monitoring is engaged.
- 6. If multiple forwards occur, the originating station receives notification when record to voice mail starts.
- 7. Audible indication of Voice Mail recording is only provided to an idle station.
- 8. A station may begin to monitor a call being recorded to voice mail at any time by pressing the [VML Monitor] key with a flashing red LED.
- 9. This feature operates for one call at a time. If a second call is forwarded to voice mail while the Answering Machine Emulation feature is active, the second call is ignored.
- 10. In order for this feature to operate, a conference circuit is required. If a conference circuit is not available, a busy tone will be sent to the originating station.
- 11. When a headset is used, automatic monitoring will not operate. In addition, audible indication is not provided.

Automatic Answer

An outside line can be programmed for automatic answer using the system database. A line can be programmed for automatic answer on all calls, or only when an [Automatic Answer] key at an attendant position is pressed. When a line is in the automatic answer mode, the caller will hear a recorded message. This feature is only available in systems equipped with an IX-MSGU card. If an IX-CMSG or IX-CMSG-1 daughterboard is mounted on the IX-MSGU card, customized messages can be recorded. If an IX-CMSG or IX-CMSG-1 daughterboard is not installed prerecorded system messages must be used. Lines subject to automatic answer are defined in *Class 11.24*. Automatic answer mode can be started automatically at a specific time of day as programmed in *Class 04.32*, or manually by pressing an [Automatic Answer] key at an attendant position. The programming in *Class 04.33* determines the days on which automatic answer message 1 and automatic answer message 2 are played to callers. The ADIX is programmable to play automatic answer message 2 on as many as four days.

Operation:

To manually switch to automatic answer mode from an attendant position:

At ICM dial tone press [Automatic Answer] once to display, and multiple times to toggle between VOICE MESSAGE 1, VOICE MESSAGE 2, and OFF.

Conditions:

- 1. System must be equipped with an IX-MSGU card.
- 2. If custom messages are required, an IX-CMSG or IX-CMSG-1 daughterboard must be mounted on the IX-MSGU.
- 3. An [Message Record] key is required to record automatic CO answer messages.
- 4. If the system is equipped with an IX-CMSG-1 card the IX-MSGU card must have a 1.5 processor.
- 5. If the system is equipped with an IX-CMSG-1 card 450 seconds of recording time is available.
- 6. If the system is equipped with an IX-CMSG card 120 seconds of recording time is available.

Database Programming:

03.01 Time of Day; 04.14 Automatic CO Answer; 04.20 VSS Recording Time; 04.33 Automatic CO Answer Day; 11.24 Automatic Answer Line; 11.45 Auto Answer Message 1; 11.46 Auto Answer Message 2; 15.01 Attendant Key Assignment.

Hardware Required:

IX-MSGU, IX-CMSG or IX-CMSG-1 for custom messages.

Automatic Number Identification (ANI)

When ANI T1 lines are terminated to the IX-T1DTI card, the caller's name and alphanumeric ID will be sent along with a call and appear on the station LCD. Using the Class 24 Caller ID/ANI Conversion Table these calls can be routed to ring a specific station, master hunt group, ACD group or voice mailbox. Also, with software versions 4.62/5.62 and higher, caller ID calls may be programmed to ring up to 32 station simultaneously.

Multiple Ringing Stations for ANI Calls (Software Versions 4.62/5.62 and higher only) To utilize this feature, the CO Access Number of a trunk (Class 11.02) must be programmed as the destination in the conversion table for ANI (Class 24.02). The call will be routed based on the primary ringing assignment of Class 11.32 (maximum 16 stations) and the delayed ringing assignment of Class 11.33 (maximum 16 stations) programmed for the trunk that was specified in the conversion table.

Caller ID/ANI Conversion Table The caller ID/ANI conversion table is programmed using *Class 24*. Up to 1000 caller ID/ANI digit entries, each with a corresponding routing assignment and alphanumeric ID, can be programmed.

A range of incoming digits received from the CO is extracted according to the programming in *Classes 24.05 and 24.06*. The system then searches for a match in Class 24.01. If a match is found the system searches *Class 24.03* for an alphanumeric ID and Class 24.02 for a ringing assignment. The ringing assignment can be either a station, master hunt group, or voice mailbox.

Caller ID/ANI Conversion Table				
Day /Night Mode [Class 24.01, 24.02, 24.03 (e1)]	Entry Number [Class 24.01, 24.02, 24.03 (e2)]	Converted Caller ID/ANI Digits [Class 24.01 (d1)]	Alphanumeric ID [Class 24.03 (d1)]	Destination [Class 24.02 (d1)]
Determines if Class 24.01, 24.02, 24.03 (e1) value is day mode (1) or night mode/extended day mode (2).	Range 1-500. Each number represents one line in the entry table.	Values entered here should match the result of programming in Classes 24.05, and 24.06 on the Caller ID/ANI digits sent by the CO.	Maximum of 16 characters. Identifies the calling party, geographical location, etc.	Programming in this item determines where the call is routed; a system extension number, master hunt group access number, voice mailbox number, or ACD group access code.

Conditions:

- 1. The IX-T1DTI card and IX-T1RCV DTMF receiver card are required for this feature.
- 2. ANI information can only be received from COs sending DTMF signaling.
- 3. According to the programming in *Class 04.70 Element 16*, either 500 day mode/500 night mode or 1000 day/night mode numbers can be entered in Class 24.01.
- 4. According to the programming in *Class 04.71 Element 28*, the ringing on a ANI trunk can be delayed between 0 and 255 milliseconds.
- 5. (**Software Versions 4.62/5.62 and higher only**) The Multiple Ringing Stations feature is available only when a CO Access Number (Class 11.02) is programmed as the destination in the DID, ANI, DNIS, and Caller ID Conversion Table. Ringing Assignment is programmed in Class 11.32. Delayed Ringing Assignment is programmed in Class 11.33. Class 04.16 must be set to **0** (no delayed ringing) to have the primary and delayed ringing stations ring simultaneously.
- 6. If the destination programmed in *Class 24.02* is a voice mailbox the ANI digits are output as a packet.

7. If the destination programmed in *Class 24.02* is an ACD group the ANI digits are output as an event code according to database programming.

- 8. If there is no destination programmed in *Class 24.02* the system will route the call according to the following programming:
 - Class 11.34 DIL to Hunt Group
 - Class 11.32 Ringing Station
 - Class 11.26 Attendant Intercept Line
 - Class 04.55 True Attendant Position

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.70 Elements 16 and 22; 04.71 Call Coverage/Voice Mail Data; 04.72 Element 15; 04.77 Voice Mail/Auto Attendant Packet Codes; Class 24.

Hardware Required:

IX-T1DTI, IX-T1RCV.

Automatic Outside Line Release

Trunk lines which are in a hold status or involved in a trunk-to-trunk conference are automatically disconnected when the outside party hangs up. The optional IX-4TRAN card monitors the voice/tone signals from the outside line to determine if the call is terminated when a remote disconnect signal is not provided.

Conditions:

 A remote disconnect signal from the central office is required for this feature unless an IX-4TRAN card is installed in the system. The signal detection timing is programmable between 100 and 1500 milliseconds.

Database Programming:

01.04 Port Configuration; 02.10 CO Monitor Guard Time; 02.11 CO Interrupt Tone Duration; 02.12 CO Interrupt Tone Repetition; 02.13 CO Interrupt Tone Allowance; 02.14 CO Continuous Tone Duration; 02.15 CO Silence Duration; 02.16 CO Silence – Noise Allowance; 11.19 Disconnect Signal.

Hardware Required:

IX-4TRAN if standard loop open disconnect is not provided.

Automatic Relay Control

The ADIX system may be programmed to operate a one-shot relay at a fixed time each day. The time specified for automatic one-shot relay control is programmed in Class 04.76 < NUM01>. The relay number being controlled is programmed in Class 04.71 < NUM42>.

Conditions:

- 1. Only One-Shot Relays may be used with this feature.
- 2. The system will automatically active the one-shot relay at the time specified in Class 04.76 <NUM01>.
- 3. The relay number to be controlled is specified in Class 04.71 < NUM42>.

Database Programming:

01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.36 Miscellaneous Relay Timer; 04.37 Miscellaneous Function; 04.71<NUM42>; 04.76<NUM01>.

Hardware Required:

IX-MISC/IX-EDCTU, IX-EDVIF.

Background Music

If your ADIX system is connected to an external music source, the music played can be heard through the speaker of any Omega-Phone telephone connected to the system. This same music source can be played through an external paging system when the optional IX-EDCTU and IX-MISC components are added. Either an internal BGM source (from the highway card or IX-CPU16M card) or an external BGM source (example: an FM tuner connected to the IX-MISC/IX-EDCTU) can be used.

Note: Paging overrides BGM played through the external paging system.

Operation:

To turn on BGM at a KT:
Press [FEAT] + [6][2], or [BGM].

To turn off BGM:Press [FEAT] + [0][6][2], or [<u>BGM</u>].

Conditions:

- The internal BGM choice is selected using switch MDYSW on the IX-CPU16M card, and switch MSSW on the IX-HWCE and IX-HWCL cards. The IX-CPU16M offers eight choices. The IX-HWCE and IX-HWCL cards offer two choices.
- 2. An IX-MISC card and IX-EDCTU board are required for external music source connection.

Database Programming:

01.03 Port Definition; 04.03 BGM Input Port.

Hardware Required:

IX-MISC/IX-EDCTU for external source connection.

Call Logging (All Call/Abandon Call Storage)

The enhanced Abandon Call Storage feature that is included with software version 6.20 and up has the ability to store information about all calls received. When a call is received on a caller ID or ANI line, ADIX will capture and store in the system memory information about the caller received with the call. This information may include the caller's telephone number and name, date and time of the call, trunk number, and destination station. The information can be displayed at a station LCD display. This information can be output as a system event code or to SMDR. Information for the 500 most recent calls can be stored in the system memory on a first in, first out basis *or* last in, first out basis. Two modes of storage are available for this feature:

Abandon Call Storage All Call Storage

Abandon Call Storage. When Abandoned Calls Only is selected as the storage mode for this feature, information will only be stored for the following types of calls:

Caller hangs up or is disconnected before the call is answered.

Caller hangs up or is disconnected while on hold or during hold recall.

Caller hangs up or is disconnected during camp-on transfer or camp-on recall.

All Call Storage. When All Call is selected as the storage mode for this feature, the system will capture and store information about the caller received with the 500 most recent calls on caller ID or ANI lines.

The Caller ID Information Storage feature may be programmed to store the Caller ID/ANI/DNIS information sent with either All Calls, or Abandoned Calls only. This feature is programmed in *Class 04.70 < NUM36>*. Programming in *Class 04.70 < NUM36>* affects this feature system-wide.

For detailed information on the Abandon Call Storage feature, please refer to the Features and Operations section of the ADIX Technical Manual.

Database Programming:

04.50 SMDR-Output Port; 04.70<NUM26> Monitor Mode/Conference Mode; 14.01<Key Pattern> Station Key Assignment; 15.01<Key Pattern> Attendant Key Assignment.

Hardware

IX-EDVIF, IX-SCIF, or IX-HCIF for output to SMDR.

Call Monitor

Operation of the Monitor feature has changed so that it does not conflict with other features (such as Whisper Page, Off-Hook Signal, Off-Hook CO Ringing etc.). The original Monitor feature required you to call the station you wish to monitor first and then press the Monitor key. With this Version 6.20 enhancement, you now press the Monitor key and dial the extension you wish to monitor. This alleviates any conflicts with other features.

Operation:

7. To monitor a call

At ICM Dial tone do one of the following.

Press the [Monitor] key and enter the extension number.

Press the [Monitor] key and the Direct Station Signaling button [DSSn]

Press the [Monitor] key and the Call Coverage button [CCVn]

Press the [Monitor] key and the Trunk Access number.

Press the [Monitor] key and the Direct CO Line button [COLn]

Conditions:

- 1. Operations for ICM and CO monitoring have changed.
- 2. There are no changes to the functionality of the Monitor feature.

Database Programming:

10.40 Barge-In Stations; 10.44 Protected Station; Class 14/15.01 Key Assignments.

Hardware Required:

IX-8ECNF, IX-16ECNF, or IX-CPU/HW.

Caller ID

When caller ID lines are terminated to the IX-8CITK card, the caller's name and alphanumeric ID will be sent along with a call and appear on the station LCD. Using the Class 24 Caller ID/ANI Conversion Table these calls can be routed to ring a specific station, master hunt group, ACD group or voice mailbox. Also, with software versions 4.62/5.62 and higher, caller ID calls may be programmed to ring up to 32 station simultaneously.

Multiple Ringing Stations for Caller ID Calls (Software Versions 4.62/5.62 and higher only) To utilize this feature, the CO Access Number of a trunk (Class 11.02) must be programmed as the destination in the conversion table for Caller ID (Class 24.02). The call will be routed based on the primary ringing assignment of Class 11.32 (maximum 16 stations) and the delayed ringing assignment of Class 11.33 (maximum 16 stations) programmed for the trunk that was specified in the conversion table.

Caller ID/ANI Conversion Table The caller ID/ANI conversion table is programmed using *Class 24*. Up to 1000 caller ID/ANI digit entries, each with a corresponding routing assignment and alphanumeric ID, can be programmed.

A range of incoming digits received from the CO is extracted according to the programming in *Classes 24.05 and 24.06*. The system then searches for a match in Class 24.01. If a match is found the system searches *Class 24.03* for an alphanumeric ID and Class 24.02 for a ringing assignment. The ringing assignment can be either a

Caller ID/ANI Conversion Table				
Day /Night Mode [Class 24.01, 24.02, 24.03 (e1)]	Entry Number [Class 24.01, 24.02, 24.03 (e2)]	Converted Caller ID/ANI Digits [Class 24.01 (d1)]	Alphanumeric ID [Class 24.03 (d1)]	Destination [Class 24.02 (d1)]
Determines if Class 24.01, 24.02, 24.03 (e1) value is day mode (1) or night mode/extended day mode (2)	Range 1-500. Each number represents one line in the entry table.	Values entered here should match the result of programming in Classes 24.05, and 24.06 on the Caller ID/ANI digits sent by the CO.	Maximum of 16 characters. Identifies the calling party, geographical location, etc.	Programming in this item determines where the call is routed; a system extension number, master hunt group access number, voice mailbox number, or ACD group access code.

Conditions:

- 1. The IX-8CITK card is required for caller ID.
- 2. According to the programming in *Class 04.70 Element 16*, either 500 day mode/500 night mode or 1000 day/night mode numbers can be entered in Class 24.01.
- 3. According to the programming in *Class 04.71 Element 28*, the ringing on a caller ID trunk can be delayed between 0 and 255 milliseconds to allow time for an external PC to process caller ID information.
- 4. (**Software Versions 4.62/5.62 and higher only**) The Multiple Ringing Stations feature is available only when a CO Access Number (Class 11.02) is programmed as the destination in the Caller ID/ANI Conversion Table (Class 24.02). Ringing Assignment is programmed in Class 11.32. Delayed Ringing Assignment is programmed in Class 11.33. Class 04.16 must be set to **0** (no delayed ringing) to have the primary and delayed ringing stations ring simultaneously.
- 5. (**Software Versions 4.62/5.62 and higher only**) Incoming calls originating with "###" are regarded as *private*. Private calls can be routed to a specific destination by entering "###" in Class24.01.
- 6. (**Software Versions 4.62/5.62 and higher only**) Incoming calls originating with "***" are regarded as *out-of-area*. Out-of-area calls can be routed to a specific destination by entering "***" in Class24.01.
- 7. If the destination programmed in *Class 24.02* is a voice mailbox the caller ID digits are output as a packet.
- 8. If the destination programmed in Class 24.02 is an ACD group the caller ID digits are output as an event code through database programming.
- 9. If there is no destination programmed in Class 24.02 the system will route the call according to the following programming:
 - Class 11.34 DIL to Hunt Group
 - Class 11.32 Ringing Station
 - Class 11.26 Attendant Intercept Line
 - Class 04.55 True Attendant Position

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.70 Elements 16 and 22; 04.71 Call Coverage/Voice Mail Data; 04.72 Element 15; 04.77 Voice Mail/Auto Attendant Packet Codes; Class 24 Caller ID/ANI Conversion Data

Hardware Required:

IX-8CITK.

Caller ID, ANI, DNIS Name and Number Display

(Software Versions 4.62/5.62 and Higher)

Caller ID Number and Name Displayed Simultaneously

When a caller ID call is received at the ADIX, the name and number sent with the call by the telephone company are now shown simultaneously. If the caller ID name is not provided by the telephone company, the Class 24.03 Caller ID/ANI Conversion Table may be programmed to provide the name. Display examples are shown in on page 20.

ANI Number and Name Displayed Simultaneously

When an ANI call is received at the ADIX, the number sent with the call by the carrier and the name programmed in the Class 24.03 Caller ID/ANI Conversion Table are now shown simultaneously. Display examples are shown in on page 20.

DNIS Number and Name Displayed Simultaneously

When a DNIS call is received at the ADIX, the number sent with the call by the carrier and the name programmed in the Class 25.03 DNIS Conversion Table are now shown simultaneously.

Caller ID, ANI, and DNIS Numbers Displayed With Hyphens

When a Caller ID, ANI or DNIS call is received at the ADIX the number sent by the telephone company or carrier is displayed with hyphens separating the area code, office code and subscriber number.

Caller ID, ANI and DNIS Number and Name Displayed During Camp-On

When a Caller ID, ANI or DNIS call is camped-on to a station the number and name is now shown.

Display Change Key (Software Versions 5.73, 6.00 / ACD 2.31)

A [CID Display Change] Key (programmed in Class 14.01 or 15.01) allows the user to change the information shown on their display during a conversation, or when a call is camped-on or forwarded to their telephone. Display examples are shown below.

Note: This feature was previously available in ADIX Software Version 5.73 and ADIX ACD Software Version 2.31. It was not available in ADIX Software Version 4.75.

Customize Information Displayed on Station LCD

The information displayed on the station LCD during incoming ringing, call in progress, incoming forwarded call ringing, and camped-on/transferred call ringing may be programmed in the system database. This feature affects only incoming calls on Caller ID/ANI or DNIS lines.

The data displayed during incoming ringing and each time the [CID Display Change] key is pressed depends on the programming in Class 04.71 <NUM45> through Class 04.71 <NUM64>. Ten different display modes are available. Each of these is listed in the table below. Also shown below are illustrations of how this feature works based on the default values in Class 04.71 <NUM45-64>.

Displayed Data	Description	Value in Class 04.71 <num45-64></num45-64>
Caller ID/ANI Name	Name sent by the telephone company in the multiple message format, or the Caller ID/ANI name programmed in Class 24.03	1
Caller ID/ANI Number	Caller's telephone number sent by the telephone company	2
DNIS Name	Name programmed in Class 25.03	3
DNIS Number	Number the caller dialed sent by the telephone company	4
ACD Group Name	ACD Group name programmed in Class 19.02	5
Call Duration Timer	LCD timer showing the total duration of the call after answer	6
User Name of Forwarding Station	Station user ID (Class 10.04) of the station that forwarded or camped-on the call.	7
Extension Number of Forwarding Station	Extension number (Class 10.02) of the station that forwarded the call	8
Trunk Line ID	Line ID programmed for the trunk in Class 11.03.	9
Trunk No. & Trunk Group No.	Trunk Number or Incoming Trunk Group Number (Class 11.39)	10

Using the new [CID Display Change] key, you can change the displayed information as illustrated below. The numbers listed in parenthesis are suggested programming only. At default, each of these elements is blank.

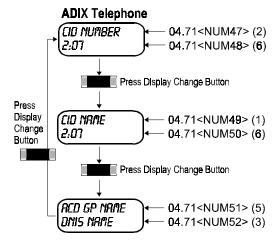
Note: A blank line on the LCD will appear if the data received does not match the programming in Class 04.71 <NUM45-64>, or if no data is received with the call. Recommended programming is in parenthesis. * - ZT-D telephones are not used with ADIX ACD.

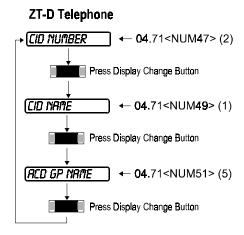
Incoming Call (Ringing)

FIGURE 3.1-2 INCOMING CALL DISPLAY

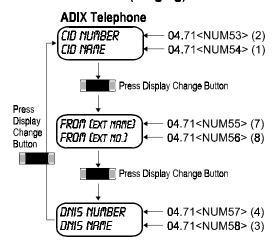


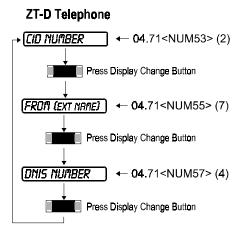
Call In Progress (After Answer)



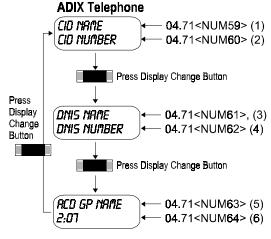


Forwarded Call (Ringing)





Camped-On/Transfered Call (Ringing)



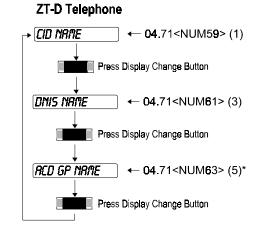


FIGURE 3.1-3 CALL IN PROGRESS, FORWARDED CALL, AND CAMPED-ON CALL DISPLAY

During a screened transfer the display will indicate what station is transferring the call. After the transferring station connects the call, the display will change to the Camped-On/Transferred Call (Ringing) condition shown above.

Note: "CID Number" is the caller's telephone number sent by the telephone company, "CID Name" is the name sent by the telephone company in the multiple message format or the Caller ID/ANI name programmed in the Class 24.03 Conversion Table, or the DNIS name programmed in the Class 25.03 Conversion Table. The Caller ID name sent by the telephone company overrides any corresponding programming in the conversion table. "EXT #" is the extension number (Class 10.02) of the station that forwarded the call. "Ext Name" is the station user ID (Class 10.04) of the station that forwarded or camped-on the call. "Call Duration" is the LCD timer showing the total duration of the call after answer. "Tr #" is the logical port number of the trunk that the call was received on. "Tr Gr #" is the outgoing trunk group (Class 11.38) of the trunk that the call was received on.

Conditions:

- 1. A [Display Change] key (*Class 14.01, 15.01 (d1)=160*) must be assigned in order to change the data displayed on the LCD.
- 2. If both ANI and DNIS data are received on the trunk, Class 04.70 Element 22 determines which data is used to route the call and which data is displayed on the station LCD.
- 3. (**Software Version 5.73, 6.00 / ACD 2.31**) Class 04.71 < NUM45> through Class 04.71 < NUM64> determines which data is displayed on the station LCD.
- 4. A blank line on the LCD will occur under the following conditions:
 - The data received does not match the programming in Class 04.71 < NUM45-64>.
 - The "CID Name" area will be blank if a name is not received from the telephone company and a name is not programmed in the Class 24.03 Conversion Table for Caller ID/ANI or Class 25.03 Conversion Table for DNIS.
 - The "CID Number" area will be blank when a "private" or "out-of-area" call is received.
- 5. Hyphens are only shown when seven or ten digits are received with the call. Any other combination of digits will display without the hyphen.
- 6. The [CID Display Change] key cannot be programmed using PC Programmer Version 6.10.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.70 Elements 16 and 22; 04.71 Call Coverage/Voice Mail Data; 04.72 Element 15; 04.77 Voice Mail/Auto Attendant Packet Codes; 14.01 Key Assignment; 15.01 Attendant Key Assignment; Classes 24.01, 24.02, 24.03 Caller ID/ANI Conversion Table; Classes 25.01, 25.02, 25.03 DNIS Conversion Table.

Hardware Required:

IX-8CITK for caller ID, IX-T1DTI and IX-T1RCV for ANI, DNIS.

CO Line Groups

CO lines can be grouped in both outgoing and incoming CO line groups. CO lines groups are used for trunk selection with system features such as optimized routing, toll restriction, speed dialing, and remote CO forward. There are two types of CO line groups:

Outgoing CO Line Groups Outgoing CO line groups are programmed in *Class 11.38*. The system will support a maximum of 60 outgoing CO line groups with no limit to the number of CO lines that can be included in one group.

Incoming CO Line Groups Incoming CO line groups are programmed in *Class 11.39*. The system will support a maximum of 60 incoming CO line groups with no limit to the number of CO lines that can be included in one group. The primary purpose of the incoming CO line group is restricting stations from answering calls on certain lines.

Conditions:

- 1. The hunting method either *circular* or *normal* is programmable in *Class 04.38*.
- 2. Outgoing CO groups cannot be programmed in KF registered systems.

Database Programming:

11.38 Outgoing CO Group; 11.39 Incoming CO Group.

Hardware Required:

Standard.

Eight-Party Conference Call

The *Eight-Party Conference* feature is available to any system extension when the IX-CNFBOX-1 card is utilized. In order to join a conference call, a station must dial the trunk group access code assigned for the IX-CNFBOX-1 ports in Class 07.03 or press a Float key for the trunk group.

Attending an Eight-Party Conference Call. System extensions may join an eight-party conference call by dialing the trunk group access code designated to access the IX-CNFBOX-1 ports or by pressing a Float key for the trunk group.

Joining an Outside Party in an Eight-Party Conference Call. If the ADIX is equipped with an IX-4TRAN card, up to five outside parties may join an IX-CNFBOX-1 eight party conference call. However, the outside party may be added to the eight party conference call only by an attendant position. To add the outside party, the attendant position presses the [TRAN] key, dials the trunk group access code and [CONNECT] or hang-up.

Forty-Party Conference Call

Up to five IX-CNFBOX-1 cards may be installed in the system and connected together to provide a maximum of 40 parties in one conference call. However, the system will support a maximum of five outside parties on an IX-CNFBOX-1 conference call regardless of the number of cards connected together.

Programming:

Follow the instructions below to program the ADIX system database to support an eight-party conference call.

- 1. Define each of the IX-CNFBOX-1 card's eight circuits as a loop start trunk port in Class 01.03 (Class 01.03 data = 1-0-0-logical port number).
- 2. Group each IX-CNFBOX-1 logical port in Class 11.38 as part of an Outgoing Trunk Group.
- 3. In order for the system extensions to access an eight-party conference call, they must dial the trunk access number of the Outgoing Trunk Group. Define the trunk group access number in Class 07.03.

Operation:

To join an IX-CNFBOX-1 eight-party conference call:

- 1. From any system extension, go off hook and dial the IX-CNFBOX-1 trunk access number.
- 2. When the party answers press [ADD]

To add an outside party to an IX-CNFBOX-1 eight-party conference call:

- 1. While speaking on an outside call from an attendant position press [TRAN] + *IX-CNFBOX-1 trunk group access number*.
- 2. When the IX-CNFBOX-1 port is seized press [CONNECT] or hang-up.

Conditions:

- 1. The eight IX-CNFBOX-1 circuits must be defined as loop start trunks in Class 01.03.
- 2. The eight IX-CNFBOX-1 ports must be joined in an outgoing trunk group in Class 11.38. That trunk group must then be assigned an access code in Class 07.03.
- 3. Each IX-CNFBOX-1 will support a maximum of eight parties on a conference call. However, the IX-CNFBOX-1 card will support a maximum of five outside parties on an eight-party conference call.
- 4. In order to support outside parties on an eight-party conference call, the IX-4TRAN card is required. Each IX-4TRAN card will support four outside parties on an IX-CNFBOX-1 eight-party conference call.
- 5. Only attendant positions can join outside parties in an IX-CNFBOX-1 eight-party conference call.
- 6. An Intercom Call or E&M Tie Line call may not be transferred to an IX-CNFBOX-1 circuit from a system extension. They must access an IX-CNFBOX-1 circuit directly by dialing the access code programmed in Class 07.03.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 07.03 CO Line Group Access Number; 11.38 Outgoing CO Group.

Hardware Required:

IX-CNFBOX-1; IX-4TRAN to support external parties on conference calls (see page 156 for details).

Delayed Ringing

If a call on a CO line is not answered at the ringing stations (*Class 11.32*) within a programmable duration (*Class 04.16*), the system can be programmed to ring a group of delayed ringing stations. Delayed ringing stations are assigned for each CO line in *Class 11.33*. When delayed ringing occurs, the primary ringing station(s) will deliver a different ringing tone.

Delayed Ringing on a UCD Line A CO line designated as a UCD line in *Class 11.23* can also have a delayed ringing assignment. Delayed ringing on a UCD line will occur first at the UCD overflow destination (*Class 11.72/Class 08.05*). If the UCD overflow destination is not defined delayed ringing will occur at the stations programmed as delayed ringing stations for that line in *Class 11.33*.

Conditions:

- 1. Calls will not ring at the delayed ringing stations until the delayed ringing timer programmed in *Class 04.16* has expired.
- 2. Calls will not ring at the delayed ringing stations assigned to a UCD line if a UCD overflow destination has been assigned in *Class 11.72*.

Database Programming:

Delayed Ringing: 04.15 Attendant DIL Intercept; 04.16 Delayed Ringing Timer; 11.26 Attendant Intercept Line; 11.30 Ringing Method; 11.31 Ringing Tone; 11.32 Ringing Station; 11.34 DIL to Hunt Group.

UCD Line Delayed Ringing 04.34 UCD Answer Time; 8.01 Hunt Group Type; 08.05 UCD Hunt Group; 11.23 UCD Line; Hunt Group Station; 11.32 Ringing Station; 11.33 Delayed Ringing Station; 11.34 DIL to Hunt Group; 11.72 UCD Overflow Destination.

Hardware Required:

IX-8LGTK, IX-MISC/IX-EDVIF for MOH, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Dialed Number Identification Service (DNIS)

When a call arrives on an 800 or 900 line terminated to a DNIS T1 trunk, it includes a series of digits that identify the number the calling party dialed. This information can be programmed to appear on a station set equipped with an LCD.

Multiple Ringing Stations for DNIS Calls (Software Versions 4.62/5.62 and higher only) To utilize this feature, the CO Access Number of a trunk (Class 11.02) must be programmed as the destination in the conversion table for DNIS (Class 25.02). The call will be routed based on the primary ringing assignment of Class 11.32 (maximum 16 stations) and the delayed ringing assignment of Class 11.33 (maximum 16 stations) programmed for the trunk that was specified in the conversion table.

DNIS Conversion Table The DNIS conversion table is programmed using *Class 25*. Up to 400 DNIS digit entries, each with a corresponding routing assignment and alphanumeric ID, can be programmed.

A range of dialed number digits received from the CO are extracted according to the programming in *Classes 25.05 and 25.06*. The system then searches for a match in Class 25.01. If a match is found the system searches *Class 25.03* for an alphanumeric ID and *Class 25.02* for a ringing assignment. The ringing assignment can be either a station, master hunt group, or voice mailbox.

DNIS Conversion Table				
Day /Night Mode [Class 25.01, 25.02, 25.03 (e1)]	Entry Number [Class 25.01, 25.02, 25.03 (e2)]	Converted Caller ID/ANI Digits [Class 25.01 (d1)]	Alphanumeric ID [Class 25.03 (d1)]	Destination [Class 25.02 (d1)]
Determines if Class 25.01, 25.02, 25.03 (e1) value is day mode (1) or night mode/extended day mode (2)	Range 1-200. Each number represents one line in the entry table.	Values entered here should match the result of programming in Classes 25.05, and 25.06 on the DNIS digits sent by the CO.	Up to 16 characters. Identifies the ID corresponding to the incoming DNIS digits (i.e., incoming line)	Programming in this item determines where the call is routed, a system extension number, master hunt group access number, voice mailbox number, or ACD group access code.

Conditions:

- 1. The IX-T1DTI card and IX-T1RCV card used as an DTMF receiver are required for this feature.
- 2. DNIS information can only be received from COs sending DTMF signaling.
- 3. According to the programming in *Class 04.70 Element 16*, either 200 day mode/200 night mode or 400 day/night mode numbers can be entered in Class 25.01.
- 4. According to the programming in *Class 04.71 Element 28*, the ringing on a DNIS trunk can be delayed between 0 and 255 milliseconds to allow time for external equipment processing.
- 5. (**Software Versions 4.62/5.62 and higher only**) The Multiple Ringing Stations feature is available only when a CO Access Number (Class 11.02) is programmed as the destination in the DNIS Conversion Table (Class 25.02). Ringing Assignment is programmed in Class 11.32. Delayed Ringing Assignment is programmed in Class 11.33. Class 04.16 must be set to **0** (no delayed ringing) to have the primary and delayed ringing stations ring simultaneously.
- 6. The DNIS number is output as a packet if the destination in *Class* 25.02 is a voice mailbox.
- 7. If the destination programmed in *Class 25.02* is an ACD group the DNIS number can be output as an event code through database programming.
- 8. If there is no destination programmed in *Class 25.02* the system will route the call according to the following programming:
 - Class 11.34 DIL to Hunt Group
 - Class 11.32 Ringing Station
 - Class 11.26 Attendant Intercept Line
 - Class 04.55 True Attendant Position

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.70 Elements 16 and 22; 04.71 Call Coverage/Voice Mail Data; 04.72 Element 15; 04.77 Voice Mail/Auto Attendant Packet Codes; Class 25.

Hardware Required:

IX-T1DTI, IX-T1RCV.

DID Alphanumeric ID

Direct Inward Dial (DID) numbers can be assigned a 16-character alphanumeric ID to identify the party being called, type of call, or purpose of the call in *Class 09.04*. The DID ID is displayed when an incoming call is ringing at a station. A similar function is available on T1 spans.

Conditions:

- 1. The DID trunk ID number is not displayed under the following conditions:
 - Call Forward
 - [Call Coverage] Key
 - Group Pick Up
 - Transferring from a Sequence Table (ACD)
 - Recalls

Database Programming:

9.04 DID Trunk ID.

Hardware Required:

IX-4DITK, IX-DCDCA, IX-DCDCB.

Direct Inward Dial (DID) Trunks

The ADIX supports both analog and digital Direct Inward Dial (DID) trunks. DID trunks allow outside callers to ring a specific ADIX station without passing through an operator or attendant. When DID trunks are terminated at either the IX-4DITK or IX-T1DTI card, the ADIX can have more extension numbers that CO lines. Both DP and DTMF DID trunks are supported by the ADIX.

When the ADIX receives a call on a DID trunk, the incoming digits are converted to an extension number using a DID conversion table (*Class 09.01*). The DID conversion table can be programmed to ring a specific station or a hunt group. The attendant will intercept any undefined incoming numbers on a DID line.

Multiple Ringing Stations for DID Calls (**Software Versions 4.62/5.62 and higher only**) To utilize this feature, the CO Access Number of the trunk (Class 11.02) must be programmed as the destination in the conversion table for DID (Class 09.01). The call will be routed based on the primary ringing assignment of Class 11.32 (maximum 16 stations) and the delayed ringing assignment of Class 11.33 (maximum 16 stations) programmed for the trunk that was specified in the conversion table.

Conditions:

- 1. When programming DID dial numbers [*] and [#] cannot be used.
- 2. In day mode, calls on DID trunks will recall the attendant if the line is programmed to enable attendant intercept in *Class 11.26*. Recall conditions are as follows:
 - Undefined Number
 - No Answer

- Extension Busy
- Station in DND Mode
- 3. (**Software Versions 4.62/5.62 and higher only**) The Multiple Ringing Stations feature is available only when a CO Access Number (Class 11.02) is programmed as the destination in the DID Conversion Table (Class 09.01). Ringing Assignment is programmed in Class 11.32. Delayed Ringing Assignment is programmed in Class 11.33. Class 04.16 must be set to **0** (no delayed ringing) to have the primary and delayed ringing stations ring simultaneously.
- 4. Attendant intercept is not available in night mode. However, DID calls can be programmed for *universal night answer* (UNA) by programming the line as a UNA line in *Class 11.27*.
- 5. If attendant intercept is not programmed for a DID line the following conditions apply:
 - If the system receives an undefined number a warning tone is sent to the CO.
 - Unanswered calls will continue to ring at the station until the caller hangs up.
 - Busy tone is sent to the CO when a station in DND mode is called.
 - If the called station is busy, the call will ring at the station if the off-hook signaling feature (*Class 10.43*) is programmed for that station. If off-hook signaling is not programmed for the called station, the caller will hear busy tone.

Database Programming:

04.15 Attendant DIL Intercept; 04.25 Elements 08 and 09; 04.70 Element 16; 09.01 DID Conversion Table; 09.02 DID Incoming Digits; 09.03 DID Ignored Digits; 10.02 Station Numbering; 10.21 Outgoing CO Line Group; 10.43 Off-Hook Signaling; 11.26 Attendant Intercept Line; 11.38 Outgoing CO Group; 11.39 Incoming CO Group.

Hardware Required:

IX-4DITK, IX-DCDCA, IX-DCDCB.

DID Number External Call Forward

The ADIX now has the capability to forward DID, Caller ID, ANI, and DNIS calls to a remote location. Any station programmed for direct termination of a DID (*Class 09.01*), Caller ID (*Class 24.02*), ANI (*Class 24.02*), or DNIS (*Class 25.02*) call can be set to automatically forward the call to an external (remote) telephone number.

To use this feature, the station set must have a [$\underline{\mathsf{PTRAN}}$] (Personal Transfer) key programmed (*Class 14.01* or 15.01 (d1) = 109) and the ADIX must be equipped with an IX-4TRAN card. The user programs the telephone number of the remote location in their personal speed dial bin 98.

Activating the [PTRAN] key automatically sends all DID, Caller ID, ANI, and DNIS calls programmed to ring at the station to the telephone number entered in the station's personal speed dial bin 98. The calling party is connected with the remote location when sender time out (Class 11.13) has expired. After sender time out, the recipient will hear a confirmation tone.

Forwarding Message Systems equipped with an IX-MSGU card can play a message to the recipient of the forwarded call. To activate the forwarding message feature, a new programming item — *Class 04.70*, *<NUM62>* was added to the database. If Class 04.70, *<*NUM62> is set to **1** (message), system message 14 will play to the recipient after sender time out. If the system is not equipped with an IX-MSGU card, *Class 04.70*, *<NUM62>* must be set to **0** (confirmation tone only).

Operation:

To set/cancel external call forward of DID, Caller ID, ANI and DNIS calls:

- 1. Press [ICM] + [PTRAN]
- 2. Wait for confirmation tone

The [PTRAN] key red LED is lit, remote call forward is set.

The [PTRAN] key is not lit, remote call forward is canceled.

Conditions:

- 1. This feature is available only when the extension number of the station (Class 10.02) is programmed as the destination for a DID, Caller ID, ANI, or DNIS call. Calls programmed to ring into a hunt group, ACD group, or voice mailbox cannot be forwarded using this feature.
- 2. When activated, this feature overrides DND or call forwarding set at the station.
- 3. This feature will not operate unless a destination telephone number is programmed in personal speed dial bin 98. See the *ADIX Technical Manual* or *ADIX Owner's Manual* for speed dial programming instructions.
- 4. The voice path between the distant party and the forwarded destination is not established until sender time out (Class 11.13) expires.
- 5. The IX-4TRAN card is required for this feature.
- 6. If the IX-4TRAN card is busy, outgoing trunk is busy, or the number entered in speed dial bin 98 is not correct, the incoming call will ring to the attendant as a recall.
- 7. Class 04.70, <NUM62> determines if the answering party at the remote destination hears system message 14 (requires IX-MSGU card) or confirmation tone after sender time out expires.

8. *Class 04.70 < NUM62>* cannot be programmed using the New Edit Method of PC Programmer Version 6.10. This item must be programmed using a KT or DSS.

- 9. The station user will hear warning tone if [PTRAN] registration fails.
- 10. The [PTRAN] key cannot be programmed using PC Programmer Version 6.10. This key must be programmed using a KT or DSS.

Database Programming:

04.20 <MSG14>; 04.70 <NUM62>; 09.01 DID Conversion Table; 11.13 Sender Time Out; 14.01 Key Assignment; 15.01 Attendant Key Assignment; 24.02 Caller ID/ANI Conversion Table; 25.02 DNIS Conversion Table.

Hardware Required:

IX-4TRAN, IX-4DITK for DID, IX-T1DTI and IX-T1RCV for DID, ANI, DNIS, IX-8CITK for Caller ID.

Direct Inward Line

Each trunk line can be programmed to ring at up to 16 extensions in *Class 11.32*. A different ringing assignment can be programmed for both the day and night modes in *Class 11.30*. One of four different ringing tones can be selected for each line in *Class 11.31*. If a call is not answered by one of the ringing stations, 16 additional delayed ringing stations can be programmed in *Class 11.33* to ring after a programmable duration (*Class 04.16*).

Direct Inward Line Ringing to Hunt Group Outside lines can be programmed to ring at the stations assigned to a hunt group in *Class 08.02*. The line will ring at the first available station in the hunting sequence. The same trunk can be assigned to ring at different hunt groups for day and night modes. If a station is busy or does not answer within the preset time, the call will ring at the next station in the hunting sequence.

Conditions:

1. The default ringing assignment for each line is the first 16 station logical ports.

Database Programming:

11.30 Ringing Method; 11.31 Ringing Tone; 11.32 Ringing Station; 11.33 Delayed Ringing Station; 11.33 Delayed Ringing Station; 11.34 DIL to Hunt Group.

Hardware Required:

IX-8LGTK, IX-MISC or IX-EDVIF for MOH, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Direct Inward System Access

Direct Inward System Access (DISA) allows an external caller to access ADIX intercom dial tone by dialing the phone number of a dedicated DISA trunk line. DISA allows the external caller to make intercom calls, hunt group calls, external calls, and have access to the paging system. Use of DISA for external calls and paging requires the entry of a security code. The security code is programmed in Class 10.05 and can be up to six digits long. Security code entry is also required to make external calls through DISA and to access system paging. Feature operation through DISA is the same as SLT feature operation. However, feature access is limited to the station class of service associated with the DISA station. The following features are accessible through DISA:

- ICM Calls
- Master Hunt Groups
- Operator Calls
- ICM Calls
- System Paging
- Outgoing Calls
- Speed Dial

Note: Iwatsu does not control the distribution of security codes and is not responsible for any unauthorized toll calls.

Operation:

To dial in through DISA:

Do one of the following:

If you are a subscriber, dial the DISA number + [*] + extension number + security code;

If you are not a subscriber dial the DISA number + extension number

Conditions:

- 1. Dial pulse cannot be used to access the system through DISA.
- 2. If the caller attempts to enter the password more than three times the call is disconnected.
- 3. To reorder ICM dial tone press [#][#]. However, you cannot reorder ICM dial tone after accessing a CO line or tie line through DISA.
- 4. The following conditions apply to ICM calls through DISA:
 - Only tone calls are allowed.
 - If attendant intercept is programmed unanswered calls and calls that result in a busy tone, warning tone, or DND tone will ring at the attendant.
 - If attendant intercept is not programmed unanswered calls and calls that result in a busy tone, warning tone, or DND tone will be disconnected.
 - A caller can override a busy station by dialing [*].
- 5. The following conditions apply to paging through DISA:
 - DISA paging can be answered by meet-me answer operation ([FEAT] + [3][5]) only.
 - If attendant intercept is programmed unanswered paging calls will ring at the attendant after the caller receives a busy tone.
- 6. The following conditions apply when entering account codes through DISA:
 - Account codes can be entered from ICM dial tone. They will appear on the SMDR printout.
 - To end account code operation the caller must press [*], wait for inter-digit time out, enter the maximum amount of account code digits, or press [#][#] to reorder dial tone.
 - If a caller makes an outgoing call after entering an account code the account code will be included on the SMDR printout.
- 7. An IX-MSGU message card is recommended when DISA operation is required. If the message card is installed the caller will hear a message when accessing the system using DISA.
- 8. Use *Class 04.70*, *Element 18* to program the method for interrupting the DISA message.

Database Programming:

01.04 Configuration; 04.20 VSS Recording Time; 04.39 DISA-ICM Call; 04.40 DISA-Paging Call; 04.41 DISA-Waiting Time; 04.42 DISA-Total Duration; 04.70 (e1=18) DISA Short-Cut Operation; 10.02 Station Numbering; 10.05 Station Password; 10.06 DISA Service; 11.19 Disconnect Signal; 11.47 DISA Virtual Station; 11.48 DISA Message Number.

Hardware Required:

IX-8LGTK, IX-RCVPM with IX-4RCVC, or IX-RMPU (IX-4TRAN if loop disconnect signal is not provided, IX-MSGU, IX-CMSG/IX-CMSG for custom messages).

Doorphone Features

The doorphone can be programmed for use as a simplified intercom extension at a building entrance or sound monitoring locations. When the call button on the doorphone is pressed up to 16 stations programmed in *Class 10.57* will ring. The doorphone ringing tone is programmed in *Class 10.59*. One of four different tones can be selected. Using *Class 10.58* a doorphone can be programmed to trip a doorphone relay.

Conditions:

1. A doorphone will not ring unless a ringing station is programmed in *Class 10.57*.

Database Programming:

04.17 Doorphone Answer Time; 10.57 Doorphone Ringing; 10.58 Doorphone Relay; 10.59 Doorphone Tone.

Hardware Required:

IX-DPHM, IX-8PSUB, IX-DDPH.

Emergency Help Call Feature

The Emergency Help Call Feature allows specific system extensions to simultaneously call a group of extensions and access a system paging port upon dialing a specific ICM Group access number or, if the station remains off-hook without dialing for a programmable period of time. When the Emergency Help Call is placed, the LCD displays of the called extensions in the Emergency ICM Group will display the message programmed in Class 04.79 <NUM08> plus the calling party's extension number (Class 10.02) and station ID (Class 10.04). The Emergency Help Message may be a maximum of 16 characters in length.

Enabling a Station for the Emergency Help Call Feature. If a system extension is assigned the Emergency Help Call Extension attribute in Class 10.74 <EXTLnn-03>, that station will automatically place and Emergency Help Call to Intercom Group designated as an the Emergency Help Group for that extension in Class 10.74 <EXTLnnn-04>. An emergency help call will be placed automatically if the station remains off hook without dialing for a duration which exceeds the value programmed in Class 04.71 <NUM41>. An emergency help call will also be placed automatically if an Emergency Help Call station begins, but does not complete dialing a number thus causing the Intercom Inter-Digit Time-out (fixed at 10 seconds) to occur.

Defining an ICM Group and an Emergency Help Call Group. An ICM Group may be identified as the Emergency Help Call Group for a specific system extension on a station-by-station basis in Class 10.74 <EXTLnnn-04>. An ICM Group of up to 64 stations may be programmed and assigned a group number in Class 08.04. The group is then identified as an Intercom Group in Class 08.05 <GRPnn-06> data = 1. An access code for the group must be programmed in Class 07.04.

When a call is placed to the Emergency Help Call Group, all the stations in the group will be called simultaneously. If the originating station is programmed in Class 10.48 for tone calling (data=0), the stations in the Emergency Help Call Group receive ringing tone with the call. If the originating station is programmed in Class 10.48 for voice calling (data=0), the stations in the Emergency Help Call Group do not receive ringing tone with the call. The originating station may, however, make an announcement through the Emergency Help Call Group extension speakers.

Programming an Unanswered Emergency Help Call to Operate a Relay. If an Emergency Help Call is not answered within the time programmed in Class 04.13 — Call Forward No Answer, the ADIX may be programmed to operate an Emergency Help Call Contact Relay on the IX-MISC or IX-EDVIF card. The Emergency Help Call Contact Relay is defined in Class 08.05<GRPnn-07>. The relay type used for this feature is a Relay Control Relay (Push ON/Push OFF). Once turned on, the Emergency Help Relay must be manually turned off from either a [Relay] Key on a digital telephone, or by dialing a feature access code from a single line telephone (Class 07.06 < NUM43>). The Single Line Telephone Relay Control Feature is described later in this bulletin.

Operation:

To call an ICM Group

From any system extension defined as an Emergency Help Call station do one of the following:

- 1. Lift the receiver and remain off hook for a duration that exceeds the programming in Class 04.71 <NUM41>. Or,
- 2. Lift the receiver to make either an outside or intercom call. Begin dialing. Between digits stop dialing for more than 10 seconds.
- 3. At ICM dial tone dial the *Emergency Group access number*.

Conditions

- 1. An ICM Group may be identified as the Emergency Help Call Group for a specific system extension on a station-by-station basis in Class 10.74 <EXTLnnn-04>. An ICM Group is defined in Class 08.04 and Class 08.05 <GRPnn-6>. Stations are assigned to a specific ICM Group in Class 08.04 . An attribute of 1 in Class 08.05 <GRPnn-6> defines the group created in Class 08.04 as an ICM Group.
- 2. System extensions may be enabled to use the Emergency Group Call feature in Class 10.74 <EXTLnn-03>. One of three modes may be selected: 0=Disable, 1=Day Only, 2=Day and Night.
- 3. A system extension enabled to make an Emergency Help call will automatically call the Emergency Help Group programmed in Class 10.74<EXTLnnn-04> if left off hook for a duration that exceeds the Emergency Call Time programmed in Class 04.71 <NUM41>, or after pausing between digits dialed for longer than 10 seconds without completing the call. Stations not enabled to use the Emergency Help Call feature simply receive howler tone after the time out.
- 4. The following types of system extensions may be enabled to make an Emergency Help Call: Key Telephones, Attendant Positions, Versa-Phones, Single Line Telephones, Voice Mail Extensions, T1 Off-Premises Extensions, T1 Off-Premises Voice Mail Extensions (any stations that have a configuration of 0-0-x, 0-1-x, 0-2-x, or 0-4-x in Class 01.03)..
- 5. On an incoming Emergency Help Call, the LCD display of the called extensions will appear as illustrated below.

DATA 04.79<NUM08> STATION ID 201

- 6. The Emergency Message programmed in Class 04.79<NUM08> may be a maximum of 16 characters in length.
- 7. The ICM Calling Mode is defined in Class 10.48. If the originating station is programmed in Class 10.48 for tone calling (data=0), the stations in the Emergency Help Group receive ringing tone with the call. If the originating station is programmed in Class 10.48 for voice calling (data=0), the stations in the Emergency Help Group do not receive ringing tone with the call. Originating stations programmed for voice calling in Class 10.48 may, however, make an announcement through the Emergency Help Group extension speakers. **Note:** The Calling Mode Change feature (pressing [#] after dialing an extension number to toggle the ICM calling mode) or the Handsfree AnswerBack feature for a voice call feature will not function on an Emergency Help Call.
- 8. The system must be programmed for Calling Party Control in Class 04.22 (data=1) in order to use the Emergency Help Call Feature.
- 9. The Emergency Help call may only be answered by one of the ringing stations in the Emergency Help group. Once an extension answers the group call, the other extensions will stop ringing.
- 10. An Emergency Help Call overrides call forwarding set at a station. If a called extension is set for call forwarding, the Emergency Help Call will still ring at the called extension.

- 11. An Emergency Help Call may not be transferred by the originating station.
- 12. An Emergency Help Group may not be programmed as the destination for a transferred camp-on call.
- 13. After an Emergency Help Call is answered, it operates as a regular ICM call.
- 14. An Emergency Help Group may not be accessed from an outside line.
- 15. If an Emergency Help Call is not answered within the time programmed in Class 04.13 Call Forward No Answer, the ADIX may be programmed to operate an Emergency Contact Relay on the IX-MISC or IX-EDVIF card. The Emergency Contact Relay is defined in Class 08.05<GRPnn-07>.

Database Programming:

04.13 Call Forward No Answer; 04.22 ICM Calling Mode; 04.71<NUM41> Emergency Call Time Out; 04.79<NUM08> Emergency Help Call Message; 07.04 Paging Group Access Number; 08.04 Paging Group - Station/Zone; 08.05<GRPnn-06> Paging Group Type; 08.05<GRPnn-07> Emergency Contact Relay; 10.48 Calling Mode; 10.74<EXTLnnn-3> Emergency Help Call Mode; 10.74<EXTLnnn-4> Emergency Help Call Extension.

Hardware/Software Required:

ADIX Software Version 6.30; IX-MISC or IX-EDVIF for Emergency Contact Relay.

Fixed Call Forwarding

The system database contains items that allow you to define a fixed call forward destination for each station. Use $Class\ 10.78$ to program the fixed call forward destination. Once fixed call forwarding is set, it can only be disabled by deleting the destination programmed in $Class\ 10.78$. This feature operates in conjunction with the fixed call forward mode programmed in $Class\ 10.73$, (e2)=1. Fixed call forwarding modes are assigned on the station level as follows:

- Forward all calls.
- Forward when the station is busy or there is no answer.
- Forward only if there is no answer.

Call forwarding activated using the [FORWARD] key overrides fixed call forwarding programming.

Operation:

To initialize fixed call forward manually at the station level:

Press: [SPKR] + [FORWARD] + extension number + [SPKR].

Conditions:

- 1. Fixed call forwarding does not activate the lamp on the [FORWARD] button.
- 2. To program this feature a value greater than $\mathbf{0}$ =all call must be entered in Class 10.73, (e2) = 1, and a destination station must be programmed in Class 10.78.
- 3. Fixed call forward must be initialized by manually activating and deactivating the [FORWARD] key at the station level after initial system start-up or following the system default procedure. If initialization is not performed, the fixed call forward feature will not operate.
- 4. The value in *Class 04.13* determines how long a call will ring before being forwarded to the fixed call forward destination.
- 5. The fixed call forwarding destination can be another station or a hunt group.
- 6. If fixed call forwarding is assigned the station cannot activate the most recent call forwarding destination by pressing [FORWARD].
- 7. Fixed call forwarding does not affect ringing at stations in a hunt group. However, if all call forwarding is activated manually at a station in a hunt group that station is removed from the hunting sequence.

Database Programming:

04.13 Call Forward No Answer; 10.73 Call Forwarding Modes; 10.78 Fixed Call Forward Destination.

Hardware Required:

Standard.

Flexible Call Forward (Internal/ External)

The Flexible Call Forward feature allows the user to forward calls to an internal destination or external line (using Personal Speed Dial numbers 90-99). The user can set separate call forward destinations for ICM Incoming and CO Incoming calls. For instance, you could set all intercom calls to go to your cell phone, and all CO calls to be forwarded to your voice mail or vice versa.

The Flexible Call Forward feature incorporates Follow Me capabilities. Follow Me lets you receive your calls internally at any station you choose. This allows you to forward your calls as you move around the office. Instead of having to set your forward destination from your extension each time you move to another area of the building, you can set the forward destination from the station at which you will be working. For example, if you usually work at extension A but are going to be working at extension B, you would set extension B as the forward destination. If at some point you need to receive your calls at extension C, you would go to extension C and set that extension as Follow Me destination for extension A.

In addition, Flexible Call Forward Active/Inactive status and Call Forward destination can be changed through a DISA line.

With this feature, **all transferred calls are considered Intercom calls**. If Flexible Call Forward is Inactive, Fixed Call Forward settings are used (*Class 10.78*).

When an incoming call is forwarded externally, the system will refer to the class of service of the station that set External Call Forward. When the incoming CO call is forwarded to the external line, if the IX-4TRAN is available in the system, the IX-4TRAN will be used for this connection. If the IX-4TRAN is not available, low audio levels may occur.

The IX-4TRAN is also needed if trunk lines used for forwarding a call externally do not have disconnect supervision enabled. External Flexible Call Forward is available only when the incoming call arrives at the station that actually set External Flexible Call Forward. Therefore, when External Flexible Call Forward is set, the cascading of Call Forward is not available. For example: Cascade Call Forward is set as $A \to B \to C \to External$ Flexible Call Forward. If an incoming call comes to C directly, the call is forwarded to an external line, but if incoming call comes to A or B, the incoming call will cascade to C but not forward externally. From the caller's perspective, the call forwarding process is seamless.

Flexible Call Forward Call Types:

A Call Type specifies which incoming calls (Intercom, CO, or Both) go to which destinations.

Type 1 - Both (CO/Intercom Incoming)

All incoming calls are forwarded based on the Mode (see Flexible Call Forward Modes below) and destination specified.

Type 2 - CO Incoming

Only incoming CO calls are forwarded based on the Mode (see Flexible Call Forward Modes below) and destination specified.

Type 3 - Intercom Incoming

Only incoming intercom calls and transferred calls are forwarded based on the Mode (see Flexible Call Forward Modes below) and destination specified.

After choosing a Call Type, you can narrow down under what conditions a call is forwarded by selecting a Mode for the Call Type.

When a valid destination is set, the LED pattern of the Call Forward key on the telephone displays as follows:

Call Type1 = ON
Call Type2 = Fast Flash
Call Type3 = Slow Flash

Flexible Call Forward Modes:

After setting the Call Type (as described above) you must select a Forward Mode. A Forward Mode can be set for each call Type.

Mode 1 - Forward All Calls

Send all calls of a certain Call Type to another extension or hunt group where you can answer them, or send calls to a number where they can be answered automatically (such as a hunt group, voice mail or a receptionist).

Mode 2 - Forward Busy/No Answer Calls

Send calls of a certain Call Type to another extension when the original destination is busy or unable to answer the call within a specified time period. If you are in the middle of an important conversation, calls can be forwarded to another location where they can be answered (such as a hunt group, another extension, voice mail, or a receptionist).

Mode 3 - Forward No Answer Calls

Send calls of a certain Call Type to another extension only when the extension does not answer the incoming call within a specified time period.

Mode 4 - External Forward for All Calls

Send all calls of a certain Call Type to an external line (such as a home phone, a pager, or other external location) using a Personal Speed Dial Number (90-99).

Flexible Call Forward Display

1. The display below shows Both ICM and CO calls are forwarded to another extension.

CO TO EXT2205 A

2. The display below shows ICM calls are forwarded to an external number, and all CO calls are forwarded to another extension.

CO TO EXT2205 A

Operation:

8. Set Forward Destination from a KT or Attendant station

- 1. Lift the receiver (handset) or press [SPKR]
- 2. Press [FWD].
- 3. Enter the Call Type you wish to forward
- 1 = All calls (CO/Intercom)
- 2 = CO calls only
- 3 = Intercom calls only
- 4. Enter the Flexible Call Forward Mode
- 1 = All calls to another extension or hunt group
- 2 = Busy/No Answer calls to another extension or hunt group
- 3 = No Answer calls to another extension or hunt group
- 4 = All calls forward to an external number (using Personal Speed Dial Codes 90-99)
- 5. Do one of the following

If you chose Mode 1, 2, or 3, enter the extension or hunt group number

If you chose Mode 4, enter the Personal Speed Dial Code (90-99)

Note: When the setting is valid, a confirmation tone is sent. When it is invalid, a warning tone is sent.

9. Forward Cancel From a KT or Attendant station

- 1. Lift the receiver (handset) or press [SPKR]
- 2. Press [FWD]
- 3. Press [*]
- 4. Enter the Call Type number you wish to cancel
- 1 = Cancel Forwarding of All calls (CO/Intercom)
- 2 = Cancel Forwarding of CO calls only
- 3 = Cancel Forwarding of Intercom calls only

10. Set Active/Inactive from a KT or Attendant station

- 1. Press [FWD]
- 2. Enter the Call Type you wish to forward
- 1 = All calls (CO/Intercom)
- 2 = CO calls only
- 3 = Intercom calls only

11. Set Follow Me Destination From a KT or Attendant Station

- 1. Lift the receiver (handset) or press [SPKR]
- 2. Press [FWD] + [FWD]
- 3. Enter the Call Type you wish to forward
- 1 = All calls (CO/Intercom)
- 2 = CO calls only
- 3 = Intercom calls only
- 4. Enter the extension number of the originating forwarding station.

12. Set Forward Destination from a Single Line Telephone

- 1. Lift the receiver (handset)
- 2. Enter the Call Forward Activation Code (*Class 07.06*<*NUM22>*)
- 3. Enter the Call Type you wish to forward
- 1 = All calls (CO/Intercom)
- 2 = CO calls only
- 3 =Intercom calls only
- 4. Enter the Flexible Call Forward Mode
- 1 = All calls to another extension or hunt group
- 2 = Busy/No Answer calls to another extension or hunt group
- 3 = No Answer calls to another extension or hunt group
- 4 = All calls forward to an external number (using Personal Speed Dial Codes 90-99)
- 5. Do one of the following

If you chose Mode 1, 2, or 3, enter the extension or hunt group number

If you chose Mode 4, enter the Personal Speed Dial Code (90-99)

13. Forward Cancel From a Single Line Telephone

- 1. Lift the receiver (handset)
- 2. Enter the Call Forward Cancel Code (*Class 07.06*<*NUM01*>+<*NUM22*>)
- 3. Enter the Call Type number you wish to cancel
- 1 = Cancel Forwarding of All calls (CO/Intercom)
- 2 = Cancel Forwarding of CO calls only
- 3 = Cancel Forwarding of Intercom calls only

14. Set Follow Me Destination from a Single Line Telephone

- 1. Lift the receiver (handset)
- 2. Enter the Call Forward Destination (*Class 07.06*<*NUM20*>)
- 3. Enter the Call Type you wish to forward.
- 1 = All calls (CO/Intercom)
- 2 = CO calls only
- 3 =Intercom calls only
- 4. Enter the extension number of the originating forwarding station

15. Set Forward Destination From a DISA Line

- 1. Dial the DISA line number
- 2. Press [*]
- 3. Dial the extension you wish to forward
- 4. Enter the Station Password (set in *Class 10.05*)
- 5. Enter the Call Forward Activation Code (*Class 07.06*<*NUM22*>)
- 6. Enter the Call Type you wish to forward
- 1 = All calls (CO/Intercom)
- 2 = CO calls only
- 3 = Intercom calls only
- 7. Enter the Flexible Call Forward Mode
- 1 = All calls to another extension or hunt group
- 2 = Busy/No Answer calls to another extension or hunt group
- 3 = No Answer calls to another extension or hunt group
- 4 = All calls forward to an external number (using Personal Speed Dial Codes 90-99)
- 6. Do one of the following

If you chose Mode 1, 2, or 3, enter the extension or hunt group number

If you chose Mode 4, enter the Personal Speed Dial Code (90-99)

16. Forward Cancel from a DISA Line

- 1. Dial the DISA line number
- 2. Press [*]
- 3. Enter the extension number for which you want to cancel call forward
- 4. Enter the Station Password (set in *Class 10.05*)
- 5. Enter the Call Forward Code (*Class 07.06*<*NUM01*>+<*NUM22*>).
- 6. Enter the Call Type number you wish to cancel.
- 1 = Cancel Forwarding of All calls (CO/Intercom)
- 2 = Cancel Forwarding of CO calls only
- 3 = Cancel Forwarding of Intercom calls only

17. Set Active/Inactive From a DISA Line

- 1. Dial the DISA line number
- 2. Press [*]
- 3. Dial the extension you wish to forward
- 4. Enter the Station Password (set in *Class 10.05*)
- 5. Enter the Call Forward Activation Code (*Class* 07.06<*NUM01>+*<*NUM22>*)
- 5. Enter the Call Type number you wish to cancel
- 1 = Cancel Forwarding of All calls (CO/Intercom)
- 2 = Cancel Forwarding of CO calls only
- 3 = Cancel Forwarding of Intercom calls only

Conditions:

- 1. The Forward Destination and the Forward Mode can be set for each Call Type (Intercom Incoming or CO Incoming).
- 2. When a Personal Speed Dial Number (90-99) is specified as the destination, the following limitations exist:

The Forward Mode is ALL only.

The cascade call forward is invalid. For example, when EXT#201sets Call Forward to EXT#202, and EXT#202 sets Call Forward to a Personal Speed Dial Number, the cascade call forward is invalid. In this case, EXT#201 is called.

In the case of Direct In Line, Call Forward to a Personal Speed Dial Number is valid when only one station is set as the Direct In Line ringing station.

3. The Call Types are defined below. As to the relationship of Type1, Type2 and Type 3, the most recent Type setting overrides the previous Type setting.

Type 1 = Both (CO/Intercom Incoming)

Type2 = CO Incoming

Type3 = Intercom Incoming

4. The Forward Mode is defined as follows:

Mode 1 =to extension or hunt group for All calls

Mode 2 = to extension or hunt group for Busy/No Answer calls

Mode 3 = to extension or hunt group for No Answer calls

Mode 4 = to Personal Speed Dial number for All calls

Note: When a valid setting is found in the Destination at the time of Mode change, Active is automatically established.

5. The LED pattern of the Call Forward Key at Active state is as follows:

Call Type1 = On
Call Type2 = Fast Flash

Call Type3 = Slow Flash

- 6. If Fixed Call Forward has been set and a Flexible Call Forward setting is canceled, Fixed Call Forward becomes valid.
- 7. If Fixed Call Forward has been set and a Call Type is set to Inactive, Fixed Call Forward will be applied to the Inactive Call Type.
- 8. With this feature, all transferred calls are considered Intercom calls.
- 9. If Flexible Call Forward is Inactive, Fixed Call Forward settings are used (Class 10.78).
- 10. When an incoming call is forwarded externally, the system will refer to the class of service of the station that set External Call Forward. When the incoming CO call is forwarded to the external line, if the IX-4TRAN is available in the system, the IX-4TRAN will be used for this connection. If the IX-4TRAN is not available, only the conference circuits will be used.
- 11. All camp-on calls are treated as intercom calls with this feature.
- 12. This feature is not available in Hotel Mode.

Database Programming

07.06 Feature Access Numbers; 10.32 Optimized Routing Call; 14.01/15.01 Key Assignment; Class 17 Optimized Routing.

Hardware Required:

IX-RCVPM with IX4RCVC, or IX-RMPU required for DISA access of the Flexible Call Forward feature.

IX-4TRAN is recommended when using the Flexible Call Forward feature to forward calls to an external location because of audio levels and disconnect supervision.

Flexible Numbering

Numbers one to four digits in length can be assigned for any of the following numbering plans. Use the items in parenthesis to change the default numbers:

- Intercom Extensions (*Class 10.02*)
- Outside Line Access Numbers (*Class 11.02*)
- CO Line Group Access Numbers (*Class 07.03*)
- Paging Group Access Numbers (*Class 07.04*)
- Hunt Group Access Numbers (*Class 07.02*)
- Park Orbit Numbers (*Class 07.01*)
- Single-Line Telephone Feature Access Codes (*Class* 07.06)
- PBX Network Access Numbers (*Class 07.05*)

Conditions:

1. KT feature access codes cannot be changed.

Database Programming:

Class 7 Numbering Plans; 10.02 Station Numbering; 11.02 CO Line Access Numbers.

Hardware Required:

Standard.

Flexible Ringing

Outside telephone lines terminating at the ADIX can be programmed to have one of four distinct ringing tones. Use *Class 11.31* to select one of the incoming ringing tones listed in the table below for each outside line.

Tone	Tone	Duration
Number		
0	432/480	1 second on, 3 seconds off.
1	432/624/16	0.8 seconds on, 0.2 seconds off, 0.2 seconds on, 3 seconds off.
2	432, 480	0.4 seconds on, 0.2 seconds off, 0.4 seconds on, 3 seconds off.
3	MOH	Continuous

Database Programming:

11.31 Ringing Tone; 11.32 Ringing Station; 11.33 Delayed Ringing Station.

Hardware Required:

IX-MISC or IX-EDVIF for external MOH.

Group Monitoring

Key telephones and attendant stations can be set to enable or disable group speaker monitoring. This allows a user not utilizing the group monitoring feature a smooth transition from handset to speaker phone. This feature may be programmed in *Class 10.70*<*EXTLXXX-4*> (1 = DISABLE, 0 = ENABLE).

NOTICE: The default value for this feature on a *new* system is **1** (Group Monitor ENABLE). If you perform an upgrade of an existing system to Software Version 6.20, this feature is set to **0** (Group Monitor DISABLE). In either case, this feature is fully programmable.

Conditions:

- 1. This feature may be programmed in *Class 10.70*<*EXTLxxx-4*> to specify whether the speaker is available when the user presses **[SPKR]** while off-hook.
- 2. If the data setting *Class 10.70*<*EXTLxxx-4*> is set to **0** (Group Monitoring DISABLE), monitoring from the speaker is not available until the handset is on hook.
- 3. If the data setting *Class 10.70*<*EXTLxxx-4*> is set to **1** (Group Monitoring ENABLE), monitoring from the speaker is available when the handset is off-hook.
- 4. The system default setting for *Class 10.70*<*EXTLxxx-4*> is **1** (Group Monitoring ENABLE).
- 5. When the user presses **[SPKR]** on-hook, monitoring can be done from the speaker regardless of the data setting in 10.70<EXTLxxx-4>.

Database Programming:

10.70<EXTLxxx-4> Group Monitoring.

Group Night

This feature allows an attendant to activate or de-activate night mode on an individual trunk group basis through a KT with a DSS unit or an attendant console.

Operation:

- To access the Group Night feature through a KT+DSS:
 - 1. Press [Group Night] key.
 - 2. Enter in trunk group # (01-60).
 - 3. Enter in mode # (1= day, 2= night).
- To access the Group Night feature through an attendant console:
 - 1. Press [ETC] once.
 - 2. Press [F1] once to select Group Night.
 - 3. Enter in the trunk group # (01-60).
 - 4. Enter in mode # (1 = day, 2 = night).
 - 5. Press [END].

Conditions:

- 1. This feature can only be accessed through an attendant station KT+DSS or an attendant console.
- 2. The [night] key overrides the [Group Night] key. Elimination of the [night] key is recommended if the [Group Night] key is used.
- 3. This feature operation changes the ringing assignments in Class 11.32 and Class 11.34.

Database Programming:

15.01 Attendant Key Assignment; 11.39 Incoming CO group; 01.03 Port Definition; 11.32 Ringing Station; 11.34 DIL to Hunt Group.

Hardware:

None.

Howler Tone

When a station remains off hook for longer than 50 seconds without dialing, a howler tone will sound. Use *Class 10.47* to disable this feature at a station.

Database Programming:

10.47 Howler Alert.

Hardware Required:

Standard.

Hunt Group Delayed Ringing

A Hunt Group may be programmed as the delayed ringing assignment for a trunk in *Class* 11.73<TRKxxx-3>. If a call on a CO line is not answered at the ringing stations (*Class* 11.32) within a programmable duration (*Class* 04.16), the call starts ringing to the hunt group designated in *Class* 11.73<TRKxxx-3>.

This feature makes it possible for you to send delayed calls to Auto Attendant or to another department. For example, the Sales line can have a different delayed ringing destination than the Support line. If Sales is closed, calls might be forwarded to Support or to a Sales voice mailbox.

Conditions:

- 1. A hunt group can be set as the delayed call destination for each CO line.
- 2. To set a hunt group as the delayed call destination, data setting is required in *Class 11.73*<*TRKxxx-3*>.
- 3. If a call on a CO line is not answered at the ringing stations (*Class 11.32*) within a programmable duration (*Class 04.16*) and thus becomes a delayed call, the hunt group programmed in *Class 11.73*<*TRKxxx-3*> starts ringing.
- 4. Calls will not ring at the delayed ringing destination until the delayed ringing timer programmed in *Class 04.16* has expired.
- 5. On condition that a hunt group is specified to ring for CO incoming calls, when an incoming call changes to a delayed call, if a delayed call hunt group is set, the original hunt group stops ringing and only the delayed call hunt group rings

Note: This feature may not be available for customers using ISDN PRI or T1 because those calls are not directed to specific channels.

Database Programming:

Delayed Ringing: 04.15 Attendant DIL Intercept; 04.16 Delayed Ringing Timer; 11.26 Attendant Intercept Line; 11.30 Ringing Method; 11.31 Ringing Tone; 11.32 Ringing Station; 11.34 DIL to Hunt Group,11.73<TRKxxx-3> Delayed incoming call destination hunt group number.

Intercom (ICM)

An ADIX station can call another station by dialing a one- to four-digit extension number. This feature is called intercom (ICM) dialing. ICM calls can be made in either the tone or voice mode according to the programming in *Class 04.22*. ADIX extensions can be divided into ICM groups in *Class 10.50*. If a station is in an ICM group that extension cannot call an extension outside the ICM group.

Conditions:

- 1. The ICM calling mode can be changed from voice to tone at the station level by pressing [FEAT] + [6][5].
- 2. If *Class 04.22* is set to **calling party control**, and *Class 10.48* is set to **tone**, the calling party has calling mode control.
- 3. If *Class 04.22* is set to **called party control**, the called party can change the calling mode by dialing [FEAT] + [6][5].
- 4. If the called party selects *tone*, all calls are tone.
- 5. If the called party selects *voice*, all calls are voice and can be toggled to *tone*.
- 6. Two extension can be restricted from calling each other in *Class 10.39*.

Database Programming:

04.22 ICM Call Mode; 10.08 Off-Hook ICM; 10.39 Direct Station-to-Station Call; 10.48 Calling Mode; 10.50 ICM Group.

Hardware Required:

Standard.

Intercom (ICM) Group Call Feature

The Intercom Group Call feature allows any system extension to simultaneously call a group of extensions that are part of an Intercom Group. A group of up to 64 stations may be programmed and assigned a group number in Class 08.04. The group is then identified as an Intercom Group in Class 08.05 <GRPnn-06> data = 1. An access code for the group must be programmed in Class 07.04.

When an extension dials the ICM Group access number (Class 07.04), all the stations in the ICM Group will be called simultaneously. If the originating station is programmed in Class 10.48 for tone calling (data=0), the stations in the ICM Group receive ringing tone with the call. If the originating station is programmed in Class 10.48 for voice calling (data=0), the stations in the ICM Group do not receive ringing tone with the call. The originating station may, however, make an announcement through the ICM Group extension speakers. The liquid crystal display of the stations in the ICM Group will display the calling party's station ID (Class 10.04) and station number (Class 10.02).

Operation:

To call an ICM Group

From any system extension: At ICM dial tone dial the ICM Group access number.

Conditions

- 1. An Intercom (ICM) Calling Group is defined in Class 08.04 and Class 08.05 <GRPnn-6>. Stations are assigned to a specific ICM Group in Class 08.04. An attribute of 1 in Class 08.05 <GRPnn-6> defines the group created in Class 08.04 as an ICM Group.
- 2. Any of the following types of system extensions may call an ICM Group by dialing the ICM Group Access number programmed in Class 07.04: Key Telephones, Attendant Positions, Versa-Phones, Single Line Telephones, Voice Mail Extensions, T1 Off-Premises Extensions, T1 Off-Premises Voice Mail Extensions (any stations that have a configuration of 0-0-x, 0-1-x, 0-2-x, or 0-4-x in Class 01.03).
- 3. On an incoming ICM Group Call, the LCD display of the called extensions will appear as illustrated below.



- If, however, the station is defined as an Emergency Group Call extension in Class 10.74 <EXTLnnn-03>, the called extensions will display the emergency message programmed in Class 04.79<NUM08>.
- 4. The ICM Calling Mode is defined in Class 10.48. If the originating station is programmed in Class 10.48 for tone calling (data=0), the stations in the ICM Group receive ringing tone with the call. If the originating station is programmed in Class 10.48 for voice calling (data=0), the stations in the ICM Group do not receive ringing tone with the call. Originating station programmed for voice calling in Class 10.48 may, however, make an announcement through the ICM Group extension speakers. **Note:** The Calling Mode Change feature (pressing [#] after dialing an extension number to toggle the ICM calling mode) or the Handsfree AnswerBack feature for a voice call feature will not function on an ICM Group Call.
- 5. The system must be programmed for Calling Party Control in Class 04.22 (data=1) in order to use the ICM Group Call Feature.
- 6. The ICM Group call may only be answered by one of the ringing stations in the ICM group. Once an extension answers the group call, the other extensions will stop ringing.
- 7. An ICM Group Call overrides call forwarding set at a station. If a called extension is set for call forwarding, the ICM Group Call will still ring at the called extension.
- 8. An ICM Group Call may not be transferred by the originating station.
- 9. An ICM Group may not be programmed as the destination for a transferred camp-on call.
- 10. After an ICM Group Call is answered, it operates as a regular ICM call.

11. A ICM Group may not be accessed from an outside line.

Database Programming:

04.22 ICM Calling Mode; 07.04 Paging Group Access Number; 08.04 Paging Group - Station/Zone; 08.05<GRPnn-06> Paging Group Type; 10.48 Calling Mode.

Hardware/Software Required:

ADIX Software Version 6.30.

ISDN PRI Lines

ADIX provides the following new ISDN PRI features:

- Call-by-Call Service Selection
- ISDN Calling Number Identification Service (I-CNIS)
- Fractional DS1
- Support for 5ESS Custom Protocol

Class 29 and Class 30 - ISDN Trunk Group Data Definition

Class 29 and Class 30 program the ISDN PRI enhancements listed above. In order to program these features, it is necessary to assign ISDN PRI lines to ISDN trunk groups. These trunk groups are used to program the necessary attributes required to execute the enhanced features. Class 29 and Class 30 items are listed in the tableon page 5-56.

Note: ISDN PRI Enhancements provided in Software Version 6.00 should only be accessed using [FLTn] keys representing the ISDN Trunk Groups created in Class 29.03. If a specific channel of an ISDN PRI line is directly accessed by pressing a [COLn] key, that call will not follow the programming in Class 29 unless the selected trunk is programmed to the same trunk group number in both Class 11.38 and Class 29.03.

Class 29 Trunk Group Data

Class.Item	Data Name	Element1	Element2	Data Field(s)	Default
29.01	Group Attribute	Reserved For Future Use. Do Not Change.			
29.02	Group Name	Reserved For Future Use. Do Not Change.			
29.03	ISDN Trunk Group Logical Port	ISDN Trunk Group Number (1-60)	NA	Solid LED (0) — Trunk is not part of the ISDN Trunk Group Flashing LED (1) — Trunk is part of the ISDN Trunk Group	Solid (0) for all Trunks
29.04	Call-by-Call Attribute	ISDN Trunk Group Number (1-60)		0 - 4 0 = No NSF 1 = In-WATS 2 = Out-WATS 3 = FX 4 = Tie Line	0
29.05	Service Parameters	ISDN Trunk Group Number (1-60)		NULL, 1-9	NULL
29.06	Ringing Station by ANI Table	ISDN Trunk Group Number (1-60)	1-3 1=Day 2=Night 3=Always*	0 – 1000 Class 24 ANI Table Number	0
29.07	Ringing Station by DNIS Table	ISDN Trunk Group Number (1-60)	1-3 1=Day 2=Night 3=Always**	0 – 400 Class 25 DNIS Table Number	0
29.08	B-Channel Table Number	ISDN Trunk Group Number (1-60)		1- 60 Class 30.01 Table	1
29.09	Calling Party Number	ISDN Trunk Group Number (1-60)	0	NULL,Dial-1	NULL
30.01	B-Channel Assignment	Class 30.01 Table Number (1-60)	Interface ID 0-8	Solid LED (0) – B- Channel is not active Flashing LED (1) – B- Channel is active	Flashing (1)

^{*} Class 29.06, (e2=n) Data 501-1000 corresponds with Class 24.XX, (e1=2) night/extended day mode settings 1-500.

^{*} Class 29.07, (e2=n) Data 201-400 corresponds with Class 25.XX, (e1=2) night/extended day mode settings 1-200.

ISDN PRI Dynamic Channel Allocation

Like all other lines terminated to ADIX, the association between physical and logical ports for ISDN PRI lines is programmed in Class 01.03 of the system database. All subsequent database programming is based on the logical port assignment. However, when an ISDN line is seized for an outgoing call, the system connects the caller with the highest available channel of the ISDN PRI span regardless of the logical port number addressed. Also, when an incoming call arrives on the PRI span, it always arrives via the lowest available channel of the ISDN PRI span. The call is connected through the lowest available logical port associated with the ISDN PRI span.

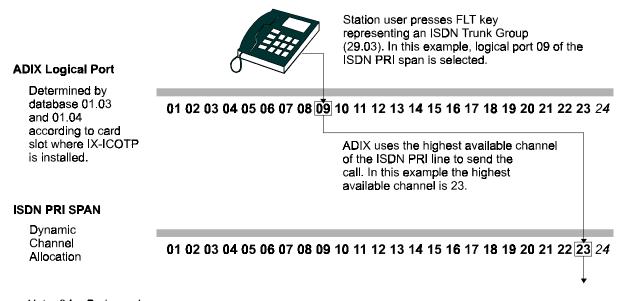
The relationship between logical port and PRI channel for incoming and outgoing calls is explained in greater detail below.

Outgoing Calls. When an ISDN PRI line (i.e., a PRI channel identified by its logical port number) that has been assigned to an ISDN trunk group (Class 29.03) is seized for an outgoing call, the system will select the highest available channel from one of the 23 B channels on the span to connect the call. All programming (e.g., toll restriction, outgoing group) is still associated with the call according to the logical port number.

For example, an IX-ICOTP card is installed in card slot 1 of an IX-CM (B channels = physical ports 001-023) and associated in Class 01.03 with trunk logical ports 001-023 respectively. A system extension presses a [FLT] key and seizes trunk logical port 009. The system will then use the highest available channel of the ISDN PRI span to connect the outgoing call. For example, channel 23. All database programming for the call is associated with trunk logical port 009.

Figure 3.1-4 further illustrates the relationship between logical port number and ISDN PRI channel for outgoing calls.

Outgoing Call on an ISDN PRI Line



Note: 24 = D channel

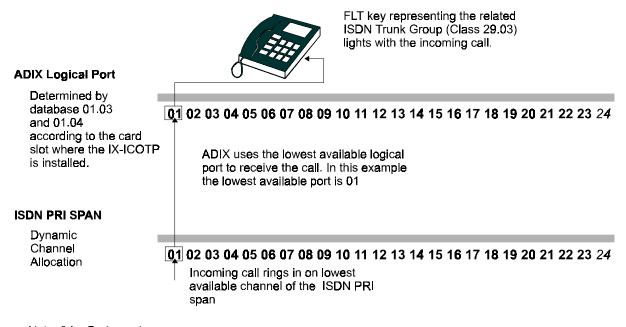
FIGURE 3.1-4 OUTGOING CALL ON ISDN PRI LINE

Incoming Calls. In software version 6.00, the routing of incoming ISDN PRI calls has changed. An incoming call on an ISDN PRI line will always arrive at the ADIX on the lowest available channel of the ISDN PRI span. Connection to the system is through the lowest available logical port associated with the ISDN PRI span.

For example, an IX-ICOTP card is installed in card slot 1 of an IX-CM (B channels = physical ports 001-023) and associated in Class 01.03 with trunk logical ports 001-023. Trunk logical ports 001 through 023 are programmed to ring in at station 201. A call arrives on the ISDN PRI line via the first channel of the IX-ICOTP card. The system then selects the lowest available trunk logical port associated with that PRI span to connect the call. In this example, the call rings in at station 201 via trunk 01.

Figure 3.1-5 further illustrates the connection path of an incoming call.

Incoming Call on an ISDN PRI Line



Note: 24 = D channel

FIGURE 3.1-5 INCOMING CALL ON ISDN PRI LINE

Call-by-Call Service Selection

The Call-by-Call Service Selection feature is an additional service provided over ISDN PRI Lines that enables a single span to handle different types of Network Specific Features (NSF) without requiring dedicated channels for each NSF. Based on the information received from the CO with the call, determination of the NSF type is made on a call-by-call basis. The ADIX database may be programmed to route a call to a specific destination, based on the NSF indicated with the incoming call. This occurs as follows: (1) A call arrives on an ISDN PRI line containing an indication of the NSF. (2) ADIX scans Classes 29.03, 29.04, and 29.05 to find the ISDN trunk group with the NSF attributes matching those sent with the call. 3.) If a match is found, the call follows the ringing assignment programmed for that NSF on that ISDN Trunk Group. Programming Descriptions are provided in the Database Programming Guide section of this bulletin.

Note: Call-by-Call service is only available on ISDN PRI lines. Call-by-Call service is not supported on ISDN BRI lines.

Services Supported. ADIX Software Version 6.00 supports four NSF services:

- 1. In-WATS
- 2. Out-WATS
- 3. FX (Foreign Exchange)
- 4. Tie Line

Throughout the remainder of this document, the four Call-by-Call services supported by ADIX Software Version 6.00 will be referred to as Network Specific Features (NSF). For actual service, a separate contract with the ISDN service provider for each type of NSF is required. In some regions, these services may not be available from the ISDN Service Provider

Protocols Supported. The protocol type for the ISDN PRI line must be properly set in Class 11.73<TRNKLxxx-2> in order for the Call-by-Call feature to function. ADIX will support Call-by-Call Service Selection with the following types of protocols:

- National ISDN
- DMS-100 Custom
- 5ESS Custom (Support for this protocol was added in Software Version 6.00)

Call-by-Call Programming Overview

The drawing below illustrates how to program an ISDN PRI Line to support multiple features.

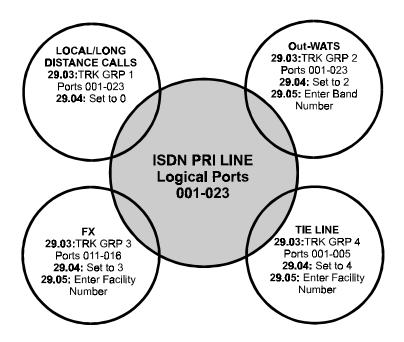


FIGURE 3.1-6 ISDN PRI LINE MULTIPLE FEATURES PROGRAMMING

Networking Using Enhanced Networking and Call-by-Call Features

The drawing below illustrates how to network to multiple ADIX systems using one ISDN PRI line at each system.

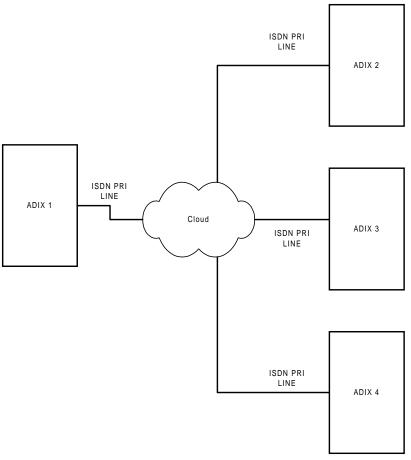


FIGURE 3.1-7 MULTIPLE ADIX SYSTEMS NETWORKED BY ISDN PRI LINES

ADIX 1 Programming

- 1. Program 3 trunk groups in Class 29.03. Assign logical ports 1-10 of the ISDN PRI span to each trunk group.
- **2.** In Class 29.04, set the Callby-Call attribute of each ISDN trunk group to 4, Tie Line.
- 3. In Class 29.05, enter the Service Parameters provided by the CO for each ISDN trunk group. (Note: A unique service parameteres is required for each ISDN trunk group. The service parameter determines which system the call is routed to/from.)
- 4. Set up the network parameters in Class 28.

At ADIX 1, channels 1-10 are used for networking. Channels 11-23 may be used for other call-by-call features, for local/long distance calling, or not used (fractional ISDN PRI).

NOTE: Similar Programming is required at each ADIX system in the network.

Calling/Called Party Number Coding Option

A programmable option *Class 11.70*<*TRKxxx-6*> is available to code the setup messages for Calling Party Number and Called Party Number Information Elements. Changes in some areas now require the customer provided equipment (CPE) to send information in setup messages. However, other areas cannot accept the new information. The new programming element accommodates both situations.

Conditions:

- This option is for PRI and BRI.
- 2. The database element is defined in *Class 11.70<TRKxxx-6>* in order to set each trunk differently.
- 3. This option setting is required for **D-channel trunks only**.
- 4. Class 11.70<TRKxxx-6> has two values:
 - 0 = Regular (default)
 - 1 = Optional
- 5. If *Class 11.70<TRKxxx-6>* is set to **Regular**, the ADIX software codes the Type of Number and Numbering Plan area in the Calling Party Number and Called Party Number Information Element in setup messages for outbound calls as **Unknown Numbering Plan**.
- 6. If *Class 11.70*<*TRKxxx-6*> is set to **Optional**, the ADIX software codes the Type of Number and Numbering Plan area in the Calling Party Number Information Element and Called Party Number Information Element in setup messages for outbound calls by the following.

Information Element (IE)	Dial	Coding Value (7-bit area)
	Information	
Called Party Number	10 or 11 digits	National number in ISDN Numbering
(Destination Phone		plan = 21H
Number)	7 digits	Local number in ISDN Numbering plan = 41H
Calling Party Number	10 digits	National number in ISDN Numbering
(CNIS data)		plan = 21H
	7 digits	Local number in ISDN Numbering plan = 41H

- 7. A change in *Class 11.70*<*TRKxxx-6*> does not require a reset in order to take effect, but may require you to exit out of programming.
- 8. If the **Regular** setting does not work with your telephone company, set *Class 11.70*<*TRKxxx-6*> to **Optional**.

Database Programming:

11.70<TRKxxx-6>: ISDN Numbering Option.

Hardware Required:

IX-ICOTP or IX-2ICOTB.

ISDN Calling Number Identification Service (I-CNIS)

ADIX supports the ISDN Calling Number Identification Service (I-CNIS) feature on ISDN PRI lines. This feature is available from many ISDN PRI service providers. The I-CNIS number is sent with an outgoing call over an ISDN PRI line. It identifies from where the call originated.

The I-CNIS number provided with an outgoing call on an ISDN PRI line may be generated in one of three ways:

- Station Based using station speed dial bin 97. The number programmed in Personal Speed Dial Bin 97 is sent as the I-CNIS with the call.* The number programmed in Personal Speed Dial Bin 97 takes precedence over programming in Class 29.09 or the CO-provided directory number.
- Trunk Group Based. I-CNIS is generated at the ISDN trunk group level based on programming in Class 29.09. Each trunk group may be assigned a unique I-CNIS number. The number programmed in Class 29.09 is sent as the I-CNIS with the call.* Class 29.09 is ignored if Speed Dial Bin 97 is programmed at the station placing the call after accessing the specific ISDN PRI Trunk Group.
- Central Office Provided. I-CNIS is generated by the central office using the Directory Number assigned when I-CNIS service is ordered. This number is ignored if either Personal Speed Dial Bin 97 or Class 29.09 are programmed.

In addition, the I-CNIS feature may be disabled on a call-by-call basis at the station level by either pressing a [CNIS OFF] key (Class 14.01/15.01, key code 173) or by dialing the feature access code programmed in Class 07.06 < NUM52>.

*Note: In most areas, the I-CNIS telephone number sent by the ADIX must be a valid telephone number billed to the customer location. The central office will screen the telephone number sent and send a default billing number if the I-CNIS generated by ADIX is not a valid number.

Operation:

Using [CNIS OFF] Key:

To disable the I-CNIS feature:

- 1. Press [CNIS OFF]. The [CNIS OFF] key red LED will light.
- 2. Press the [FLTn] key representing an ISDN Trunk Group programmed in Class 29.03 or dial the trunk group access code. If Optimized Routing is utilized, press either the [OPT] key, [FLT63] key, or dial the optimized routing access code.
- 3. Dial the desired telephone number.

To enable the I-CNIS feature:

- 1. With the [CNIS OFF] key red LED lit.
- 2. Press [CNIS OFF]. The [CNIS OFF] key red LED will turn off.

Using Feature Access Code 52:

To disable the I-CNIS feature:

- 1. Lift the receiver.
- 2. Dial the feature access code programmed in Class 07.06 < NUM52>.
- 3. Dial the access code programmed in Class 07.03 for an ISDN Trunk Group programmed in Class 29.03. If Optimized Routing is utilized, press either the [**OPT**] key, [**FLT63**] key, or dial the optimized routing access code.
- 4. Dial desired telephone number.

To enable the I-CNIS feature:

- 1. Lift the receiver.
- 2. Dial the cancel code programmed in Class 07.06 < NUM01>.
- 3. Dial the feature access code programmed in Class 07.06 < NUM52>.

Fractional DS1

In Software Version 6.00, ADIX supports the Fractional DS1 feature on ISDN PRI lines. This feature allows individual B-channels on the span to be programmed as active or inactive. Class 29 Item 08 – B-Channel Table Number, and Class 30.01 – Attached B-Channel is used to program the active B-channels by ISDN Trunk Group (Class 29.03).

A separate agreement with the network is necessary for performing fractional DS1. This service may not be available in some areas.

B-Channel Assignment Application for Outgoing Calls. Classes 29.08 and Class 30.01 are used to program the attached B channels for a specific trunk group. When making an outgoing call from a trunk group programmed in Class 29.03 for which the Fractional DS1 feature is used, the system will select the outgoing trunk based on the following criteria: (1) The attached B-channels for that trunk group as programmed in Classes 29.08 and 30.01. (2) As illustrated in Figure 1 on page 57, the highest channel available on the ISDN PRI line. If a B-channel is not available, the system will return a warning tone.

B-Channel Assignment Application for Incoming Calls. The circuit used for an incoming call depends on the contract with circuit provider. The circuit provider's switch will not route incoming calls on B-channels which are not in the contract. Therefore, the data programmed in Classes 29.08 and 30.01 does not apply for incoming calls.

Support for 5ESS Custom Protocol

In Software Version 6.00, the 5ESS Custom Protocol is now supported. The ISDN Protocol Type is programmed in Class 11.73 (e2=2).

Conditions:

1. Only ISDN PRI lines assigned to ISDN Trunk Groups in Class 29.03 may access the new ISDN PRI Line Feature Enhancements provided with software version 6.00.

- 2. ISDN PRI Line Feature Enhancements should only be accessed using [FLTn] keys representing the ISDN Trunk Groups created in Class 29.03. If a specific channel of an ISDN PRI line is directly accessed by pressing a [COLn] key, that call will not follow the programming in Class 29 unless the selected trunk is programmed to the same trunk group number in both Class 11.38 and Class 29.03.
- 3. ADIX Software Version 6.00 supports four Call-by-Call services: 1.) In-WATS, 2.) Out-WATS, 3.) FX, 4.) Tie Trunk.
- 4. ADIX will support Call-by-Call Service Selection with the following protocol types:
 - National ISDN
 - DMS-100 Custom
 - 5ESS Custom
- 5. If the protocol type for the ISDN PRI line is set to "Others" in Class 11.73<TRNKLxxx-2>, the Call-by-Call feature will not function.
- 6. The I-CNIS number provided with an outgoing call on an ISDN PRI line may be generated in one of three ways. They are listed in order of priority:
 - At the station level using station speed dial bin 97.
 - At the ISDN trunk group level using Class 29.09.
 - Using the Central Office provided Directory Number.
- 7. The I-CNIS feature may be disabled on a call-by-call basis at the station level by either pressing a [CNIS OFF] key (Class 14.01/15.01, key code 173) or by dialing the feature access code programmed in Class 07.06 < NUM52>.
- 8. Class 29 Item 08 B-Channel Table Number, and Class 30.01 Attached B-Channel is used to program the active B-channels by ISDN Trunk Group (Class 29.03).

Database Programming:

01.03; 01.04; Class 29; Class 30

Hardware Required:

IX-ICOTP, IX-CPUP/HW with IX-CPU20 MEM-M or IX-CPU20 MEM-L.

ISDN Trunk Feature Enhancement

The ISDN Trunk Feature Enhancement enables the ADIX to receive Caller Name ID information from an incoming ISDN trunk. The information displays on the LCD of the key telephone.

Note: This feature works with the Calling Name Identification Service (I-CNAM), an ISDN service in some parts of North America.

Conditions:

- 1. The LCD of key telephone displays the Caller Name posted from the network with I-CNAM.
- 2. Both BRI and PRI are subjected to I-CNAM.
- 3. The Protocol Type corresponds only to National ISDN (NI) and 5ESS-Custom.
- 4. For the LCD to display the Caller Name, Caller-ID/ANI Name (1) must be set in 04.71<NUM45> through <NUM64>.
- 5. The Caller Name cannot be posted if you make an incoming call from the ADIX. (This feature is not available in the network service.)

Database Programming:

04.71<NUM45> through <NUM64> (Display Item Number).

Hardware Required:

IX-ICOTP, IX-2ICOTB.

Loud Bell Interface

Outside telephone lines can be directed to ring a loud bell when the ADIX is equipped with the optional IX-MISC/IX-EDCTU or IX-EDVIF and components. Each IX-MISC/IX-EDCTU can support eight loud bells. The IX-EDVIF can support four loud bells.

Conditions:

- 1. Eight loud bell relays per IX-MISC/IX-EDCTU combination.
- 2. Four loud bell relays per IX-EDVIF card.

Database Programming:

01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.37 Miscellaneous Function; 11.35 Loud Ringer Relay Number.

Hardware Required:

IX-MISC/IX-EDCTU or IX-EDVIF.

Master Hunt Groups

A master hunt group is a series of stations organized in a way to allow an incoming call to search for a station to answer the call. If a station is busy or does not answer within a programmable duration (*Class 04.21*), the call will ring at the next station in sequence. The hunting method – either *Terminal Hunting*, incoming calls start hunting from the first telephone in the group, or *Distributed Hunting*, incoming calls start hunting from the telephone following the last called telephone – is programmed in *Class 08.01*. The stations that belong to each master hunt group are programmed in *Class 08.02*. As many as 32 stations can be assigned to each master hunt group. The system supports a total of 60 master hunt groups. A station can belong to more that one master hunt group. You can assign an ID (*Class 08.04*) and an access number (*Class 08.01*) to each master hunt group.

Operation:

To call a hunt group:

Go off hook and dial a *hunt group access number* or press [Hunt Group n]

To transfer a call to a hunt group:

While on a call press [TRAN] + a hunt group access number or [Hunt Group n]

Conditions:

- 1. The hunting time is programmable in *Class 04.21* between 1 and 255 seconds.
- 2. CO lines are assigned to ring at a hunt group in *Class 11.34*.

3. Stations belonging to a hunt group are passed over when the following conditions exist:

- The station is busy.
- While receiving calls with higher priority.
- When either the call forward all calls, DND, absence message, or station forced release feature is active.
- The incoming line is pick up restricted.
- 4. If all the stations in a hunt group are in DND, the call is routed to the attendant if the line is programmed as an attendant intercept line (*Class 11.26*).
- 5. If all the stations in a hunt group are busy and attendant intercept is not programmed for the line, the call rings (or waits to ring) at the first station in order of the hunt group.
- 6. If off-hook signaling is enabled, a call will ring with ICM dial tone if the station is busy.

Database:

04.21 Hunting Time; 07.02 Hunting Group Access Number; 08.01 Hunt Group – Type; 08.02 Hunt Group – Station; 08.03 Hunt Group – ID; 11.26 Attendant Intercept Line; 11.34 DIL to Hunt Groups.

Hardware Required:

Standard.

Music-On-Hold

The ADIX is equipped to play music on hold (MOH) to callers. Either the internal electronically synthesized MOH source, or an external MOH source such as an FM tuner that is connected to the IX-MISC card/IX-EDCTU board or IX-CPU16M card can be used. Depending on the type of hardware installed in the system, the following internal MOH sources are provided:

- The IX-HWCE/IX-HWCL cards provide two internal MOH selections.
- The IX-CPU16M card provides eight internal MOH selections.

Conditions:

- 1. Class 02.03 must be programmed to indicate if the internal MOH source or an external MOH source is used.
- Internal MOH is provided through the highway card (IX-HWCE or IX-HWCL) or IX-CPU16M card.
- 3. The internal MOH tune is selected on the IX-HWCE, IX-HWCL, or IX-CPU16M card
- 4. Each set of one IX-MISC card and one IX-EDCTU board has connectors for two external MOH sources. The IX-CPU16M card has one connector for an external MOH source.
- 5. The external MOH input port must be defined in *Class 04.05*.

Database Programming:

02.03 MOH Source Selection; 04.05 MOH Input Port.

Hardware:

Standard, IX-MISC/IX-EDCTU or IX-CPU16M for an external MOH source.

Networking Through E&M Tie Lines

The networking software available with the ADIX provides for communication between telephone systems over E&M tie lines. Either T1 E&M Tie Lines, or analog E&M Tie Lines (IX-4EMTK) must be used to connect the systems. The following features are available across a network of remote ADIX systems:

- Network Translation Tables. Support for 600 External, 200 Internal, network translations using the network translation tables (Class 28 Item 05).
- Intercom Calling Between Multiple Remote Systems. The calling extension number is displayed with the call using in-band signaling.
- Route DID, ANI/DNIS, and Caller ID calls through the network to a remote ADIX system.
- Provide Caller ID/ANI/DNIS number display over the network using in-band signaling.
- Light Message Waiting lamps on a remote telephone using a Feature Access Code translation (Class 28 Item 04).
- Centralized Voice Mail
- A release loop operation on T1 E&M Tie Lines. (Requires an IX-T1DTI Port Processor Unit Version 3.0 or higher)

Note: This feature is not available on analog E&M tie lines.

Each networking feature is described below in greater detail.

Network Translation Tables for Network Call Routing

The system supports up to 600 external conversions for routing calls across the network and up to 200 internal conversions for rerouting calls within the system. The Feature Access table is used to turn on and off Message Lamps at the local system for centralized voice mail applications.

External Conversions. The 600 External Conversions may be used for the following:

- Use an External Conversion to route incoming calls on outside lines to a networked system. When the call rings in at the local/host system, it may be programmed to ring a specific station, hunt group, voice mailbox, or ACD group at the remote system based on the caller ID information, or the incoming trunk group. (In-band signaling must be selected in Class 28.05 in order to send Caller ID/ANI/DNIS information with the call across the E&M tie line.)
- Use an external conversion to make an intercom call across the network. (When in-band signaling is enabled, the calling station number is sent with the intercom call and displayed on ICM calls.)
- Program up to three route advance steps for each external conversion. The route advanced steps programmed in Class 28 Item 06 Network Route Advance Step are referenced if the original trunk group over which the call was routed in Class 28 Item 05 Network External Translation is busy.

Internal Conversions. The 200 Internal Conversions are used to route internal calls within a single ADIX system. Up to 16 different destinations, based on the Network Class of Service programmed in Class 10.75, e2=04, may be programmed for each of the 200 Index numbers in Class 28.03. For example, dial "0" can be converted to call extension 203 if dialed by one user and to call extension 345 if dialed by another user.

Feature Access Code Conversions. This table may only be used to translate Message Waiting On and Off codes at the main location for centralized voice mail applications.

In-Band Signaling provides Display Information to Networked ADIX Systems

When In-Band signaling is programmed in the External Conversion Table (Class 28 Item 05 – Network External Translation, data field 3), the extension number of the calling station is provided on the remote station display. In addition, the Caller ID Number of an incoming call will be provided on the remote station display when In-Band Signaling is enabled in Class 04.70 < NUM33>.

DID, ANI, DNIS and Caller ID Translation Across the Network

DID, ANI, or DNIS and Caller ID calls may be converted to route across the network by programming external translations for DID, ANI, DNIS and Caller ID calls as follows:

Type of Call	Programming for Network Routing
DID	Class 09.01 and 09.02 to convert the incoming digits to an extension number.
	Class 09.05 to assign a network Class of Service to the call.
Caller ID/ANI	Class 24.01 and 24.02 (d1) to convert the incoming digits to an extension number.
	Class 24.02 (d2) to assign a network Class of Service to the call.
DNIS	Class 25.01 and 25.02 (d1) to convert the incoming digits to an extension number.
	Class 25.02 (d2) to assign a network Class of Service to the call.

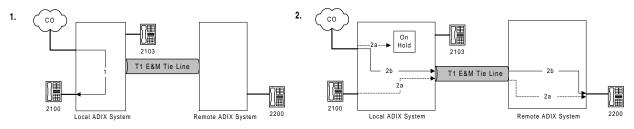
Note: When translating DID, DNIS, Caller ID, or ANI calls across the network via E&M Tie Lines, no internal translation is provided at the remote system. These calls will ring in as intercom calls at the remote ADIX. The ringing station is based on the programming in the Caller ID/ANI, DID, or DNIS translation table at the remote ADIX.

T1 E&M Tie Line Release Loop Operation

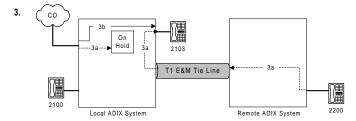
The T1 E&M Tie Line trunk interface on the ADIX provides a release loop operation to send calls back over the same tie line circuit when transferred back to the main system by a station. In order to use this feature, all IX-T1DTI cards in the network must be upgraded to ADIX T1 Port Processor Unit (PPU) Version 3.0 (Part Number 109157).

The following diagrams illustrate a release loop tie operation across two networked ADIX systems. It documents how a call is transferred from the local ADIX system to the remote ADIX system, and how the same call is then transferred back to the local system to any station extension.

Note: ADIX Software Version 6.00 must be installed at both the local and remote systems.



- 1. Incoming call from CO connected to station 2100 at local ADIX system.
- 2a. Call is placed on consultation hold while station 2100 calls station 2200.
- 2b. Call is transferred across the T1 E&M tie line to station 2200 at the remote ADIX system when 2100 hangs up.



- 3a. Call is placed on consultation hold at local system while station 2200 calls station 2103.
- 3b. Call is connected to station 2103 when station 2200 hangs up. The tie connection is dropped and free for other incoming and outgoing activity.

FIGURE 3.1-8 CALL TRANFER ACROSS T1 E&M TIE LINE USING RELEASE LOOP OPERATION

Class 10.75 (e2=4)

Networking Database Structure

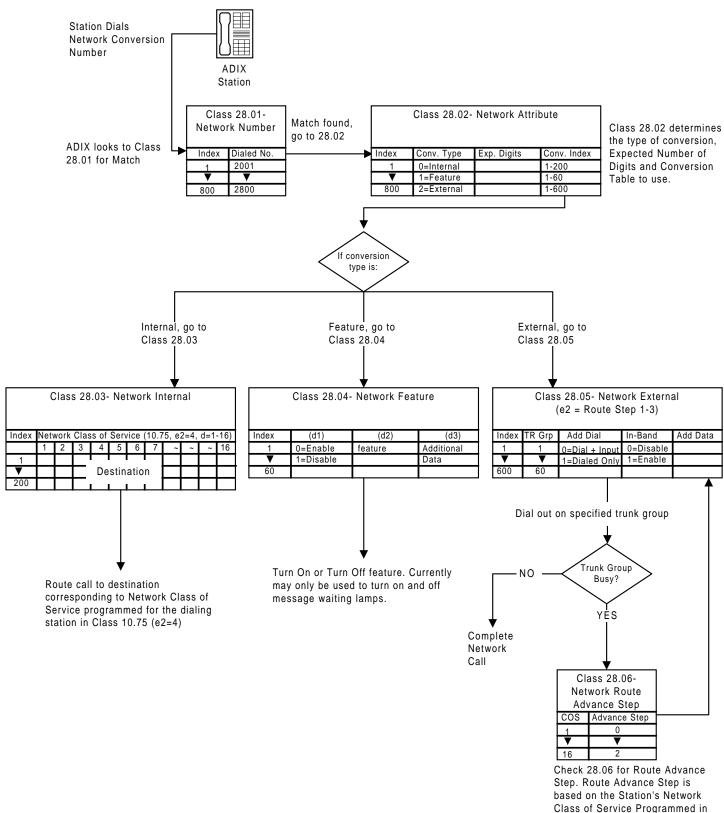


FIGURE 3.1-9 NETWORK DATABASE STRUCTURE

E&M tie lines are programmable for the following modes in *Class 01.03*:

- Attendant Mode
- Immediate Signal Mode
- Delay Signal Mode
- Wink Signal Mode

The following system features are available on E&M tie lines:

- ICM Calls
- Master Hunt Group Calls
- All Call, Paging Calls
- Operator Calls
- Outgoing Calls
- Access to System Speed Dialing

Feature operation through E&M tie lines is the same as SLT feature operation.

Conditions:

- 1. Attendant intercept is not available on E&M tie lines.
- 2. Forwarding is not available on networked systems with analog E&M tie lines.
- 3. T1 E&M Tie Line or Analog E&M Tie Line circuits are utilized for connecting the systems.
- 4. Only T1 E&M Tie Line circuits with PPU Version 3.0 support the Release Loop Operation. Analog E&M Tie Line circuits (IX-4EMTK) will not support the Release Loop Operation at this time.
- 5. A new programming class (Class 28) has been added for the networking enhancements.
- 6. Up to 800 Network Conversion Numbers may be entered in Class 28.01. These conversion numbers may be used for 600 external translations and 200 internal translations.
- 7. Conversion entries may be set to internal, external or feature access code.
 - Internal conversions are set based on a network class of service (Class 10 Item 75 <EXTLnnn-4>). Entries that can be registered include extension numbers, hunting, paging, CO line access, CO group access, optimize routing and ACD group access numbers. When the network service class is 0, the conversion is disabled and a reorder tone is returned if the entry is dialed.
 - External conversions include three possible route advance steps. The ability to advance is based on the entry registered for each network class of service (Class 28.06).
 - Feature Access conversions are currently limited to turning "Message Waiting Lamps" On and Off. This feature is used in the Centralized Voice Mail operation to eliminate the loop-back trunks.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 07.05 PBX Network Access Numbers; 11.20 E&M On-Hook Detect. 04.70<NUM33>; 09.01; 09.02; 09.05; 10.75 <EXTLnnn-4>; 11.32; 24.02; 25.02; 28.01, 28.02, 28.05, 28.06

Hardware Required:

IX-CPUP/HW, IX-T1DTI card with PPU Version 3.0 or IX-4EMTK.

Network Enhancements

In ADIX Software Version 6.20, the Networking feature was enhanced to implement Centralized SMDR, improve Centralized Voice Mail/Auto-Attendant, and to add Network Access from DISA.

Notes:

Networking features on the ADIX are designed around a star network environment. While this does not preclude other types of network configurations, due to the delays encountered by in-band signaling the new networking features cannot be fully supported on any network configuration other than a star environment. If Omega-Voice VMI is used for the Centralized Voice Mail, Iwatsu recommends using the IX-4VML card with Operating System Version 1.05.08 and VMI System Editor Version 2.03.

If you have any questions regarding your network environment please call Iwatsu Technical Support.

Centralized SMDR

SMDR consolidation allows the customer to only need one Call Accounting system. With Centralized SMDR, an outgoing CO call via tie lines provides extension information to the call detail record at the main location. For example, the extension number from a remote site prints in the extension section of the call detail record. All extensions in the network must have unique numbers for this feature to function correctly. Enabling and disabling extension information in this case is programmed in *Class* 11.70<TRKxxx-4>: Enable/Disable Extension Information.

Conditions:

- 1. When a CO call is made through a tie line (analog E&M, T1 E&M) in the main system from a remote station, the call detail record can be output to SMDR.
- 2. To output the call detail record of a CO call via the tie line to SMDR, *Class 11.70<TRKxxx-4>: Enable/Disable Extension Information* must be set to **1** (extension information sent to SMDR).
- 3. When a CO call is made via a tie line with a data setting for SMDR, all calls are subject to SMDR output.
- 4. The conditions applied to the call detail record output depend on the data setting of the main system (i.e., threshold value, account code, toll call, incoming call output.)
- 5. The remote system information is printed in the EXT column of the call detail record. The printing is done according to the following rules:

When a CO outgoing call is made via the tie line with a data setting for SMDR from a remote system, and a caller extension number at the remote system side is added prior to the CO line information, the caller number is printed in the extension section of the call detail record.

When a CO incoming call to the main system is transferred to the remote system via the tie line with a data setting for SMDR, a maximum of four digits from the last digit of a dial string sent to the remote system are output to the extension section of the call detail record.

No other information, including FACS and Accounting Codes, is printed.

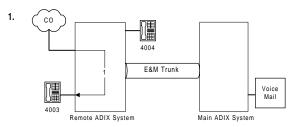
Centralized Voice Mail

Centralized Voice Mail now allows you to specify whether or not the system sends trunk information to Voice Mail for an incoming call on a CO line. CO lines can be specified as "no packet" lines. This is programmed in Class 11.70<TRKxxx-5>: Enable/Disable Trunk Packet.

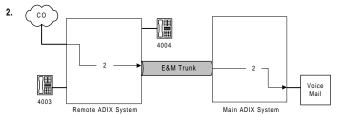
Also, Centralized Voice Mail now allows a remote system configured with Voice Mail OPX ports (*Class 01.03*, *data* = 0-4-3) to perform a release loop operation on the corresponding E&M Trunk when:

- 1. A CO call is directed to a station at the remote system location.
- 2. The destination station at the remote system is set to forward calls to the voice mail system of the main system.
- 3. The call is forwarded via the Voice Mail OPX port across the corresponding E&M Trunk to the voice mail system of the main system and then to the remote station's voice mailbox.
- 4. The caller dials an extension of another station located on the remote system.
- 5. The call is transferred back to the remote system and the E&M Trunk is released.

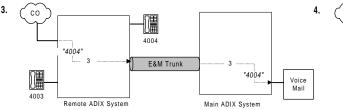
The following diagrams illustrate how the Centralized Voice Mail release loop operation works for an incoming CO call.



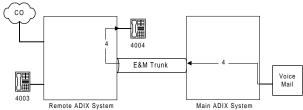
 Incoming call from CO connected to station 4003 at remote ADIX system. Station 4003 is set to forward calls to voice mail on busy/ no answer.



Station 4003 does not answer the call. The call is then transferred across the E&M Trunk to voice mail at the main ADIX system.



3. Outside party on the CO line dials "4004" for connection to station 4004.



4. Call is transfered across the E&M Trunk to station 4004 at the remote station. The E&M Trunk connection is released.

FIGURE 3.1-10 CENTRALIZED VOICE MAIL LOOP OPERATION

Conditions:

1. In *Class 11.70<TRKxxx-5>: Enable/Disable Trunk Packet* CO Lines can be restricted to send a packet to Voice Mail when Voice Mail answers an incoming call to the CO line.

 $\mathbf{0}$ (Default) = send packet

- 1 = no packet
- 2. The types of incoming calls to be specified as no packet lines are general incoming calls and delay calls.
- 3. The system will perform a release loop operation when: (1) A CO call is directed to a station at the remote system location. (2) The extension at the remote station is set to forward calls to the voice mail system of the main system. (3) The call is forwarded via the Voice Mail OPX port across the corresponding E&M Trunk to the voice mail system of the main system and then to the remote station's voice mailbox. (4) The caller dials an extension of another station located on the remote system. (5) The call is transferred back to the remote system and the E&M Trunk is released.
- 4. For a remote system configured with Voice Mail OPX ports (*Class 01.03*, *data* = 0-4-3) to perform a release loop operation on the corresponding E&M Trunk, external conversion must be programmed in *Class 28.05 Network External*, and access to route advance steps must be programmed using *Class 10.75*<*EXTLxxx-04*> *Network Class of Service*, *Class 28.06 Network Route Advance Step*.
- 5. For this feature to function properly, the voice mail system must be capable of pausing after the release loop operation for transferred calls.
- 6. The voice mail system for centralized voice mail must be located at the hub switch in the network.
- 7. The Release Link Ties will properly function on a point-to-point span, but not in a series environment.
- 8. If Omega-Voice VMI is used, Iwatsu recommends using the IX-4VML card with Operating System Version 1.05.08 and VMI System Editor Version 2.03.

Network Access from DISA

The system now supports network access from remote stations using a DISA line.

Conditions:

- 1. Dialing a network access code from DISA allows network access.
- 2. When entering a network access code from DISA, neither an extension number nor a station password is required.
- 3. When a network CO line is seized after a network access code is entered, dial tone re-order (##) cannot be accepted.
- 4. When making network access from DISA, as the network service class, service class of a DISA dummy station is referred.

Database Programming:

04.70<NUM37>: Network Switch Type;10.75<EXTLxxx-4>; 11.70<TRKxxx-4>: Enable/Disable Extension Information; 11.70<TRKxxx-5>: Enable/Disable Trunk Packet; 28.05 Network External; 28.06 Network Route Advance Step.

Night Mode

The system can be placed in night mode either automatically (at a specific time of day according to the programming in *Class 04.31*) or manually using a [Night Change] key assigned to an attendant station.

Conditions:

- 1. Manual operation has priority over automatic operation.
- 2. Regardless of how the system is switched to night mode, it must always be switched back to day mode manually using the [Night Change] key.

Database Programming:

03.01 Time of Day; 11.27 UNA Line; 11.28 UNA Relay Number; 11.32 Ringing Station; 11.34 DIL to Hunt Group.

Hardware Required:

Standard.

Optimized Routing

Optimized Routing is frequently referred to as either Least Cost Routing (LCR) or Automatic Route Selection (ARS). This feature allows the ADIX to automatically select the least expensive way to make an outgoing call. The system identifies the dialed number, then selects the most cost effective way to make the call. If a line is not available in the least expensive outgoing group, the system can be programmed to select an alternate outside line group. The ADIX optimized routing package provides the following features:

- Eight routing plans.
- Eight outside line group choices per routing plan.
- Week day, Saturday, Sunday and holiday selection.
- Three time periods per day.
- Deletion and insertion of digits.
- NANP compatibility (software versions 4.50/5.50, ACD 2.10 and higher only).

For detailed information on optimized routing see Section 6 – Database Programming Guide.

Conditions:

1. System software versions 4.50/5.50 and higher are compatible with the North American Numbering Plan that went into effect on January 7, 1995. Full optimized routing programming functionality is no longer possible with previous software versions.

Database Programming:

Class 17.

Hardware:

Standard.

Paging

Meet-Me Page Answer A station user can answer a page from any phone that is in the same meet-me page answer group (*Class 10.49*).

Internal Paging An ADIX station can make a page announcement that is broadcast to stations that belong to a page group. *Class 07.04* is used to define the ICM dial numbers used to access the internal paging groups. *Class 08.04* is used to assign stations to page groups. Each page group can have a maximum of 64 stations. Internal paging group 30 is reserved for all internal groups paging.

Zone (External) Paging The ADIX can be connected to an external paging system when the optional IX-EDVIF or IX-EDCTU and IX-MISC components are added. An IX-EDCTU or IX-EDVIF has the ability to support four zones of paging. *Class 07.04* is used to define the ICM dial numbers used to access the external paging zones. *Class 08.04* is used to assign speakers to external paging zones. Each paging group can have a maximum of 64 external speakers. A maximum of 16 external paging zones (four IX-MISC cards) can be accommodated. External paging group 60 is reserved for paging all external zones.

The table below lists the page group numbering plan. *All Call* includes the paging stations assigned to page group 30 and the external speakers assigned to page group 60:

Page Group Number	Feature
01-29	Page a specific station group
30	Page all station groups
31-59	Page a specific external zone
60	Page all external zones
63	Page all station groups and external zones (30 + 60)

Operation:

To answer a paging call using meet-me:

At ICM dial tone press [FEAT] + [3][5] or [Meet-Me Pick-Up]

To page an/all internal groups:

At ICM dial tone dial the page group number or press [Group Call Key n] Wait for the tone then make an announcement Hang up to end the operation.

To page an/all external zones:

At ICM dial tone dial the page group number or press [Zone Paging n] Wait for the tone then make an announcement Hang up to end the operation.

To page all internal groups and zone speakers:

At ICM dial tone press and hold the [PAGE] button Wait for the tone then make an announcement Release the [PAGE] button to end the operation.

Conditions:

1. There are no default page group access numbers for software versions higher than 4.0.

Database Programming:

07.04 Paging Group Access Numbers; 08.04 Page Group – Station/Zone; 10.38 Paging Access; 10.49 Meet-Me Answer Group.

Hardware Required:

IX-MISC/IX-EDCTU, IX-EDVIF.

Power Failure Battery Backup

To insure full system operation during a power failure, a pair of rechargeable gel cell backup batteries can be connected to the system power supply using an optional IX-BACBB battery backup cable. The back-up batteries are charged when the system is receiving power from its normal source.

Conditions:

- 1. Backup battery voltage must be between 21.7 VDC and 27.3 VDC.
- 2. The IX-BACBB cable is connected to the system power supply.
- 3. Every shelf of the ADIX-M must be connected to the battery backup.

Database Programming:

None.

Hardware:

IX-BACBB.

Power Failure Memory Backup

In the event of a power failure, the system programming will be protected for a period of two weeks by a rechargeable NiCad battery that is standard with all CPU cards.

Conditions:

1. If a NiCad battery is not connected to the CPU card, the stored contents of the RAM is lost if the card is disconnected from the motherboard.

Database Programming:

None.

Hardware:

Standard.

Power Failure Transfer

An optional device to a battery backup array is the PFXU-M device. The PFXU-M automatically transfers designated CO/PBX lines from the ADIX or ADIX-M to single-line telephones in the event of a power failure. The SLTs can be either working extensions or extensions reserved specifically for power failure operation. Each PFXU-M can accommodate eight CO lines.

Conditions:

- 1. Each PFXU-M unit can accommodate eight CO lines.
- 2. If ground start trunks are used, the SLTs must be equipped with a ground start button and wired to the ground lead on CN1 of the PFXU-M. The ground lead is a switched ground that does not operate during normal system operation.

Database Programming:

None.

Hardware:

SLTs, IX-PFXU-M.

Power On Maintenance

ADIX system circuit cards can be replaced while the system is up and running. It is recommended that you save the system database before attempting power on maintenance. If one or more cards are being added to the ADIX the system configuration (*Class 01*) must be changed and the system must be reset to effect the programming changes.

Note: A circuit card can only be replaced with a card of the same type during power on maintenance.

The following tools are required to perform power on maintenance:

- An anti-static wrist band
- A discharge connector

Relays

Relays can be connected to the ADIX through the IX-MISC and/or IX-EDVIF cards to drive external devices such as an electronic door opener or a monitor camera. Remote relay control is provided at the station set using a [Remote Control] key. The relays connected to the IX-MISC and/or IX-EDVIF cards supply dry contact closures that operate externally mounted slave relays. The slave relays are then used to operate external devices. The devices connected to external relays are equipped at the discretion of the distributor. See **Section 4 – Component Description** for the electrical specifications of the relays.

Three programming items are required to define relays for use with the ADIX: *Class 01.03 – Port Configuration, Class 04.35 – Miscellaneous Function Port*, and *Class 04.37 – Miscellaneous Function*.

Class 04.35 Miscellaneous Function Port This item is used to assign one or more of the 32 relays available in the software to a specific relay of a IX-MISC or IX-EDVIF circuit card. Once the physical relays of the card are associated in this program, the functionality or the type of relay must be defined in *Class 04.37*.

Class 04.37 Miscellaneous Function This item is used to define the function of each relay. The relay function is selected from a list of features.

Class 01.03	Port Definition	Relays are always defined using the fourth miscellaneous logical port of
the IX-MISC	or IX-EDVIF care	d. The table below lists miscellaneous logical port layout.

Class 01.03 Port Definition for the IX-MISC Card								
Physical Port	Definition	Data Port Function						
First Port	2-4-0	Zone Page Speaker 1						
Second Port	2-7-0	BGM Source						
Third Port	2-7-0	MOH Source						
Fourth Port	2-5-0	Control Relays						
Fifth Port	2-6-0	Sensor Input						
Sixth Port	2-4-0	Zone Page Speaker 2						
Seventh Port	2-4-0	Zone Page Speaker 3						
Eight Port	2-4-0	Zone Page Speaker 4						

Conditions:

- 18. The following limits apply to relays connected to the ADIX:
 - The relay contacts provided by the circuit cards are dry steady-state contacts and are not interrupted.
 - The relay closures provided by the IX-MISC card are make contacts only.
 - The relay closures provided by the IX-EDVIF card are make and break contacts.
 - A total of 32 relays can be programmed for use in the ADIX system.
- 19. The relay contacts are provided on screw terminals L1 through L8 +/- on the IX-EDCTU board with a IX-MISC card or L1 through L4, M/S/B on the IX-EDVIF card. The IX-EDVIF card contacts are wired to the yellow/blue through violet/green conductors of the IX-EDVIF amphenol.

Database:

01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.36 Miscellaneous Relay Timer; 04.37 Miscellaneous Function; 14.01/15.01 Key Assignment.

Hardware Required:

IX-MISC/IX-EDCTU, IX-EDVIF.

Release Loop Operation on Analog E&M Tie Lines

The Analog E&M Tie Line Trunk interface on the ADIX provides a release loop operation. The release loop operation enables the ADIX to send calls back over the same tie line circuit when transferred back to the main system by a station.

Conditions:

- 1. An IX-4EMTK E&M Tie Line Card can receive a short-flash signal.
- 2. The existing functions are not affected.
- 3. There is no voice mail support.

Hardware Required:

IX-4EMTK E&M Tie Line Card (Part Number 101420).

Remote Programming and Diagnostics

An IBM XT or AT compatible PC at a remote location can be used to change the customer database using a modem. The line used for remote programming can also be used as a regular outgoing line and manually switched for modem use. The remote programming package includes a diagnostic service for system maintenance and trouble shooting. This also includes an automatic callout feature to a remote location. Callout can be programmed to occur either daily or after a certain number of failures have been recorded. System diagnostics includes the following error analysis:

- Program Check-Sum
- Memory Read/Write
- Software Overrun
- Other Diagnostics

Note: Alarm indications are displayed on the ADIX top cover, attendant consoles and IX-DSSA units.

Operation:

- To access remote programming through DISA:
 - 1. Dial into the system.
 - 2. When the system answers dial ([#][#] to interrupt message) [*][*] + password

To access remote programming manually:

- 1. Dial into the system attendant position.
- 2. The attendant must dial the following sequence:

[FEAT][#][3] + password

Conditions:

- 1. Certain brands of PCs and modems may not be compatible with this operation.
- 2. If remote programming is performed through DISA, the remote programming password must be 12 digits in length.
- 3. If remote programming is accessed manually, the password can be from one to twelve digits in length.
- 4. When calling the diagnostics callout number, if a connection is not established after 10 attempts, the system will wait until the following day to try and connect with the callout number.

Database Programming:

02.04 Remote System ID; 02.05 Remote Programming Password; 02.06 Diagnostics Callout Number; 02.07 Diagnostics Callout Time; 02.08 Diagnostics Callout Level; 02.09 Diagnostics Callout Line Group.

Hardware:

IX-RMPU.

Speed Dial

The speed dial feature allows station users to dial frequently used numbers by dialing a two- or three-digit access code or by pressing a [System Speed n] button. The system will support either 100 or 900 speed dial numbers according to the programming in *Class 02.01*. There are two types of speed dial numbers:

System Speed Dial System speed dial numbers are available to all ADIX station users. They are entered in *Class 05.01* and can be 32 digits in length including one or more pauses. The speed dial ID programmed in *Class 05.02* is displayed when the number is dialed unless *Class 05.03* is programmed to make the display inactive when speed-dialing. Access restrictions can be placed on specific numbers or stations (*Classes 10.24 and 10.25*). Speed dial numbers can be subject to optimized routing and toll restriction at the station level.

Personal Speed Dial Speed dial bin numbers 90 through 99 are reserved for individual station use. Regardless of the programming in *Class 02.01*, the personal speed dial bin number is always two digits. These numbers are entered by the station user using an ADIX KT.

Operation:

To dial a system speed dial number: [SPEED] + 000-899.

Conditions:

- 1. A maximum of 900 speed dial numbers can be programmed.
- 2. If a speed dial number is defined as "invisible" in *Class 05.03* it will not appear on the SMDR report.
- 3. *Class 02.01* sets the amount of speed dial numbers available to the system as either 90 two-digit or 900 three-digit speed dial numbers. Regardless of the programming in *Class 02.01*, personal speed dial numbers are always two digits and are fixed at bins 90 through 99.
- 4. Class 10.24 is used to deny access to the system speed dialing feature on a station-by-station basis.
- 5. Class 10.25 is used to subject system speed dial numbers to toll restriction.

Database Programming:

02.01 System Speed Dial Type; Class 05 System Speed Dial; 10.24 System Speed Access; 10.25 System Speed Toll Restriction; 10.30 Automatic Outgoing CO.

Hardware:

Standard.

Station Message Detail Recording

Station Message Detail Recording (SMDR) allows you to connect an RS232C compatible serial printer to an IX-SCIF, IX-HCIF, or IX-EDVIF card. This printer will record all incoming and outgoing call activity. The following information will be shown:

- Call number 001-999
- Date of the call
- Extension number that made/received the call
- Start time of the call
- Duration of the call
- Outside line number used for the call (outgoing)
- Caller ID/ANI/DNIS for incoming call on Caller ID/ANI/DNIS line
- Number dialed for the call
- Account code number for the call
- Other notes for the call

The table below lists the abbreviations that appear on the SMDR printout to indicate system conditions:

Type of Call	Abbreviation on SMDR Printout
Incoming Local/Toll	(blank)
Call	
DID Call	DID
DISA Call	DIS
Remote Call	TRN
Forwarding	
Outgoing Local Call	#
Outgoing Toll Call	*
Tie Call	TIE
Attendant Calls	Α
Abandoned Call	ABN

Operation:

To enter an account code:

At ICM dial tone press [FEAT] + [2][5] + [Account Code] + account code

Conditions:

- 1. An IX-SCIF, IX-HCIF, or IX-EDVIF card is required for this feature.
- 2. Only the first 24 digits of a dialed number will appear on the printout.
- 3. An identification number is assigned to each call in sequence from 1 to 999. Once call 999 has been recorded the next call will be call 1.
- 4. Information on up to three extensions will print for a transferred call.
- 5. An account code can be a maximum of 12 digits.

Database Programming:

04.25, Element 10; 04.50 SMDR Output Port; 04.51 SMDR-Minimum Call Duration; 04.52 SMDR-Incoming Call Report; 04.53 SMDR-Toll Only Report; 06.07 SMDR Table; 10.18 SMDR Report; 11.29 SMDR Report; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Hardware:

IX-SCIF, IX-HCIF, or IX-EDVIF, Customer-provided serial printer.

ADIX SMDR Data Streams

For information on ADIX SMDR, please refer to Chapter 10

System Alarm and Status Indication

The top cover of the IX-CM common module contains eight LED indicators that show the status of the system software. These indicators are controlled by the CPU. Should there be a malfunction with your system, ADIX will display an alarm indication on the alarm panel and the attendant console. Alarm indication is not provided on the IX-CMM common module for the ADIX-M.

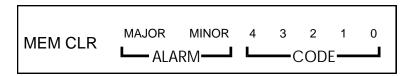


figure 3.1-11 status indicators on the ADIX top cover

The table below lists the function of each LED indicator:

LED Indicator	Function										
MEMORY CLEAR	Indicates the system memory has been reset to the default value.										
MAJOR ALARM	Indicates a major software malfunction. If this LED is on, the system will not operate. Possible causes include an AC power problem, RF interference, a defective ROM or defective cards in the IX-CM or IX-EXPM units.										
MINOR ALARM	Indicates a minor software malfunction. The system may still be operational. The CPU files an error log for a later check. Possible causes included defective hardware or incorrect port definitions.										
CODE 0-4		Indicates the system operating status, i.e., busy, idle, trunk access. It also indicates a defective EPROM position at start up according to the following sequence:									
		CC	DDE L	.ED		Defective EPROM					
	4	3	2	1	0	Number					
	N/A	off off	off off	off on	on off	ROM 1L / UU1 * ROM 1U / UM1 *					
	N/A	off off	off on	on off	on off	ROM 2L / LM1 ROM 2U / LL1					
	N/A	off off	on on	off on	on off	ROM 3L / UU2 ROM 3U / UM2					
	N/A										
	N/A	on on	off off	off on	on off	ROM 5L / UU3 ROM 5U / UM3					
	N/A	on on	off on	on off	on off	ROM 6L / LM3 ROM 6U / LL3					
	N/A	on on	on on	off on	on off	ROM 7L / UU4 ROM 7U / UM4					
	N/A										
	* Tr	ne LED	indicato	ors may	not fun	ction depending on the typ	pe EPROM error.				

Conditions:

- 1. The LED indicators may not function depending on the type of EPROM error.
- 2. Alarm indication is not provided on the IX-CMM.

Database Programming:

None.

Hardware:

Standard.

System Announcements

When the ADIX is equipped with an IX-MSGU, various automatic answering services can be played to callers. These messages are stored in the ROM of the IX-MSGU card. The desired message for each situation can be selected through database programming then played automatically depending on the application. Example applications include:

- UCD announcements "All agents are busy"
- Night mode announcements "Our office is closed for the day"
- Hotel/Motel announcements "This is your wake up call"
- DISA "Please dial your authorization code"

If an IX-CMSG or IX-CMSG-1 daughterboard is mounted on the IX-MSGU, custom system announcement messages can be recorded. The IX-CMSG provides 120 seconds of message recording time. The IX-CMSG-1 card provides 450 seconds of message recording time. Messages can only be recorded at attendant positions equipped with a [Message Record] key.

Operation:

To record a message:

- 1. Wait for dial tone.
- 2. Dial [Message Record] + message number (01-52) + record message + [#]

To replay a custom message:

- 1. Wait for dial tone.
- 2. Dial [Message Record] + [#] + message number (01-52)

To replay all message:

- 1. Wait for dial tone.
- 2. Dial [Message Record] + [#][#]

To replay all fixed messages:

- 1. Wait for dial tone.
- 2. Dial [Message Record] + [#][*]

To delete a custom message:

- 1. Wait for dial tone.
- 2. Dial [Message Record] + [#]+ message number (01-52)

Conditions:

- 1. An [Message Record] key is required to record custom messages.
- 2. If the system is equipped with an IX-CMSG-1 card the IX-MSGU card must have a 1.5 processor.
- 3. If the system is equipped with an IX-CMSG-1 card 450 seconds of recording time is available.
- 4. If the system is equipped with an IX-CMSG card 120 seconds of recording time is available.

Database Programming:

04.25 VSS Recording Time; 04.45 Remote CO Forward Message Number; 08.05 UCD Hunt Group; 11.45 Auto Answer MSG 1; 11.46 Auto Answer Message 2; 11.48 DISA Message Number; 15.01 Attendant Key Assignment.

Hardware:

IX-MSGU, IX-CMSG or IX-CMSG-1 for custom messages.

System Clock

ADIX is equipped with a real time clock that provides an indication of the current time and duration of both incoming and outgoing calls on the LCD display of Iwatsu telephones. The clock also has a 100-year calendar that eliminates the need to change the date for leap year.

Conditions:

1. The system clock may not match the telephone company billing time. System clock time should be used for reference purposes only. Time of day can be adjusted through system programming or by the attendant.

Database Programming:

None.

Hardware:

Standard.

Text Messaging

The text messaging feature (available in software versions 4.71/5.71 and higher) allows station users to send a 16-character text message to another system extension. There are two types of text messages, system text messages and personal text messages. Up to 90 system text messages and 10 personal text messages are available to each user. System text messages are accessible by all ADIX station users. They are entered in Class 02.20 and can be a maximum of 16 digits in length. Personal text messages, also a maximum of sixteen digits in length, are programmed by the individual station user and may only be accessed at the specific station set.

Text messages may be sent as either a *Busy Bypass*, *Manual Signal Text Message*, or *Stored Text Message*. Busy Bypass and Manual Signal text messages appear on the recipient's LCD immediately. Stored text messages do not appear on the display, but instead, light the recipient's [TEXT MSG] key. Stored text messages are saved in memory until the recipient manually displays them. The [TEXT MSG] key (key data 161) is required to send all three types of text messages. The [TEXT MSG] key is also required at a station receiving a stored text message.

Sending Text Messages. During an intercom call to a busy, no answer or DND station, a text message may be selected and sent by either pressing the [TEXT MSG] key (key data 161) plus a two-digit access code, or a [TEXT MSGn] key (key data 162) programmed to access a specific text message.

The station user may choose to change the text message to a Stored Text Message by pressing [#] after selecting a text message.

A Manual Signal text message can be sent by either pressing the [TEXT MSG] key (key data 161) plus a two-digit access code, or a [TEXT MSGn] key (key data 162) programmed to access a specific text message followed by an extension number, DSS key, or Call Coverage key.

Text message alert tone is sent to the recipient along with each text message, while the sender receives confirmation tone. If the recipient is talking through the handset, alert tone is audible through the earpiece. If the recipient is talking through the speakerphone, or the station is inactive, alert tone is sent through the speaker. Text message alert tone is also sent to a recipient station that is in DND mode. However, Class 10.72, Element 03 may be used to disable text message alert tone at a DND station.

Text Message Display. When a text message arrives at a station, the top line of the display contains the text message which can be up to 16 digits in length. The bottom line of the display contains the station user ID (Class 10.04). If no station user ID is programmed, the station number is displayed on the second line. When multiple text messages are sent to a station, each new text message overwrites the existing text message. The preceding message is deleted. A text message will remain on the LCD for the duration programmed in Class 04.71 or until manually deleted by the recipient or the sender. Press [FEAT] + [6][3] or [LCD Mode Change] to change the displayed data. At the sending station, the text message number appears on the first line of the LCD and the message text appears on the second line of the display for 10 seconds or until the station goes on hook.

Stored Text Message Display. Stored text messages cause the [TEXT MSG] key to light but do not appear on the station LCD. Station users are notified of a new stored text message via an alert tone, and when the red lamp on the [TEXT MSG] key lights. A maximum of three stored text messages can be saved in memory. Stored text messages remain in memory until either canceled by the sender or deleted by the recipient. Stored text messages may only be sent to stations that have a [TEXT MSG] key (key data 161).

Responding to a Text Message. A station user may respond to a text message while on a call by sending a text message. Stored text messages may only be displayed and responded to when the station is idle. A station user may respond to a stored text message by calling the sender by pressing [#] with the stored text message displayed.

Text Message Groups. Up to sixteen stations may be joined in a text message group. Using a [MSGGPn] key (key data 170), a station user can send a text message to all the stations in a text message group simultaneously. Text message groups are programmed in Class 08.06. The system supports a maximum of 60 text message groups.

Operation:

Sending and Receiving Text Messages

To select and send a text message to a busy or no answer system extension:

While calling a busy or idle extension

Press [TEXT MSG] + text message number (00-99), or [TEXT MSGn].

To select and send a manual signaling text message to another system extension:

Press [TEXT MSG] + text message number (00-99), or [TEXT MSGn].

Dial an extension number or press a DSS key or Call Coverage key

To respond to a text message while on a call:

While on a call with a text message on your display Press [TEXT MSG] + [*] + text message number (00-99) + [TEXT MSG].

To delete a text message from your display:

While a text message is on your display press [TEXT MSG] + [#] + [*].

Stored Text Messages

To select and send a stored text message to another system extension:

While calling a busy or idle extension

Press [TEXT MSG] + text message number (00-99), or [TEXT MSGn]

Press [#]

To display a stored text message:

Press [TEXT MSG] + [#] to display a stored text message

To responded to a stored text message by calling the originating extension:

Press [TEXT MSG] + [#] to display the stored text message

Press [#] a second time to call the station that sent the text message.

Scrolling and Selecting Text Messages

To scroll through the available system text messages:

Go off hook and press [TEXT MSG] + [*] + text message number (00-89) With a message displayed press [#] to scroll forward and [*] to scroll backward.

To scroll through the available personal text messages:

Go off hook and press [TEXT MSG] + [*] + text message number (90-99)

With a message displayed press [#] to scroll forward and [*] to scroll backward.

Entering System Text Messages (From an Attendant Station Only)

To enter a system text message:

From an attendant defined station,

Press [FEAT] + [TEXT MSG] + text message number (00-89) + text message data + [FEAT] Press the following keys for text message data entry:

Press	1	2	3	4	5	6	7	8	9	0	HOLD	#
1X		Α	D	G	J	М	Р	Т	W	Q	write character	lower case
2X		В	Е	Н	K	N	R	U	Χ	Z	cancel character	upper case
3X	sp	С	F	Ι	L	0	S	٧	Υ	&		
4X	1	2	3	4	5	6	7	8	9	0		

Entering Personal Text Messages

To enter a personal text message:

Press [FEAT] + [TEXT MSG] + text message number (90-99) + text message data + [FEAT] Press the following keys for text message data entry:

Press	1	2	3	4	5	6	7	8	9	0	HOLD	#
1X	-	Α	D	G	J	М	Р	Т	W	Q	write character	lower case
2X		В	Е	Τ	K	Ν	R	כ	Χ	Z	cancel character	upper case
3X	sp	O	F		L	0	S	٧	Υ	&		
4X	1	2	3	4	5	6	7	8	9	0		

Conditions:

- 1. Text messages cannot be sent to stations that are not connected (including IX-8PSUB cards in make-busy state), subject to station call restriction, or in use by a different tenant.
- 2. System text messages, bins 00-89, are programmed in Class 02.20 and may also be changed be changed from attendant stations. Personal text messages, bins 90-99, may be added, deleted or changed at the individual station.
- 3. Text messages may be sent to any system extension equipped with a display telephone.
- 4. Saved text messages may only be sent to stations that have been assigned a [TEXT MSG] key (key data 161).
- 5. The [TEXT MSG] key is required to display saved text messages.
- 6. Text messages may be sent to stations in DND mode.
- 7. At system default, text message alert tone is not audible from the recipient station when that station is DND mode. Use Class 10.72, Element 2=3 to enable text message alert tone at a DND station.
- 8. Text message alert tone is audible at the recipient station from either the earpiece or the handset according to the following conditions:
 - If the station is on a call using the handset alert tone is sent through the earpiece.
 - If the station is on a call using the speakerphone alert tone is sent through the speaker.
 - If the station is idle, alert tone is sent through the speaker.
- 9. Text message confirmation tone is audible at the originating station from either the earpiece or the handset according to the following conditions:

■ If the originating station is calling using the handset confirmation tone is received through the earpiece.

- If the originating station is calling using the speakerphone confirmation tone is received through the speaker.
- 10. Class 04.71, Element 39 determines the length of time in minutes (0-255), that a text message remains on the recipient station LCD.
- 11. The recipient station cannot view or respond to a saved text message while on an intercom or CO call.
- 12. The originating station cannot delete a text message from the recipient station set.
- 13. A reply to a text message may be sent to the sender during an intercom or outside line call by pressing [TEXT MSG] + [*] +message number + [#] while the message is displayed.
- 14. A text message is not forwarded with a call to the forwarding destination. The text message is displayed on the forwarded station.
- 15. The [MSGGPn] key (key data 170) is required to send messages to a text message group. Text message groups are programmed in Class 08.06. The system supports a maximum of 60 text message groups with 16 stations maximum per group.

Database Programming:

02.20 System Text Message; 04.71, Element 39 Text Message Display Duration; 08.06 Text Message Group; 10.72, Element 3 Text Message Confirmation Tone; 14.01/15.01 Key Assignment; 26.01 Station Text Message (Ports 001-224); 27.01 Station Text Message (Ports 225-448).

Hardware Required:

Omega-Phone Display Telephones.

Toll Restriction

The ADIX provides flexible toll restriction of area codes, office codes, and subscriber numbers. Toll restriction is applied in one of 16 levels at the station level in *Class 10.23*. Eight of the toll restriction levels reference toll restriction tables which are programmed in *Class 06*. The table below lists the 16 levels of toll restriction.

Toll Restriction	Description
Level	
0	No restriction of outgoing calls.
1-4, 8-15	Restriction through the Toll Restriction Tables programmed in <i>Class 06.</i> (Note: 8-15 software versions 4.50/5.50 and higher only)
5	Deny any outgoing calls, except for system speed dial calls. Allow all incoming calls and calls on hold.
6	Deny any outgoing calls. Deny access to system speed dial. Allow all incoming calls and calls on hold.
7	Deny all outgoing and incoming calls, deny access to calls on hold. Allow intercom and camp-on calls.

Conditions:

1. A separate toll restriction class can be programmed for day mode and night mode operation.

Database Programming:

Class 06 Toll Restriction; 10.23 Toll Restriction Class; 11.40 Toll Restriction Group No.; 11.41 Predial Group Number.

Hardware:

Standard.

Tone/Pulse Dialing

Using *Class 11.08*, loop start and ground start trunks can be programmed for either dial pulse or DTMF dialing to accommodate the local CO.

For DTMF Dialing: Use Class 11.09 to program the DTMF signal within a range of 100 to 400 milliseconds. Trunks programmed as dial pulse may be switched to DTMF dialing by using the dial reverse feature. Use Class 11.10 to program the address signaling speed of DTMF signals generated after the dial reverse feature is activated. This feature is useful for those customers who are served by a dial pulse Central Office that wishes to use OCC services.

For Dial Pulse Dialing: Use *Class 11.11* to program the dialing speed of an IX-8LGTK card as either 10 PPS or 20 PPS when rotary pulse CO lines are terminated at the ADIX.

Conditions:

1. The DTMF dial signal programming of the first circuit of the trunk card with the lowest physical port number applies to all trunk cards installed in the system.

2. The DP dialing speed programming of the first circuit of a trunk card applies to all circuits of that trunk card.

3. The Canadian Department of Communications prohibits the use of dial pulse trunks with a dial speed of 20pps.

Database Programming:

10.26 DP to DTMF Signal Alternation; 10.27 Automatic Signal Alternating; 11.08 Dial Type; 11.09 DTMF Dial Speed; 11.10 DTMF Dial Speed (Altered); 11.11 Dial Pulse Speed; 11.12 DP Break Ratio.

Hardware:

DTMF/DP trunk cards.

Trunk Interfaces

The following type of outside lines are supported by ADIX:

- Loop Start Trunks
- Ground Start Trunks
- Caller ID Trunks
- OPS Trunks
- DID Trunks
- E&M Tie Trunks
- ANI T1 Trunks
- DNIS T1 Trunks
- T1 Spans

Note: For more information on T1 spans see Section 3, Chapter 6.

Database Programming:

Class 01; Class 11; Class 24; Class 25.

Hardware:

Trunk cards.

Uniform Call Distribution (UCD)

Uniform Call Distribution allows telephone lines to be directed to a group (UCD Hunt Group) of phones according to the programming in Classes 08.05 and 11.23. If all phones are busy, the call will be placed on hold and the caller will hear a recorded message if your system is equipped with an IX-MSGU card. Calls to a UCD group search for an idle extension using either Terminal Hunting where incoming calls start hunting from the first telephone in the group, or Distributed Hunting where incoming calls start hunting from the telephone following the last called telephone according to the programming in Class 04.38. In both cases, calls will hunt to the next telephone if a telephone does not answer in a pre-defined period of time, is busy, or is in either the call forward, absence message or do not disturb mode. Using Class 08.05, $(e^2=2)$ and $(e^2=3)$, two levels of message playback can be programmed A caller on hold will hear UCD message 1 after the timer programmed in Class 04.34 has expired. The second UCD message will be played to a caller on hold after the timer programmed in Class 04.20, (e2=59) has expired. ADIX also allows you to send unanswered calls to an overflow destination or secondary answering position after a pre-defined period of time has elapsed. The overflow destination is programmed in Class 11.72 and can be either a hunt group, an extension, or an attendant position. The ADIX can also be programmed to disconnect a UCD call after a duration programmed in Class 04.20, (e2=60) has expired.

Conditions:

- 1. To operate this feature *Class* 08.05 *UCD Hunt Group* and *Class* 11.34 *DIL to Hunt Group* must be programmed.
- 2. The following types of calls are handled as UCD calls:
 - DID calls that initially ring at a UCD hunt group
 - DISA calls that ring at a UCD hunt group
 - Transferred calls to a UCD hunt group
 - Forwarded calls to a UCD hunt group
- 3. Calls from E&M tie lines and system extensions to a UCD hunt group are not handled as UCD calls.
- 4. Attendant intercept and delayed ringing cannot be programmed on a UCD line.
- 5. An IX-MSGU card must be installed for messages. An IX-CMSG-1 or IX-CMSG must be installed for custom message recording.
- 6. Delayed ringing does not operate on a UCD trunk.
- 7. The UCD feature is dormant when the system is in the night mode.

Database Programming:

04.34 UCD Answer Time; 04.71 Element 02 UCD Back Tone; 04.71 Element 05 UCD Overflow Timer; 07.02 UCD/Hunting Group Access Number; 08.02 Hunt Group Station; 08.05 UCD Hunt Group; 11.23 UCD Line; 11.34 DIL to Hunt Group; 11.72 UCD Overflow Calls.

Hardware:

IX-MSGU, IX-CMSG or IX-CMSG-1 for custom messages.

Universal Night Answer (UNA)

One or more CO lines can be designated as a universal night answer line in *Class 11.27*. When the system is in the night mode any phone with a [<u>UNA Pickup</u>] key can pick up a call on a UNA line. Use *Class 11.28* to associate a loud ringer relay with UNA lines.

Operation:

To answer a call on a UNA line:

With ringing on UNA line press [FEAT] + [3][5] or [UNA Pickup]

Conditions:

- 1. This feature operates automatically when the system is in the night mode.
- 2. There is no limit to the amount of CO lines programmed as UNA lines.

Database Programming:

04.31 Night Mode Start Time; 11.27 UNA Line; 11.28 UNA Relay Number.

Hardware:

Standard.

Voice Mail/Automated Attendant Integration

The ADIX has been designed to provide full integration with third-party voice mail and automated attendant machines. The ADIX will allow you to transfer and forward calls to a mailbox and provide you with a unique voice mail message waiting indication. The software will also allow calls transferred from the automated attendant to be directed to messages other than the initial greeting if the desired party does not answer. For more information on this feature see Section 3, Chapter 5.

Operation:

To retrieve a voice mail message:

When [Message] LED is flashing go off-hook and press [Message] + [#] The system will automatically call the voice mail system

To transfer a call to a voice mailbox:

While on a call press [TRAN] + access code + extension number

Conditions:

- 1. Ports used for the voice mail/auto attendant system must be assigned as AA/VM ports in *Class* 01.03.
- 2. Assign voice mail ports to a hunt group in *Class 08.02* for access to voice mail.
- 3. If incoming calls are routed directly to voice mail, or for automatic attendant applications, *Class* 11.34 must be assigned for DIL to hunt group for the lines.
- 4. Enable *Class 10.44 Protected Station* for the voice mail port.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 07.02 Hunt Group Access Number; Class 08 Group Data; 11.34 DIL to Hunt Group.

Hardware:

SLT station card, third-party VM/AA system.

Wall Mounting the ADIX and ADIX-M

The ADIX and ADIX-M common modules, expansion modules, and power supplies can be mounted to a wall using optional hardware.

Note: A two-tower ADIX system cannot be wall mounted.

Conditions:

1. Wall strength.

Hardware Required:

IX-50CMWM, IX-10CMWM, IX-20CMWM, IX-CMMWM.

Year 2000 Compatibility

For many years, computer systems and information systems have typically represented the year as two digits in a six-digit date field. For example, February 18, 1987 was represented as 02/18/87. While a two-digit year did not present a problem within the time frame of the 20th century, many computer and information systems do not accurately process dates beyond December 31, 1999. For example, many software applications interpret the date represented as 01/01/00 as January 1, 1900. As a result, critical business applications, especially those that perform date-intensive calculations, do not function properly unless hardware and software have been updated to accept dates for 2000 and beyond.

Iwatsu Compatibility

The Iwatsu telecommunications products listed below were tested for compatibility in the year 2000. These tests produced the following results:

- All Iwatsu telephone systems run properly up to, through and after January 1, 2000.
- On January 1, 2000 the clocks on all Iwatsu telephone systems displayed the correct date and time.
- The date and day of the week are correct after the change from December 31, 1999 to January 1, 2000.
- Iwatsu telephone systems recognize February 29th during leap years. This includes February 29, 2000.
- All display telephones show the correct date, month and time as applies for that specific Iwatsu telephone system.

- The system clocks of Iwatsu telephone systems will operate through the year 2079.
- Any Iwatsu telephone system programmed for the year 00 will operate as the year 2000.

Note: At default, the year on most Iwatsu telephone systems is set to 00. However, this is not a representation of the year 2000. To correctly set the date and year, the telephone system must be programmed by entering the current date and year after defaulting (initializing).

The tests performed by Iwatsu America have proven that Iwatsu telephone systems operate up to and beyond the year 2000. However, the challenge for distributors and users is to determine how third-party peripheral machines or software, such as Voice Mail, Call Accounting, and ACD reporting applications, handle the change.

Year Format

All Iwatsu telephone systems utilize a two-digit year format.

What is the impact of a two-digit year format? A two-digit year format does not affect the normal operation of Iwatsu telephone systems. Data output with a two-digit year format from Iwatsu telephone systems may affect calculations made by a collecting device. The only data output from Iwatsu telephone systems that contains a two-digit year format is the Station Message Detail Recording (SMDR) and the ADIX system error log. There are no plans to change the year format of discontinued Iwatsu products. The year format of the ADIX may be changed in the future if deemed necessary.

Station Message Detail Recording

The ADIX Station Message Detail Recording (SMDR) output provides a header with the date and a two-digit year. The SMDR is output through a RS232 port in an ANSI II format. This data is output directly to a serial printer or to an external statistical reporting system.

If the data is sent to a printer, the data continues to print after the year 2000 and the header of each page shows the year in a two-digit format. If an external Call Accounting system is used with the SMDR output data, consult the manufacturer to determine the compatibility with this format. Many Call Accounting systems and software packages utilize the internal calendar of the collecting device and ignore the telephone system date and year.

SMDR Example

ADIX

```
12345678901234567890123456789012345678901234567890123456789012345678901234567890

DATE: JAN.01/'00

SEQ TRK EXT TIME DUR CALLED NUMBER ACCT NO. NOTE

002 1 203 0:00 0:01 5551212 #

FIGURE 3.1-12 SMDR SAMPLE PRINTOUT
```

Other Use of the Year Data

The system error log of the ADIX displays the date with a two-digit year. The error log data continues to report normally after the year 2000 change. No calculations are made with the error log data.

The year is provided as part of the display on ADIX Attendant Stations. The Attendant Console (IX-ATT) and the Direct Station Select Unit (IX-DSS-A, IX-DSS-A-2) display the current year in a two-digit format. However, the years 2000 - 2009 are displayed in a single-digit format (0 - 9). Iwatsu is investigating the possibility of changing these displays to make them more user friendly.

Testing Methods

The Iwatsu Engineering Department conducted the following tests for year 2000 compatibly:

- (1) The system date was checked at default.
- (2) The system date was checked after a date was entered through programming mode.
- (3) The system date and time were programmed to December 31, 1999, 23:59 and the system was run past the date change. The accuracy of the new date was confirmed.
- (4) The system date and time were programmed to February 28, for leap years at 23:59. The date change to February 29 was confirmed.
- (5) The system date and time were programmed to February 28, for non-leap years at 23:59. The date change to March 1, was confirmed.
- (6) The SMDR output was checked.
- (7) The ADIX system error log output was checked.

The table below lists the test results for the ADIX telephone system.

Telephone System Compatibility Chart

System	Year 2000 Rollover	Display on Jan 1, 2000	Leap Years	SMDR
ADIX ADIX-S, ADIX-M, Full Size ADIX- 200/450	System Runs, Date is Accurate	Key Telephone [1 SAT 0:00 AM] Attendant Stations (IX-ATT, IX-DSS-A) [1 JAN 0 SAT 0:00 AM] - see Note 1	Accurate	Accurate and SMDR Provides a Two – Digit Year Only

Note 1: The ADIX system display on the Attendant stations (IX-ATT, IX-DSS-A, IX-DSS-A-2) currently shows the years 2000 - 2009 as a single digit 0 - 9.

Other Products

Listed below is information on the year 2000 compatibility of other Iwatsu products. If a product is not referenced in this document, please contact Iwatsu America Technical Support at 1-800-955-8581 for more information.

Omega-Voice System (OVS). The Omega-Voice OVS voice mail system is year 2000 compatible. This system continues to operate in the year 2000 and beyond.

ADIX ACD LINK (IX-LINK). The ADIX ACD LINK Reporting Package (LINK) is not Year 2000 compatible. This system requires a software upgrade for Year 2000.

All LINK systems operating with "X" version software (example -1.5dx) may be upgraded. LINK systems operating with non-"X" versions may not be upgraded with software. The host PC of a non-"X" version LINK system must be upgraded. Please contact Iwatsu America Technical Support (1-800-955-8581) to verify the software version running on the LINK system. Non-"X" versions of the LINK system were sold by Iwatsu America from August 1992 through November 1994. Iwatsu will provide notification when a software upgrade is available for LINK.



Absence Message Display

If a digital telephone is equipped with an [Absence Message] key, that station user can program an advisory message that will be sent to callers with display telephones. Four messages are available:

- Return at (time)
- Return on (date)
- Meeting at (time)
- Call (number)

Operation:

To register an absence message:

At ICM dial tone press:

```
[Absence Message] + [1]+ time to display RETURN TIME message

[Absence Message] + [2]+ date to display RETURN DATE message

[Absence Message] + [3]+ time to display MEETING AT message

[Absence Message] + [4]+ telephone number to display CALL message
```

To cancel the absence message:

At ICM dial tone press [Absence Message] + [*]

Conditions:

- 1. The [Absence Message] key is required to activate this feature.
- 2. Absence message can only be seen at telephones equipped with a display.
- 3. A station with an active absence message cannot receive CO or ICM calls.
- 4. Call forwarding does not operate when this feature is activated.

Database Programming:

14.01 Key Assignment.

Hardware Required:

KT with display to view absence message.

Account Code

An account code is used to identify information about the call. Account code length can be up to twelve digits. The programming in *Class 04.54* determines if the account code is included on the SMDR printout. An account code can be entered before the party answers, during a conversation, or after the outside party hangs up.

Operation:

To enter an account code:

Press [FEAT] + [2][5] (or [Account Code]) + account code

Conditions:

1. The account code can be a maximum of 12 digits.

Database Programming:

04.50 SMDR Output Port; 04.51 SMDR Minimum Call Duration; 04.52 SMDR Incoming Call Report; 04.53 SMDR Toll Only Report; 04.54 SMDR Account Only Report; 10.18 SMDR Report; 11.29 SMDR Report.

Hardware Required:

IX-SCIF, printer.

All Attendants Call

The all attendant call feature allows a station user to ring all the attendant positions by dialing a feature access code. The feature access code for all attendants call must be defined in *Class 07.06*, *Element 30*. When this number is dialed from a telephone, up to eight stations defined in *Class 04.55* as true attendant positions will ring.

Conditions:

1. Up to eight true attendant positions can be defined in *Class 04.55*.

Database Programming:

01.03 Port Definition; 04.55 True Attendant Position; 07.06 Element 30.

Hardware Required:

Standard.

Chapter 2 Station Features

Alphanumeric Display

The LCDs on ADIX digital telephones and attendant consoles will provide the following information:

- Absence Messages
- Account Code Input
- Call Duration Timer
- Callback CO/ICM
- Called Party Identification
- Called Party Status BUSY/DND
- Calling Party Identification
- Camp-On
- Forwarding Extension Numbers
- Message Waiting Identification
- Real Time Clock
- Recall CO/ICM
- Reminder
- Ringing Outside Line Identification

Database Programming:

None.

Hardware Required:

ADIX KTs with displays.

Alternate Tone/Pulse Dialing (Dial Reverse)

Stations enabled for alternate tone/pulse dialing in *Class 10.26* can switch between dial pulse and DTMF signaling during a conversation. *Class 11.10* is used to program the *address signaling* speed of DTMF signals generated after the alternate tone/pulse dialing feature is activated. This feature allows you to use enhanced communications devices like voice mail and automated attendant on dial pulse trunks.

Operation:

To toggle between DTMF and dial pulse during a call: Press [FEAT] + [1][3] (or [Dial Reverse])

Conditions:

- 1. The alternate tone/pulse dialing feature is only valid for CO lines which have been programmed as dial pulse in *Class 11.08*.
- 2. Stations must be enabled to use this feature in *Class 10.26*.

Database Programming:

10.26 Dial Pulse to DTMF Signal Alternating; 11.08 Dial Type; 11.10 DTMF Dial (Altered).

Hardware Required:

Dial Pulse Trunks.

Automatic Outside Line Answer/Hold

The automatic outside line answer/hold feature allows a station user to place the current call on hold and answer a second call by pressing a single key. When *Class 10.36* is enabled, a station user can activate this feature during a call by pressing the [HOLD], [Individual Park], or [COL n] button to answer a the following types of calls:

- Transferred Calls
- DIL CO Calls
- ICM Tone Calls
- ICM Voice Calls
- DID Calls
- E&M Calls

Note: A single-line telephone can access this feature by performing a hookswitch flash.

Operation:

To place one call on hold/park and answer a second call simultaneously: While on a call with a second call ringing press [HOLD], [Individual Park], or [COL n].

To return to the first call:

With the first call on hold/park disconnect the second call.

Conditions:

- 1. Class 10.41 must be enabled for busy override.
- 2. Class 10.43 must be enabled for off-hook signaling.

Database Programming:

04.08 Hold Recall Timer; 10.36 Answer Hold; 10.37 Hold Recall; 10.41 Busy Overriding; 10.43 Off-Hook Signaling; 10.46 Hookflash Timing (SLT).

Hardware Required:

Standard.

Chapter 2 Station Features

Automatic Repeat Dialing

If a KT is equipped with a [Auto Repeat Dial] button the station user can press this button to continuously redial an outside party. When the outside party answers, voice path is established through the speaker. In order to have a conversation, you must pick up the receiver. If you are away from your phone when the called party answers, the called party will hear silence and the ADIX will recall later. Class 04.47 is used to define the interval between occurrences of automatic repeat dialing. The programming in Class 04.48 determines the length of time the system remains off-hook during an auto repeat dial call attempt. The programming in Class 04.49 determines the number of automatic repeat dialing attempts the system will make.

Operation:

To perform auto repeat dialing:

While ringing tone is audible through the handset press [Auto Repeat Dial] to initialize. Go off-hook during dialing to cancel.

Conditions:

- 1. The auto repeat dial duration timer programmed in *Class 04.47* has no effect if *Class 11.13 Sender Time Out* is set to **0**.
- 2. If the station that activated auto repeat dialing goes off-hook before the time programmed in *Class* 04.48 has elapsed, the feature is canceled.
- 3. When the number of auto repeat dialing attempts equals the number programmed in *Class 04.49*, this feature is canceled.

Database Programming:

04.47 Auto Repeat Dial – Duration; 04.48 Auto Repeat Dial – Off-Hook; 04.49 Auto Repeat Dial – Repetition; 14.01/15.01 Key Assignment.

Hardware Required:

Standard.

Barge-In

A station enabled for barge-in in *Class 10.40* can join another station's call-in-progress by pressing the [ADD] key or by dialing a station number. A warning tone alerts the internal call parties that a conference has been established.

Operation:

To barge-in:

Dial an extension number and wait for busy tone

Press [ADD] or [DSS n]

Conditions:

- 1. Barge-in is not possible if sender time out has not elapsed.
- 2. Stations programmed as barge-in stations in *Class 10.40* may not interrupt calls by stations programmed as *protected stations* in *Class 10.44*.
- 3. In order to barge in by dialing a station number Class 10.43 Off-Hook Signaling must be disabled.

Database Programming:

10.40 Barge-In Station; 10.43 Off-Hook Signaling (Disable); 10.44 Protected Station.

Hardware Required:

IX-8ECNF or IX-16ECNF.

Built-In Speakerphone

ADIX digital telephones can be equipped with a built-in speakerphone. Use of the speakerphone allows for complete hands-free operation on external calls.

Operation:

To perform hands-free operation: Press [SPKR]

Conditions:

- 1. An IX-SSPU speakerphone is required.
- 2. Simplex voice switching is used. Switching quality depends on the CO line condition and the acoustic conditions of the KT's location. On-site adjustment may be required.

Database Programming:

None.

Hardware Required:

IX-SSPU.

Busy Bypass Calling

Busy Bypass Tone Calling If a station is enabled for off-hook signaling in *Class 10.43*, that station user will receive a call waiting indication tone when they receive a second call while off-hook or with the speaker on. Busy bypass tone calling is not available for recalls, doorphone calls, data modules, or SLT ports programmed as facsimile, voice mail, or automated attendant ports in *Class 01.04*. Busy bypass tone calling must be disabled in order to use the barge-in by dialing a station number or station monitoring features. This feature is available to stations with or without a busy bypass unit (IX-BPAD).

Chapter 2 Station Features

Busy Bypass Voice Calling Stations that are equipped with an IX-BPAD can receive voice announcements when they are off-hook or have the speaker on. The IX-BPAD allows the station user to respond through the microphone without placing the current call on hold. The station must be enabled for off-hook signaling in *Class 10.43* to use this feature.

Operation:

To answer the waiting call:

Press the button indicating the waiting call (first call is disconnected) or

Press [Individual Park] then press the button indicating the waiting call

Conditions:

- 1. An IX-BPAD busy bypass unit is required for busy bypass voice calling.
- 2. The IX-BPAD requires one station port.

Database Programming:

10.43 Off-Hook Signaling.

Hardware Required:

ADIX KT (IX-BPAD for busy bypass voice calling).

Busy Number Callback

A station user can instruct the ADIX to redial a previously dialed outside number that was busy or had no answer at an interval equal to the programming in *Class 04.10*. The callback interval can be changed from the station set. This feature is available from ADIX station sets by either pressing [FEAT] + [2][4] or by pressing a [Timed Trunk Queue] key.

Operation:

To program the KT for busy number callback:

When an outside number is busy or there is no answer:

- 1. While still off hook press [FEAT] + [2][4] or [Timed Trunk Queue]
- 2. Enter the desired callback interval in minutes (1-9)
- 3. Wait for the confirmation tone before hanging up

To cancel busy number callback:

```
At ICM dial tone press [FEAT] + [0][2][4]
or
[\underline{\text{Timed Trunk Queue}}] + [*]
```

Conditions:

- 1. If the station does not specify the callback interval time during feature operation the callback interval is equal to the programming in *Class 04.10*.
- 2. If more than one station is using this feature on the same CO/PBX line, the station with the higher queuing class programmed in *Class 10.19* has priority.
- 3. Busy number callback cannot be used with any other queuing feature.

Database Programming:

04.09 Callback Duration; 04.10 Timed Trunk Queuing; 07.06 Feature Access Number; 10.19 Queuing Class.

Hardware Required:

Standard.

Busy Overriding

According to database programming, a station may alert a station that is busy or in DND mode by either dialing the busy extension number or pressing the [Over Ride] key upon hearing a busy tone. When busy override occurs, the busy station LCD displays the calling party's ID and periodic tone bursts are audible through the speaker. Programming in the following items affects busy overriding at both the system and station levels:

- Class 04.25, Elements 08 and 09 are used to select the type of calls CO calls in progress, ICM calls in progress, or both for which the system allows busy bypass calling.
- *Class 10.43* is used to enable or disable off-hook signaling.
- *Class 10.41* is used to enable or disable busy overriding at a station.
- An [Over Ride] key is assigned in *Classes 14.01 and 15.01*.
- Busy overriding is denied if a station is programmed as protected in *Class 10.44*.

The table below illustrates the relationships between the items used to program busy overriding:

If the system is programmed for:		And the called station is programmed for:	Then, busy bypass tone calling will operate based on the following programming for the calling station:				
04.25 <num08></num08>	04.25 <num09></num09>	10.43 Off-Hook Signaling	10.41 Busy Overriding set to 1–Allowed.	14.01/15.01 [Over Ride] key assigned.			
Denied	Denied	Allowed to receive	No bypass signal - Busy status indication	Busy Bypass signaling will be sent regardless	Busy Bypass signaling will be sent regardless		
Denied	Denied	Denied receiving	No bypass signal - Busy status indication	of other programmed items.	of other programmed items.		
Allowed	Denied	Allowed to receive	Busy bypass signaling on ICM call only				
Allowed	Denied	Denied receiving	No bypass signal - Busy status indication				
Denied	Allowed	Allowed to receive	Busy bypass signaling on CO calls only				
Denied	Allowed	Denied receiving	No bypass signal - Busy status indication				
Allowed	Allowed	Allowed to receive	Busy bypass signaling on ICM and CO calls.				
Allowed	Allowed	Denied receiving	No bypass signal - Busy status indication				

Operation:

To override a station busy signal:

When you dial a busy extension:

- 1. Press [Over Ride]
- 2. Wait for the station user to answer

Conditions:

- 1. See above table.
- 2. Busy override cannot be used to signal stations programmed as protected in Class 10.44.

Database Programming:

04.25 Elements 08 & 09, 10.41 Busy Overriding; 10.43 Off-Hook Signaling; 10.44 Protected Station; 14.01/15.01 Key Assignment.

Hardware Required:

Standard.

Busy Trunk Queuing

When all CO/PBX lines are busy, stations can wait in queue for the next available line by either pressing [FEAT] + [2][3] or by pressing a [Trunk Queuing] key. When a line becomes available the station set will ring. If a number was previously dialed ringing tone is heard when the handset is lifted. If a number was not dialed, CO dial tone is heard.

Off-Hook Trunk Queuing When all CO/PBX lines are busy, stations that are enabled for off-hook trunk queuing in *Class 10.20* can wait for the next available line by remaining off hook. This feature is only used when one or more outside lines belong to a CO group.

Operation:

To program the KT for busy trunk queuing:

When all outside lines are busy:

- 1. While still off hook press [FEAT] + [2][3] or [Trunk Queuing]
- 2. After the confirmation tone enter the number you wish to dial
- 3. Hang up

To cancel busy trunk queuing:

At ICM dial tone press [FEAT] + [0][2][3]

or [Trunk Queuing] + [*]

Conditions:

- 1. The length of time a station can remain in the trunk queue is equal to the programming in *Class* 04.11.
- 2. A station must be enabled in *Class 10.20* to use this feature.
- 3. If multiple stations are waiting in queue for the same CO/PBX line, the station with the higher queuing class programmed in *Class 10.19* has priority.
- 4. Busy trunk queuing cannot be used with any other queuing feature.

Database Programming:

04.09 Callback Duration; 04.11 Off-Hook Trunk Queue Duration; 10.19 Queuing Class; 10.20 Off-Hook Trunk Queue Duration.

Hardware Required:

Standard.

Call Coverage

If a station is assigned a call coverage button in *Class 14.01 or 15.01*, that station will receive an audible and/or visual indication of a call ringing at another extension. The visual indication provided by the call coverage button is immediate. A slow-flashing green LED indicates an intercom call. A fast-flashing green LED indicates an outside line call. A steady-lit red LED indicates the covered station is off hook. A fast-flashing red LED indicates the covered station is in DND mode. There are three types of call coverage buttons each of which affects the audible indication:

- Immediate Call Coverage Button [<u>Immed. n</u>] Audible indication is immediate at the covering station.
- Delayed Call Coverage Button [Delayed n] Audible indication at the covering station is delayed between 1 and 255 seconds according to the programming in *Class 04.71*, *Element 01*.
- No Ring Call Coverage Button [No ring n] When a call rings at the covered station the covering station receives a visual indication only.

Note: The ringing status of a call coverage button can be changed at the station.

When the extension monitored by a call coverage button is not in the ringing state, the button functions as a DSS/BLF button.

Operation:

To answer a call using a call coverage button:

When a call coverage button indicates a call:

- 1. Press the flashing Call Coverage key
- To change the audible indication of call coverage button:

At ICM dial tone press:

- [FEAT] + Call Coverage key + [1] for immediate ringing mode
- [FEAT] + Call Coverage key + [2] for delayed ringing mode
- [FEAT] + *Call Coverage* key + [3] for no ring mode

Conditions:

- 1. When a new call coverage key is assigned, a system reset is required to effect key operation.
- 2. There is not a day mode/night mode setting for call coverage.
- 3. The following types of calls are not subject to call coverage:
 - Transferred calls from a covering station to a covered station
 - ICM voice call
 - Consultation hold recall
 - Paging call
 - Doorphone call
 - Time reminder
 - Wake-up call
 - ICM or CO callback
 - ICM call to an IX-BPAD
 - Data call
 - All attendant call
 - A call to a covered station in DND mode
- 4. A dual-color LED is required to provide visual indication on a Call Coverage button.

Database Programming:

04.71, Element 02; 04.71, Element 01; 10.70 Element 02=1; 11.70 Element 01=1;14.01/15.01 Key Assignment.

Hardware Required:

KT with dual-colored LEDs.

Call Forwarding

A user at a station enabled for call forwarding in *Class 10.16* can choose one of the three forwarding modes listed below from the KT.

All Calls Automatically forward all calls to another extension.

Busy/No Answer Forward all calls when the extension is busy or does not answer.

No Answer Forward calls only when the extension does not answer within a certain time period.

When a call forwarding mode is selected the call will go to the forwarding destination programmed in *Class 10.78*. However, you can change the fixed call forwarding destination from the KT using the *follow me* feature. Using *Class 10.73*, *Element 2* you can program a default forwarding mode.

Operation:

To manually forward an ADIX KT:

1. Press [FEAT] and do one of the following:

To:	Press:
Forward all calls	[Forward] + [#][#][1]
Forward busy/no answer calls only	[Forward] + [#][#][2]
Forward no answer calls only	[Forward] + [#][#][3]
Change the forwarding destination	[Forward] + extension number

2. Wait for the confirmation tone then press [FEAT]

To cancel call forwarding:

- 1. Press [FEAT] + [Forward] + [*]
- 2. Wait for the confirmation tone then press [FEAT]

To activate the most recent call forwarding:

While on hook press [Forward]

Conditions:

- Up to 10 forwarding steps are permitted for busy and busy/no answer modes. Unlimited forwarding steps are permitted for no answer mode. However, a call cannot be forwarded back to the original station.
- 2. The attendant can cancel the forwarding status of any station.
- 3. ICM voice calls are forwarded in the following manner:

Mode		Forwarding an ICM Call
No Anarran	Duor	N
	Idle	N
Rusy/No Answer	Rucy	Y
	Idle	N

- 4. If fixed call forwarding is assigned the station cannot activate the most recent call forwarding destination by pressing [Forward].
- 5. If all call forwarding is activated manually at a station in a hunt group, that station is not part of the hunting sequence.
- 6. Calls on Networked systems with analog E&M tie lines do not forward.

Database Programming:

04.13 Call Forward No Answer; 10.73 Call Forwarding Modes; 10.78 Fixed Call Forwarding Destination.

Hardware Required:

Call Monitoring

If a station is assigned a [Monitor] button in *Class 14.01 or 15.01*, that station may silently monitor another station's CO and ICM conversations. However, stations defined as protected in *Class 10.44* cannot be monitored.

Operation:

- To monitor a conversation on an outside line:
 - 1. Press [COL n] + [Monitor]
- To monitor a busy ADIX extension:
 - 1. Dial the busy extension
 - 2. At ICM busy tone press [Monitor]

Conditions:

- 1. Calls or stations in the following conditions cannot be monitored:
 - Protected stations
 - CO lines on hold
 - Pick up restricted calls
 - Four-party conferences
 - Trunk-to-trunk conferences
 - Outgoing DISA calls
 - Doorphone calls
 - Data module calls
 - Incoming calls on private lines
- 2. A conference circuit is required to monitor.

Database Programming:

10.40 Barge-In Stations; 10.44 Protected Station.

Hardware Required:

IX-8ECNF, IX-16ECNF.

Call Park/Swap, Call Park Pick-Up

The call park feature allows a station user to place a call on hold. Unlike the hold feature, parked calls may be picked up at any station assigned a [Call Park Pick-Up] key. If a parked call is not answered within the time programmed in *Class 04.08* the station is recalled. With one parked call and one active call the station user can use [Individual <u>Park</u>] to alternate between calls.

Operation:

To place a call on park:

While on a call press [Individual Park]. The green LED will flash intermittently

To switch between a call on park and an active call:

While on a call with a call on park: Press [Individual Park]. The green LED will flash intermittently.

To pickup a call parked at your extension:

With a call on park: Press the flashing [Individual Park] key.

To pickup a call parked at another extension:

Press the [Call Park Pick-Up] key then dial the extension number where the call is parked.

Conditions:

- 1. A station must have a [Individual Park] key assigned in Class 14.01 or 15.01 to use this feature.
- 2. The hold recall timer is programmed in *Class 04.08* from 0 to 255 seconds. Stations must be enabled for hold recall in *Class 10.37*.
- 3. Use Class 04.25, Element 06 to enable or restrict system extensions from parking ICM calls.

Database Programming:

04.08 Hold Recall Timer; 04.25, Element 06; 10.37 Hold Recall; 14.01/15.01 Key Assignment.

Hardware Required:

Standard.

Call Pick Up

If a station is assigned a call pick up button, that station can pick up a call ringing at another extension or call pick up group. There are three types of call pick up buttons:

- Direct Call Pick Up Button [Spec. Call Pickup] Station can pick up a call ringing at any system extension.
- External Group Call Pick Up Button [Call Pickup Out] Station can pick up a call ringing at a station in any pick up group.
- Internal Group Call Pick Up Button [Call Pickup In] Station can pick up calls ringing at a station within their pick up group.

Call pick up groups are defined in *Class 10.51*. The programming in *Class 04.25*, *Elements 1-4* determines the types of calls station users can pick up – CO calls, ICM calls, camp-on calls, and recalls.

Operation:

To perform direct call pick up:

Press [FEAT] + [3][3] + extension number or Press [Spec. Call Pickup] + extension number

To perform external group call pick up:

Press [FEAT] + [3][2] + group number 01-60 or Press [Call Pickup Out] + group number 01-60

To perform internal group call pick up:

Press [FEAT] + [3][1] + group number 01-60 or Press [Call Pickup In] + group number 01-60

Conditions:

- 1. A station must be assigned to a group in *Class 10.51* to use internal group pick up.
- 2. Stations assigned to group 0 in *Class 10.51* cannot perform call pick up.
- 3. The system supports a maximum of 60 call pick up groups.
- 4. The following types of calls cannot be picked-up:
 - Calls on answer/pick up restricted lines (*Classes 10.22, 11.43, 11.44*).
 - Calls from ICM stations that are access restricted.
 - Calls from data modules.

Database Programming:

04.25 Calls for Pick Up; 10.22 Incoming CO Access Group; 10.51 Call Pick Up Group; 11.43 Incoming CO Access Class; 11.44 Incoming Group Number; 14.01/15.01 Key Assignment.

Hardware Required:

Standard.

Call Transfer

There are two ways a station user can transfer a call:

- **Screened Transfer** The call is transferred after the transferring station announces the call.
- **Unscreened Transfer** The call is transferred without being announced.

If the called station set is equipped with an LCD, the transferring extension number is displayed. Camped-on calls recall the transferring extension if not answered within the time programmed in *Class 04.12* or if the receiving station is restricted from picking up the call. Calls can be transferred to a specific station or a hunt group.

Operation:

To transfer a call:

- 1. While on a call press [TRAN] + extension number, [DSS n], or [Hunting n]
- 2. Do one of the following:

To perform a:	Do this:
Screened transfer	announce the call then hang up
Unscreened transfer	hang up

Conditions:

- 1. Doorphone calls, group calls, and paging calls cannot be transferred.
- 2. Calls cannot be transferred to a station outside of the transferring station's ICM group.

Database Programming:

04.12 Camp-On Duration; 10.17 Unscreened Transfer (SLT); 10.22 Incoming CO Access Group; 10.50 ICM Group; 11.43 Incoming CO Access Class; 11.44 Access Group Number.

Hardware Required:

Standard.

Camp-On

Camp-on allows a station user to transfer a call to a busy extension. When camp-on occurs the station user hears periodic tone bursts through the speaker. At stations equipped with a LCD, the extension that sent the call will be displayed followed by **CAMP-ON**. If the busy extension does not respond within the camp-on duration programmed in *Class 04.12*, the call will return to the transferring station.

Operation:

```
To camp-on to a busy extension:
```

```
While on a call press [TRAN] + extension number + on hook or [DSS n] + extension number + on hook or [Hunting n] + extension number + on hook
```

Conditions:

- 1. The camp-on duration is programmable between 1 and 255 seconds in *Class 04.12*.
- 2. Doorphone calls, group calls, and paging calls cannot be camped-on.

Database Programming:

04.12 Camp-On Duration.

Hardware Required:

Clear Call

The clear call feature allows a station user to dial a new intercom call without hanging up if the called extension does not answer or if there was a dialing mistake.

Operation:

To clear call:

With ICM busy tone, ringback tone, or DND warning tone dial an extension number

Conditions:

1. This feature must be enabled in *Class 04.23*.

Database Programming:

04.23 Shift/Clear Call.

Hardware Required:

Conference

The ADIX allows a combination of four parties (any combination of station users and external callers) to converse at one time. There are three types of conference calls:

Add-On One outside party plus three inside parties, or four inside parties.

Multiline Maximum of four parties: Two or three outside parties plus one or two system extension.

Trunk-To-Trunk Two outside parties. When a system extension is engaged in a multiline conference, the station can exit the conference creating a trunk-to-trunk conference. Connection on a trunk-to-trunk conference is maintained until the CO provides a disconnect signal to the ADIX. If disconnect signal is not provided by the CO an IX-4TRAN card is required for trunk-to-trunk conferencing.

Operation:

To perform an add-on conference:

- 1. While speaking on an outside or ICM call press [TRAN] + extension number
- 2. When the party answers press [ADD]

To perform a multiline conference:

- 1. While speaking on an outside call press [HOLD] or [Individual Park] to place the call on hold
- 2. Make the second outside line call
- 3. When the second party answers press [ADD]
- 4. Press the line for the call on hold or the flashing [Individual Park] button

To perform a trunk-to-trunk conference:

- 1. While speaking to two outside parties on a multiline conference press [HOLD]
- 2. Go on hook

Conditions:

- 1. Eight conference circuits are provided on the highway card. The addition of an IX-8ECNF (eight conference circuits) or IX-16-ECNF (16 conference circuits) daughterboard increases the number of four-party conference circuits to 16 or 24.
- 2. The IX-4TRAN card provides four circuits for trunk-to-trunk conferences.
- 3. Use Class 11.19 to enable disconnect detection on lines used for conferencing.

Database Programming:

01.04 Configuration; 11.19 Disconnect Signal.

Hardware Required:

IX-8ECNF or IX-16-ECNF, IX-4TRAN.

Conversation Recording

The Conversation Recording feature (available with software versions 4.71/5.71 and higher only) allows an ADIX station user to record a station-to-station, outside line, or conference call to voice mail. This feature is available at any station that has been assigned a Conversation Recording [REC] key. In order for this feature to operate, the voice mail port reserved for recording must be identified in Class 04.70, Element 26. Hunt group 47 is reserved for voice mail hunting. Use Class 08.02 to associate the voice mail recording ports with hunt group 47.

When the [REC] key is pressed during a call, the red LED on the key will begin to flash. When the red LED lights steady, the voice of all parties involved in the call will begin recording to voice mail. (**Note:** The [REC] key will light solid red when the ADIX system has completed the call setup. The actual time recording begins is dependent on the operation of the voice mail system connected to the ADIX.) Recording will continue until either the [REC] key is pressed a second time, or the call is terminated, placed on hold, parked or transferred by the station that initiated the recording. When recording is finished, the recorded call will be saved as a message in the voice mail system.

IMPORTANT NOTICE REGARDING THE CONVERSATION RECORDING FEATURE

In certain states it is illegal to intercept and/or record telephone calls.

In certain states and under certain circumstances it is illegal to intercept for the purposes of listening in and/or recording telephone calls. Because such activity is not illegal in all jurisdictions and may be permitted in training and/or monitoring of personnel, this telephone system can be programmed to permit interception and/or recording with or without warning to those on the line. Before utilizing the system for such purposes, you are advised to consult with an attorney familiar with laws of the jurisdiction in which you utilize such feature.

IWATSU AMERICA, INC., its distributors, and the manufacturers responsible for this feature make no representations with respect to the legality of its use and disclaim any liability for claims and/or damages arising from the use or misuse of this feature.

Note: The Conversation Recording feature does not operate on an optimized call with software version 4.71/5.71 and lower or on an ACD call in a monitoring mode, but it will record an ACD agent call.

Voice Mail Packets for Conversation Recording. Packets 21 and 22 have been added to accommodate the voice recording feature. Packet 21 is the recording start packet. It is used to send the start recording command and the initiating station number to the voice mail port. Packet 22 is sent to the voice mail port to stop recording.

Operation:

- To start voice recording: While on a call press [REC]
- To end voice recording:
 While recording press [REC] a second time or hang up.

Conditions:

- 1. The station must be assigned a [REC] key to use this feature.
- 2. The voice mail ports used for recording must be associated with Hunt Group 47 in Class 08.02.
- 3. When the [REC] key (Class 14 01 or 15.01 Key Data 171) is pressed, the specified voice mail port (any available voice mail port in hunt group 47) is added on to the call in the mode (monitor or conference) selected by data setting (Class 04.70, <NUM 26>) to start recording the call.
- 4. Each voice mail port can accommodate three parties during the recording of a conference call. The voice mail port counts as one party in the conference.

Database Programming:

04.70, <NUM 26>; 04.77, <NUM 21> and <NUM 22>; 08.02 Hunt Group — Station; 14.01/15.01 Key Assignment.

Hardware Required:

A Voice Mail System; IX-8SUBS-2; Conference circuits on IX-CPU16M, IX-HWCL, or IX-HWCE.

Direct Outside Line Appearance

A multipurpose button on an ADIX digital telephone can be programmed as a [COL n] button in *Class 14.01* or *Class 15.01* for direct access to an outside line for incoming and outgoing calls. A station user can also seize a specific outside line by dialing a CO line access number (programmed in *Class 11.02*).

Operation:

To seize an outside line:

Press [COL n]

or

Go off hook and dial a CO line access number

Database Programming:

10.12 Key Assignment; 11.02 CO Line Access Numbering Plan; 14.01/15.01 Key Assignment.

Hardware Required:

Station set with multipurpose buttons.

Direct Station Selection

A multipurpose button on an ADIX digital telephone can be programmed as a [DSS n] button in *Class 14.01* or *Class 15.01* for direct access to a system extension. Direct station selection buttons provide an indication if the extension programmed to that button is busy or idle. If the represented extension is busy the LED is illuminated.

Operation:

To call a system extension:

Press [DSS n]

or

Go off hook and dial a system extension number

Database Programming:

10.02 Station Numbering; 10.12 Key Assignment; 14.01/15.01 Key Assignment.

Hardware Required:

Station set with multipurpose buttons.

Distinctive Ringing

Outside Line Calls An outside line can be assigned a ringing tone in *Class 11.31*. The table below lists the four choices available for incoming ringing at the system extensions:

Tone Number	Tone	Duration			
0	432/480	1 second on, 3 seconds off.			
1	432/624/16	0.8 seconds on, 0.2 seconds off, 0.2 seconds on, 3 seconds off.			
2 432, 480		0.4 seconds on, 0.2 seconds off, 0.4 seconds on, 3 seconds off.			
3	MOH	Continuous			

ICM Calls The ringing tone of an ICM call differs from outside line ringing tone.

Conditions:

1. Tone **0** is the default ringing tone.

Database Programming:

11.31 Ringing Tone.

Hardware Required:

Do Not Disturb (DND)

Pressing the [HOLD/DND] button at an inactive station places the station in do not disturb (DND) mode. A station must be enabled to use this feature in *Class 10.42*. When in DND mode the following calls will not ring at the station:

- Incoming CO
- DID Ringing
- DISA Ringing
- ICM Calls
- Doorphone Calls
- Page/Group Calls

However, the following calls override DND mode:

- Recalls
- Lines programmed as DND override lines in *Class 11.22*
- Busy Overriding Calls (if enabled in *Class 10.41* or station has an [Over Ride] key)
- Operator Calls
- Executive Override Calls

Conditions:

- 1. When DND override ringing is enabled, stations assigned as ringing stations in *Class 11.32* or *Class 11.33* cannot activate DND for incoming calls on the line.
- 2. An incoming call to a DND station on a DID trunk receives busy tone.

Database Programming:

10.41 Busy Overriding; 10.42 Do Not Disturb; 11.22 – Do Not Disturb (DND) Override CO Ringing.

Hardware Required:

Standard.

Executive Override

See Busy Override.

Hardware Required:

Extension Number Display

A user can display the logical port number, extension number, and station user ID of an ADIX KT equipped with a display by pressing [FEAT] + [9][9].

Conditions:

- 1. The station number can be changed in *Class 10.02*.
- 2. The station user ID is programmed in *Class 10.04*.

Database Programming:

10.02 Station Numbering; 10.04 Station User ID.

Hardware Required:

ADIX KT with LCD.

Feature Button Display

A user can display the assignment of each feature button on an ADIX KT equipped with a display by pressing [FEAT] + [#][9] +the feature button.

Database Programming:

None.

Hardware Required:

ADIX KT with LCD.

Feature Access Using ICM Dial Codes

Feature access codes can be assigned to ICM dial codes in *Class 07.06*. This allows SLT and data module station users to access system features without using the [FEAT] key. Access codes are entered on a feature-by-feature basis in the database. There are no default values assigned. The table below lists each feature that may be assigned an access code. Feature access code assignment must be planned carefully to avoid conflicts with other numbering plans.

Feature	Feature Code Number [e1]	Default Value
Cancel	01	
SPD (for SLT and data modules only)	02	
SPD with Group (for SLT and data modules only)	03	
SPD without Group (for SLT and data modules only)	04	
Last No. redial (for SLT and data modules only)	05	
Trunk Queuing (for SLT and data modules only)	06	NO
Busy Number Callback (for SLT and data modules only)	07	DEFAULT
Hold/Hold Pick Up (for SLT and data modules only)	08	ACCESS
Group Call Pick Up In Group	09	NUMBERS
Group Call Pick Up In Group	10	ARE
Directed Call Pick Up	11	PRESET
Station Park Pick Up (for SLT and data modules only)	12	IN THE
Remote Station Park Pick Up	13	SYSTEM
Long CO Flash (for SLT and data modules only)	14	DATABASE
Short CO Flash (for SLT and data modules only)	15	IN
ADD (for SLT and data modules only)	16	ADIX
Not Used	(17)	SOFTWARE
ICM Call Back (for SLT and data modules only)	18	VERSIONS
Message Wait (for SLT and data modules only)	19	HIGHER
Call Forward Destination (for SLT and data modules only)	20	THAN
Call Forward Mode (for SLT and data modules only)	21	3.00
Call Forward Activation (for SLT and data modules only)	22	
DND (for SLT and data modules only)	23	
Meet-Me Answering	24	
Voice Message ([Message Record] key or [FEAT]+[4][5])	25	
Morning Call Registration	26	
Station Password (for SLT and data modules only)	27	
Through Dialing (for SLT and data modules only)	28	
Through Dialing - Disconnect (for SLT and data modules only)	29	
All Attendant Call	30	
Room Status-Occupied and Cleaned	36	
Room Status-Occupied and Cleaning Confirmed	37	
Remote CO Forward Access Code for	38	
Reactivating/Cancellation		
CO Group Incoming Call Answer	39	
UNA Pick Up	46	
Account Code (for SLT and data modules only)	47	
Voice Mail/Auto Attendant Hunt Group 47	48	
Voice Mail/Auto Attendant Hunt Group 48	49	
Voice Mail/Auto Attendant Hunt Group 49	50	
Voice Mail/Auto Attendant Hunt Group 50	51	

Database Programming:

07.06 Feature Access Numbers.

Hardware Required:

Flash

By pressing [FLASH] you can reorder dial tone on an outside line without performing hookswitch flash. Flash can also be used to reorder intercom dial tone to place another intercom call. Two different flash settings are programmable in the system database to allow for the use of Centrex or PBX features:

- Class 11.15 CO Flash Time
- Class 11.16 Centrex Flash Time

Conditions:

1. Recommended flash times should be provided by the CO.

Database Programming:

11.15 CO Flash Time; 11.16 Centrex Flash Time.

Hardware Required:

Standard.

Flexible Key Assignment

The buttons on ADIX digital telephones and attendant consoles are programmable for specific feature operation. Key patterns are defined in *Class 14.01* for system stations and *Class 15.01* for attendant positions. Use *Class 10.12* to assign a key pattern to a station logical port. See *Classes 14 and 15* for listings of available key types.

Conditions:

1. A key pattern must be assigned to each station in *Class 10.12*.

Database Programming:

10.12 Key Assignment; 14.01/15.01 Key Assignment.

Hardware Required:

Floating CO Line Group Access

One or more CO lines can be assigned to a group that is used for remote CO forwarding, incoming calls, outgoing calls, or both incoming and outgoing calls. *Class 11.38* is used to define *outgoing floating CO line* groups. A maximum of 60 outgoing floating CO line groups can be programmed. *Class 11.39* is used to define the *incoming floating CO line* groups. A maximum of 60 incoming floating CO line groups can be programmed. There is no limit to the number of CO lines that can be included in one CO line group. A [FLT n] button provides one-touch access to a floating line group.

Operation:

To access a floating CO line group:

```
Go off-hook and press [FLT n]
or
Go off-hook and press [FLT] + a floating CO line group access number
```

Conditions:

- 1. The floating CO line group access number is assigned in *Class* 07.03.
- 2. This feature can be disabled in *Class 04.25*, *Element 7*.

Database Programming:

04.25 Element 7; 07.03 CO Line Group Access Numbers; 11.38 Outgoing CO Group; 11.39 Incoming CO Group.

Hardware Required:

Forced and Verified Account Codes

When a station is defined as a forced account code station in Class 10.73, Element 2 = 3, that station is required to enter an account code before gaining access to a line defined as a forced account code line in Class 11.70, Element 2 = 03. Account codes are programmable between one and twelve digits long. Four account code entry options are programmable in Class 10.73, Element 2 = 3:

- **FORCED-TOLL** Station user must enter a string of digits equal in length to the programming in *Class 04.71*, *Element 03* when dialing a number included in the toll dial table (*Class 04.78 Elements 01-32*).
- **FORCED-ALL** Station user must enter a string of digits equal in length to the programming in *Class 04.71*, *Element 03* when dialing an outside number.
- **VERIFIED-TOLL** Station user must enter a verified account code that matches a verified account code stored in *Class 05.01* when dialing a number included in the toll dial table (*Class 04.78 Elements 01-32*).
- **VERIFIED-ALL** Station user must enter a verified account code that matches a verified account code stored in *Class 05.01* when dialing an outside number.

Up to 10 numbers can be programmed in an emergency dial table (*Class 04.78, Elements 33-42*) that override all account code programming. This option allows important or emergency numbers to be dialed without account code entry. The verification table, for verified account code entry, shares memory with system speed dial (*Class 05.01*). Use *Class 04.71*, *Element 04* to allocate a block of numbers in *Class 05.01* for use as the verification table. Up to 800 verified account codes can be entered.

Operation:

To make an outside call at a forced/verified account code station:

- 1. Go off-hook and press [FLT n] or [COL n]
- 2. Dial the desired phone number
- 3. Press [*] and wait for the account code entry tone
- 4. Enter an account code
- 5. If variable-length account codes are used press [*]

Conditions:

- 1. The programming in *Class 10.70*, *Element 2* determines if the account code number is displayed on the station LCD.
- 2. The programming in *Class 10.70*, *Element 5* determines if the account code number is included on the SMDR printout.
- 3. If verified account codes are used Class 02.01 must be programmed as 1-900 speed dial numbers.
- 4. If verified account codes are used the programming in *Class 04.71, Element 03* must be greater that zero.
- 5. A forced account code station is not required to enter an account code when dialing a number listed in the emergency dial table (*Class 04.78*, *Elements 33-42*).
- 6. Account code entry is required on trunks programmed as forced account code trunks in *Class 11.70*, Element 2 = 03.
- 7. If a verified account code has fewer digits than the forced account code length programmed in *Class 04.71, Element 03* a separator code (dialing [*]) must follow the account code.

8. If the account code entered is not correct the station user will receive a warning tone.

Database Programming:

02.01 System Speed Dial Type; 04.71 Elements 3 and 4; 04.78 Elements 01-32 and 33-42; 10.70 Element 02=3 and 02=5; 10.73 Element 02=3; Element 11.70 Element 02=3.

Hardware Required:

Group Monitoring

With the release of ADIX Software Version 6.20, key telephones and attendant stations can be set to enable or disable group speaker monitoring. This allows a user not utilizing the group monitoring feature a smooth transition from handset to speaker phone. This feature may be programmed in *Class* 10.70 < EXTLXXX-4 > (1 = DISABLE, 0 = ENABLE).

NOTICE: The default value for this feature on a *new* system is **1** (Group Monitor ENABLE). If you perform an upgrade of an existing system to Software Version 6.20, this feature is set to **0** (Group Monitor DISABLE). In either case, this feature is fully programmable.

Conditions:

- 1. This feature may be programmed in *Class 10.70*<*EXTLxxx-4*> to specify whether the speaker is available when the user presses [SPKR] while off-hook.
- 2. If the data setting *Class 10.70*<*EXTLxxx-4*> is set to **0** (Group Monitoring DISABLE), monitoring from the speaker is not available until the handset is on hook.
- 3. If the data setting *Class 10.70*<*EXTLxxx-4*> is set to **1** (Group Monitoring ENABLE), monitoring from the speaker is available when the handset is off-hook.
- 4. The system default setting for *Class 10.70*<*EXTLxxx-4*> is **1** (Group Monitoring ENABLE).
- 5. When the user presses **[SPKR]** on-hook, monitoring can be done from the speaker regardless of the data setting in 10.70<EXTLxxx-4>.

Database Programming:

10.70<EXTLxxx-4> Group Monitoring.

Group Park

When a station places a call on group park, a station's [Group Park] button representing that group will flash red. A station can pick up the call by pressing [Group Park]. If the call is not picked up within the duration programmed in *Class 04.08* the station that originally placed the call on group park is recalled.

Operation:

- To place a call in group park:
 On a call press [Group Park]. The button will intermittently flash green
- To retrieve a call in group park:

 Go off hook and press the red-flashing [Group Park] button or dial a group park orbit number/dial code

Conditions:

- 1. The hold recall timer (*Class 04.08*) is programmable between 1 and 255 seconds.
- 2. A system limit of 60 group park orbit numbers are programmable in *Classes 04.24 and 07.01*.

Database Programming:

04.08 Hold Recall Timer; 04.15 Attendant DIL Intercept; 04.24 Attendant Call Park Orbit; 07.01 Park Orbit Number.

Hardware Required:

Standard.

Hands-Free Answerback On Intercom

This feature allows a station user to answer an intercom call without lifting the receiver. The microphone can be turned off by pressing the [MIC OFF] key if desired.

Operation:

- To turn on hands-free answerback:

 Press [MIC OFF] or [FEAT] + [6][1] to extinguish the button LED
- **To turn off hands-free answerback:**Press [MIC OFF] or [FEAT] + [0][6][1] to extinguish the button LED

Conditions:

1. An IX-SSPU speakerphone unit is required for hands-free operation.

Database Programming:

None.

Hardware Required:

IX-SSPU speakerphone unit.

Headset Operation

An ADIX digital telephone can be equipped with a customer-provided headset. By pressing the [Headset] button the station user can alternate between the headset and handset for answering calls. When a station is in the headset mode the [Headset] button LED must be on and the handset must be in the on-hook position. A [Release] key is required to disconnect a call at a headset station. A [Connect] button is required to transfer calls to other stations without hanging up the headset.

Operation:

- To answer a call at a headset station:
 While station is ringing press [COL n], [FLT], or [ICM]
- To disconnect a call at a headset station: Press [Release]
- To transfer a call from a headset station:
 On call press [HOLD/DND] + [ICM] + extension number
 After receiving ringback tone press [Connect] + [Release]

Conditions:

- 1. Before purchasing a headset make sure that it is compatible with ADIX digital telephones.
- 2. The telephone must be programmed with [Headset], [Release], and [Connect] keys.
- 3. Prime line access (*Class 10.09*) and off-hook CO answering (*Class 10.35*) must be disabled at a station equipped with a headset.

Database:

10.09 Prime Line Access; 10.12 Key Assignment; 10.35 Off-Hook CO Answering; 14.01/15.01 Key Assignment.

Hardware Required:

Customer-provided headset.

Hold/Hold Recall

A call can be put on hold by pressing the [HOLD/DND] button. Calls that remain on hold for a programmable amount of time (*Class 04.08*) will recall. The ringing tone for recall differs from the ringing tone of an incoming call. Recalls that are not picked up are automatically forwarded to the attendant. There are three modes of hold:

Consultation Hold A call is placed on consultation hold temporarily before a transfer or conference is completed. If the hold recall timer programmed in *Class 04.08* or the camp-on duration timer programmed in *Class 04.12* expires before the transfer extension answers, or if you dialed incorrectly the call will be returned. If recall occurs the station set LCD will display **Camp On RCL** and the name of the person that the call was sent to.

Exclusive Hold A station can place a call on exclusive hold by pressing the [HOLD/DND] button. Calls on exclusive hold cannot be picked-up by another system extension. If the call on exclusive hold is not picked-up within the duration programmed in *Class 04.08*, the call recalls the station and the status of the call is changed to system hold.

System Hold The status of a call that remains on exclusive hold or consultation hold is automatically changed to system hold after the duration programmed in *Class 04.08* expires. Any system extension can pick up a call on hold with system hold status.

Operation:

- To place a call on consultation hold:

 While speaking on an outside call press [TRAN] + extension number, [DSS n], or [Hunting n]
- To place an outside call on exclusive hold:
 While speaking on a call press [HOLD/DND]. The green LED of the outside line button will flash intermittently
- To retrieve a call from exclusive hold:
 While speaking on a call press [HOLD/DND]. The green LED of the outside line button will flash
- To retrieve a call from system hold:

 Press the line button or dial the access number for the line with the call on hold

Conditions:

- 1. The hold recall timer is programmable in *Class 04.08* between 1 and 255 seconds.
- 2. The camp-on duration is programmable in *Class 04.12* between 1 and 255 seconds.
- 3. *Class 04.29* is used to determine how a dial-pulse SLT station places a call on consultation hold by hookswitch flash or extension number dialing.
- 4. Hold recalls and camp-on recalls will change to attendant intercept calls if they are not answered within the time programmed in *Class 04.15*. This timer starts the instant recall begins.
- 5. The programming in *Class 10.37* determines if a station is permitted to receive a hold recall.

Database Programming:

04.08 Hold Recall Timer; 04.12 Camp-On Duration; 04.15 Attendant DIL Intercept; 04.29 DP-SLT Consultation Hold: 10.37 Hold Recall.

Hardware Required:

Hot Line

If a station is programmed for this feature, pressing the [SPKR] button or going off-hook will place a call to a predetermined extension.

Conditions:

- 1. The hot line station can be assigned in *Class 10.09* to call the following numbers:
 - A system extension number
 - A hunt group number
 - Group call paging access number
 - External zone paging access number
- 2. Automatic CO outgoing (*Class 10.30*) and off-hook CO answering (*Class 10.35*) programming have priority over hot line dialing (*Classes 10.08 and 10.09*).

Database:

10.08 Off-Hook ICM; 10.09 Prime Line Access; 10.30 Automatic Outgoing CO; 10.35 Off-Hook CO Answering.

Hardware Required:

Standard.

Last Number Redial

The last number dialed at a station is automatically stored in memory and can be redialed by pressing [SPEED] + [#]. SLTs and data modules access the previous CO line when this feature is activated.

Conditions:

1. A maximum of 48 digits can be stored in memory.

Database:

None.

Hardware Required:

Memo Dial

A station user can save a number in memory while on a call. This feature shares memory with the save number redial feature.

Operation:

To save a number using memo dial:

```
While on a call press [FEAT] + [2][2]+ telephone number + [FEAT] or [Memo Dial] + telephone number + [Memo Dial]
```

To make a call using a memo dial number:

- 1. Go off hook and seize an outside line
- 2. Press [FEAT] [2][2] or [Memo Dial]

Conditions:

- 1. A maximum of 48 digits can be stored in memory.
- 2. Memory is shared with the save number redial feature.

Database:

None.

Hardware Required:

Standard.

Message Waiting

A station user can light the [MESSAGE] LED at another system extension if that station is busy or did not answer a call. Up to three extension numbers and one operator message will be displayed at a station with a LCD. A station user can press the [MESSAGE] button to call the station that left the message. Messages left by another extension are indicated by a solid [MESSAGE] LED. Messages left by a voice mail machine are indicated by a flashing [MESSAGE] LED.

Operation:

To light a message lamp at a busy/no answer station:

While busy tone or ringing is audible press [MESSAGE] + [#]

To respond to a message:

When the message lamp is lit go off hook and press [MESSAGE] + [#] The system will automatically call the extension that left the message

To display messages left at your station:

When the message lamp is lit press [MESSAGE]
The LCD will show the extension number that left the message and the message number. To see another message press [MESSAGE]

Conditions:

1. The [MESSAGE] key must be activated in *Class 10.45* in order to use the message waiting feature and receive voice mail message indications.

2. A message lamp is required on a SLT to use this feature.

Database:

10.45 Message Key.

Hardware Required:

For SLTs with message lamps: IX-DCDCA.

Microphone Cut-Off

A station user can disable the KT microphone by pressing the [MIC OFF] button. When the microphone is off the [MIC OFF] button LED is solid red. Pressing [FEAT] + [6][1] can also be used to activate this feature.

Database:

None.

Hardware Required:

Standard.

Multiple CO Line Access

Trunk access code 61, programmable in *Class 07.03*, allows a station user to seize a CO line by searching all trunk groups for an idle line. This feature supersedes all optimized routing and trunk group programming. Use *Class 04.25*, *Element 07* to enable this feature.

Important: This feature overrides all optimized routing programming. If enabled, all system extensions can access an available trunk line in any CO group at any time.

Operation:

To seize an outgoing line using the multiple CO line access feature: At ICM dial tone dial the *multiple CO line access number*

Conditions:

- 1. The multiple CO line access number must be defined in *Class 07.03*, *Element 61*.
- 2. The system must be enabled to use this feature in *Class 04.25*, *Element 07*.
- 3. By dialing the multiple CO line access code, the system will select an idle CO line from one of the CO groups defined in *Class 11.38*.
- 4. The hunting method either *circular* or *normal* is selected in *Class 04.38*.
- 5. If all lines are busy, busy tone is sent to the station. If the queuing feature is activated, the station is queued in the CO group with the lowest number.
- 6. When a line is seized termination moves from [ICM] to a [COL n] or [FLT] key.

Database:

04.25, Element 07; 04.38 Hunting Method in CO Line Group; 07.03 CO Line Group Access Number; 11.38 Outgoing CO Group.

Hardware Required:

Standard.

Off-Hook Outgoing Call

When a station is enabled for this feature in *Class 10.30*, upon going off hook an outside line is automatically seized and personal speed dial number 99 is dialed.

Operation:

To register a personal speed dial number at a KT:

Press [FEAT] + [SPEED] + speed dial number + telephone number + [FEAT]

Note: Press [HOLD/DND] plus a digit (1-9) to register a pause time in seconds.

Conditions:

1. This feature uses personal speed dial number 99 regardless of the programming in *Class 02.01*.

Database:

10.24 System Speed Dial Access; 10.30 Automatic Outgoing CO; 11.38 Outgoing CO Group.

Hardware Required:

Off-Hook Outside Line Answering

This feature allows a station user to answer an outside call without having to press the button representing the ringing line. The station user can still access other system features using CO/ICM line selection while an incoming call is ringing.

Conditions:

- 1. When a station enabled for this feature goes off hook, calls are handled in the following priority:
 - Off-Hook CO Answering
 - Automatic Outgoing CO
 - Prime Line Access CO
 - ICM Hot Line
 - Prime Line Access ICM
- 2. A station must be defined as a ringing station in *Class 11.32* on a line-by-line basis for this feature to work.
- 3. If a station is programmed as a delayed ringing station in *Class 11.33* this feature does not operate on those lines.

Database:

10.35 Off-Hook CO Answering; 11.32 Ringing Station.

Hardware Required:

Standard.

One Touch Optimized Key

The one touch optimized key may be used to access optimized routing without programming Forced Optimized Routing. An optimized key is programmed as [FLT 00] (Class 14.01/15.01, key data = (d1) 003 (d2) = 00). When a one-touch optimized key is allocated on a station enabled for optimized routing, that user can make an optimized call by simply pressing the Optimized key [FLT 00].

Conditions

- 1. Any ADIX or ZT-*x* KT, SATT, ATT or VT, enabled for optimized routing in Class 10.32 can use this new key.
- 2. A station does not require forced optimized programming in Class 10.33 in order to utilize the [FLT 00] key.
- 3. The quick mode feature will operate with this feature.
- 4. Appearance of outgoing, incoming and hold, for keys relative to a trunk or trunk group is controlled by the following priority:
 - Direct key [COLn] > Group key [FLTn] > Optimized key [FLT00]

Operation

© Optimized calling operation:

ADIX or ZT-*x* KT, SATT, ATT, VT (Idle) [FLT00]

Database Programming:

10.32 Optimized Routing Call; 14.01/15.01 Key Assignment; Class 17.

On-Hook Dialing

By pressing the [SPKR] key, a station user can dial an ADIX extension or outside number without lifting the receiver. The receiver must be picked up to converse if your phone is not equipped with a speakerphone.

Operation:

- To dial while on hook:
 - 1. Press [SPKR] + telephone number
 - 2. Lift the handset at any time to converse

Conditions:

1. This feature is only available from an ADIX KT.

Database:

None.

Hardware Required:

Standard.

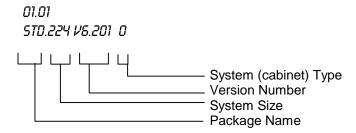
Outside Line Call and Pick Up Restriction

The system can be programmed to restrict any phone from making outside line calls or from picking up calls on specified outside line groups. See Toll Restriction in Chapter 1 for detailed information.

Package/Version Display on Programming Terminal

With the release of Software Version 6.20, there is now a new LCD display when entering *Class 01.01* from a Programming Terminal (PGT). This new display makes it easy to identify the current software version on a system.

Below is an example of the new display.



Conditions:

- 1. This display is shown when entering *Class 01.01* though a PGT.
- 2. Package Name (4 digits)

This field shows a package name that is programmed in a specific backup memory area by the PC Programmer. Any alphanumeric characters can be set in this field. If this memory area is blank, the system software displays **STD** (Standard) in this field.

3. System Size (3 digits)

This field shows the number of ports that are supported by the system. The number is calculated based on the number of highways that are activated.

The following table explains how this field is determined.

Active Highways	System Size
0 - 6	224 ports
0 - 7	256 ports
0 - 8	288 ports
0 - 9, 11, 13	384 ports
0 - 14	480 ports

4. Version Number (6 digits)

This field is the same as before; one digit for major, three digits for minor number.

5. System (cabinet) Type (1 digit)

This field shows the system type (ADIX APS system or other ADIX system). The values described below are a reflection of DIP-SW 3setting on the CPUP/HW (B1) card.

Cabinet Type	Value
ADIX System	0
ADIX-APS	1

Personal Ringing Tones

Station users may now choose one of eight different ringing tones to distinguish their station from others. The selected ringing tone is used for all incoming CO calls, camp-on calls, and (tone) intercom calls. It is also audible during busy override. The ringing pattern of each tone is illustrated in the table below:

Operation:

- To play a ringing tone for your system extension: With your station idle press [FEAT] + [#] + [*] + 1-8
- To select a ringing tone for your system extension: With your station idle press [FEAT] + [#] + [*] + 1-8 + [#]
- To restore default ringing tone at your system extension: With your station idle press [FEAT] + [#] + [*] + [0] + [#]

Note: Default ringing tone is selected in Class 11.31 for outside lines. Default ringing tone intercom calls is tone 1.

Conditions:

- 1. The selected ringing tone is used for all incoming outside line calls, incoming camp-on calls and incoming tone intercom calls and busy override.
- 2. Each ringing tone plays for ten seconds when played at a station during selection ([FEAT] + [#] + [*] + 1-8).

Database Programming:

04.22 ICM Calling Mode; 10.48 Calling Mode.

Hardware Required:

Standard.

Personal Speed Dial Registration

Speed dial numbers 90 through 99 are reserved for individual station use. The numbers can be a maximum of 32 digits in length and can include the insertion of a pause.

Operation:

- To register a personal speed dial number:
 - 1. Press [FEAT] + [SPEED] + speed dial bin number + outgoing digits
 - 2. Press [FEAT] to end the operation or [SPEED] to enter another number

Note: Press [HOLD/DND] plus *a digit* (1-9) to register a pause time in seconds. Press [FLASH] to insert a short flash.

- To register a CO line group for a personal speed dial number:
 - 1. Press [FEAT] + [SPEED] + [#] + speed dial bin number + CO group number + [FEAT]

Personal Text Message Registration

Text messages 90 through 99 are reserved for individual station use. The text message may be a maximum of 16 characters in length.

Operation:

To enter a personal text message:

Press [FEAT] + [TEXT MSG] + text message number (90-99) + text message data + [FEAT] Press the following keys for text message data entry:

Press	1	2	3	4	5	6	7	8	9	0	HOLD	#
1X	•	Α	D	G	J	М	Р	Т	W	Q	write character	lower case
2X		В	Ε	Η	K	Ν	R	\subset	Χ	Ζ	cancel character	upper case
3X	sp	С	F		L	0	S	٧	Υ	&		
4X	1	2	3	4	5	6	7	8	9	0		

Preset Dial

This programming option (*Class 10.29*) allows a station user to dial an intercom or outside phone number and have the number appear on the station LCD before the call is placed. The number is dialed when the station user goes off-hook and selects a line.

Conditions:

1. This feature is only available from an ADIX KT with a LCD.

Database:

10.29 Preset Dial.

Hardware Required:

Standard.

Prime Line to Optimized

This programming option allows you to have immediate access to either your intercom extension, a desired outside line, or optimized routing upon going off-hook. If the Optimized Access Code is programmed in Class 10.09, a station will receive optimize dial tone upon going off-hook.

Conditions:

- 1. The optimized access code is programmed in Class 07.03 < NUM63>
- 2. The Prime Line feature is set in Class 10.09 on a station-by-station basis.
- 3. The station that has the optimized access code set as prime line in Class 10.09 will receive Optimized dial tone upon going off hook.
- 4. A station must be enabled for Optimized Routing in class 10.32 in order to use this feature.
- 5. Forced Optimized (Class 10.33) is not required for this feature.

Database Programming:

07.03 < NUM63 > Optimized Access Code; 10.09 Prime Line Access; 10.32 Optimized Routing Call; Class 17.

Privacy/Privacy Release

By default, all conversations are private. If, however, a station user presses a [Privacy Release] key another party can enter the conversation. The line remains open until [Privacy Release] is pressed again.

Operation:

To toggle between privacy/privacy release on a line:
Press [Privacy Release] or [FEAT] + [1][4]

Database:

None.

Hardware Required:

Standard.

Private Line

A line can be programmed for exclusive use by one system station. A private line is assigned to a multipurpose button.

Conditions:

None.

Database:

10.21 Outgoing CO Line Group; 10.22 Incoming CO Access Group; 11.22 DND CO Override Ringing; 11.32 Ringing Station; 11.39 Incoming CO Access Class; 11.44 Access Group Number; 14.01 Key Assignment.

Hardware Required:

Protected Station

If a station is defined as protected in Class 10.44 override calls to that station are restricted.

Conditions:

- 1. The following types of override calls cannot be made to a protected station:
 - Busy Override Calls
 - DND Override Ringing
 - Barge-In Calls
 - Call Monitoring
 - Off-Hook Signaling

Database:

10.44 Protected Station.

Hardware Required:

Standard.

Quick-Mode Operation

This feature, if enabled in *Class 10.07*, allows a station user to access an outside line or ICM dial tone without going off-hook.

Operation:

To perform quick-mode operation:

Press [COL n], [FLT n], [Speed Dial n], [System Speed n], or [ICM]

Database:

10.07 Quick-Mode Operation.

Hardware Required:

Relay Control from Single Line Telephones and Voice Mail Ports

Single Line Telephones (SLT) and Voice Mail ports may be programmed to control Relay Control Relays (Function 1) or One-Shot Relays (Function 2) type relays located at the IX-MISC or IX-EDVIF card. Feature Access Number 43 (Class 07.06<NUM43>) is used to turn on and turn off the relays. Conformation tone is sent to the controlling station when the operation is complete. If the operation fails, the controlling station will receive warning tone.

Operation:

To turn the relay ON:

At ICM dial tone dial the *Relay Control Feature Access Number (Class 07.06<NUM43>) + Relay Number (01-32).*

To turn the relay OFF:

At ICM dial tone dial the Cancel Feature Access Number (Class 07.06<NUM01>) + Relay Control Feature Access Number (Class 07.06<NUM43>) + Relay Number (01-32).

Conditions:

- 1. Only Relay Control Relays (Function 1) or One-Shot Relays (Function 2) may be controlled by the SLT or voice mail port.
- 2. The SLT or voice mail port must dial Feature Access Number 43 (Class 07.06<NUM43>) to control the relays.
- 3. The SLT or voice mail port will receive a confirmation tone when the on-off operation is complete. If the operation fails, the station will receive a warning tone.
- 4. Up to 32 relays may be controlled by the SLT or voice mail port.

Database Programming:

01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.36 Miscellaneous Relay Timer; 04.37 Miscellaneous Function; 07.06 < NUM43 > Feature Access Numbers.

Hardware Required:

IX-MISC/IX-EDCTU, IX-EDVIF.

Remote Call Forwarding

This feature allows a station user to program their station set to forward an outside line call to a remote location. Four remote call forwarding groups can be programmed per system in *Class 04.43*. Each remote call forwarding group is associated with one outside line group in *Class 04.44*. This programming determines the lines used for remote forwarding. When the system executes remote call forwarding, the message entered in *Class 04.45* is played at the remote end.

Operation:

To register remote CO forward:

At ICM dial tone press [Remote Call FWD n] + destination number + [Remote Call FWD n]

To cancel remote CO forward:

At ICM dial tone press [Remote Call FWD n] + [*]

Conditions:

- 1. Once the remote CO forward duration programmed in *Class 04.46* has elapsed, the call is disconnected.
- 2. If the IX-4TRAN card is installed in the system Class 04.46 must be set to 0.

Database:

04.43 Remote CO Forward Incoming Group; 04.44 Remote CO Forward Outgoing Group; 04.45 Remote CO Forward Message Number; 04.46 Remote CO Forward Duration; 11.38 Outgoing CO Group; 11.39 Incoming CO Group; 14.01 Key Assignment.

Hardware Required:

IX-4TRAN, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Remote Relay Control

Relays used to connect the ADIX to external devices such as an electronic door opener or a monitor camera can be controlled at the station set using a [Relay n] key.

Database:

01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.36 Miscellaneous Relay Timer; 04.37 Miscellaneous Function; 14.01/15.01 Key Assignment.

Hardware Required:

IX-MISC/IX-EDCTU, IX-EDVIF.

Ring Muting

An ADIX station user can press a [Silence] button to turn the ringer, microphone, and speaker off. Ring muting is recommended instead of do not disturb when the call coverage feature is used.

Operation:

To turn the ringer off:

Press [Silence] and the button LED is solid red.

To turn the ringer on:

Press [Silence] and the button LED is extinguished.

Database:

14.01/15.01 Key Assignment.

Hardware Required:

Standard with ADIX digital telephones.

Save Number Redial

A station user can save the number of a busy or no answer outside call in memory. The memory for this feature is shared with the memo dial feature.

Operation:

To save a number using save number redial:

While on a call press [FEAT] + [2][1] + telephone number or
 [Save No. Redial] + telephone number

To make a call using a memo dial number:

- 1. Go off hook and seize an outside line
- 2. Press [FEAT] [2][1] or [Save No. Redial]

Conditions:

- 1. A maximum of 48 digits can be stored in memory.
- 2. Memory is shared with memo dial feature.

Database:

None.

Hardware Required:

Standard.

Shift Call

The shift call feature allows a station user to initiate a new intercom call by dialing the last digit of an ADIX extension without hanging up if the called extension does not answer or if there was a dialing mistake.

Operation:

To shift call:

With ICM busy tone, ringback tone, or DND warning tone dial the last digit of an extension number

Conditions:

1. This feature must be enabled in *Class 04.23*.

Database Programming:

04.23 Shift/Clear Call.

Hardware Required:

Standard.

Single-Line Telephone Feature Access

See "Feature Access Using ICM Dial Codes."

Station Based Recall, Camp-On, Forward Timer

With Software Version 6.2 and above, the Hold Recall Timer, Camp-On Recall Timer and No Answer Call Forward Timer can be set for an individual station. This allows station users to have individual timers instead of using the system-wide timers.

Station Hold Recall Timer

With the Station Hold Recall Timer *Class 10.74*<*EXTxxx-1*>, you can define the length of time a call will remain on hold on a station-by-station basis. This timer is also used for Call Park and Group Park calls. The value entered denotes the length of time a call will remain on hold before the station that placed it on hold is recalled. A call placed on hold will recall the attendant if recall is not answered after the time programmed in *Class 04.15 – Attendant DIL Intercept* has elapsed.

This is a per station setting. If no setting is made, the programming in *Class 04.08* will determine the hold recall time.

Station Camp-On Timer

With the Station Camp-On Timer *Class 10.74*<*EXTxxx-2>*, you can define the length of time the campon condition is maintained on a station-by-station basis. When the time programmed elapses, a recall is made to the originating station. At that time, if the line is enabled in *Class 11.26 – Attendant Intercept Line* for attendant intercept, if the originating station does not answer the recall within the attendant DIL intercept time (programmed in *Class 04.15*), recall will be directed to the attendant station.

This is a per station setting. If no setting is made, the programming in *Class 04.12* will determine the camp-on time.

Station Forward Timer

With the Station No Answer Call Forward Timer *Class 10.75*<*EXTxxx-2*>, you can define the length of time a call will ring at one station without being answered before it is forwarded to another station.

This is a per station setting. If no setting is made, the programming in *Class 04.13* will determine the station forward timer.

Conditions:

1. Hold Recall Timer can be set separately for each individual station in *Class 10.74*<*EXTxxx-1*>. The following settings are available.

0-255 seconds

0 (Default) = use setting in *Class 04.08*

2. Camp-On Recall can be set separately for each individual station in *Class 10.74*<*EXTxxx-2*>. The following settings are available.

0-255 seconds

0 (Default) = use setting in *Class 04.12*

3. No Answer Call Forward Timer can be set separately for each individual station in *Class 10.75*<*EXTxxx-2*>. The following settings are available.

0-255 seconds

0 (Default) = use setting in *Class 04.13*

- 4. If these timer data for the individual station are set as **0**, the system applies the existing data setting (Class 04.08 for Hold Recall, Class 04.12 for Camp-On, Class 04.13 for No Answer Call Forward).
- 5. For camp-on recall, the system timer value (Class 04.12) at the station called is used.
- 6. In the case of a DIL incoming call, the transition time for No Answer Call Forward is decided following the rules below:

When only one station is ringing (incoming CO call), the system uses the timer value for the station.

When two or more stations are ringing, the system uses the timer for the DISA virtual station of the incoming trunk (Class 11.47).

Note: In either of the above examples, if the data for the corresponding station is not set, the applicable *Class 4* setting is applied.

Database Programming:

10.74 <EXTxxx-1> Station Hold Recall Timer; 10.74 <EXTxxx-2> Station Camp-On Recall Timer; 10.75 <EXTxxx-2> Station No Answer Call Forward Timer

Station Restriction Password

A station user can disable or lock their station using a feature access code. This prevents others from making or receiving outside calls at the station until the station is restored. In order to use this feature a password must be entered in *Class 10.05*. The attendant position can restore or lock any station.

Tip: Use this feature to prevent a station from making or receiving outside calls.

Operation:

To disable a station:

```
At ICM dial tone press [FEAT] + [4][4] + password or [Station Lockout] + password
```

To restore a locked station:

```
At ICM dial tone press [FEAT] + [0][4][4] + password or [Station Lockout] + password
```

Conditions:

1. A locked station can still make and receive intercom calls.

Database Programming:

04.27 Station Password Digits; 10.05 Station Password.

Hardware Required:

Time Reminder

The station user can program an ADIX KT to play a series of tone bursts through the station speaker at a certain time of day. **Reminder** appears on the LCD while the tone bursts are audible. Time must be entered using military time.

Operation:

```
To set the time reminder:
```

```
At ICM dial tone press [FEAT] + [4][1] + time in military time or [Reminder] + time in military time

** To cancel:
At ICM dial tone press [FEAT] + [0][4][1]
or
[Reminder] + [*]
```

Database Programming:

None.

Hardware Required:

Standard.

Tone/Voice Calling

A station user can switch the ICM calling mode from voice to tone from the station set. *Class 04.22* is used to grant access to this feature to either the called station or the calling station.

Operation:

- To switch the ICM calling mode from voice to tone (calling station):
 Dial an extension number then press [#]
- To switch the ICM calling mode from voice to tone (called station):

 Dial an extension number then press [FEAT] + [6][5] or [Calling Mode CHG]

Database Programming:

04.22 ICM Calling Mode.

Transfer to Guest Mailbox

Transfer to Guest Mailbox is a Mailbox Access feature. It accommodates the Guest Mailbox feature provided by many voice mail systems. It allows access to mailboxes that are not associated with specific ADIX extensions.

The guest mailbox may be accessed from any system extension. Guest mailboxes are accessible by either dialing the mailbox access code (Class 07.06 < NUM47-50 >) plus the guest mailbox number, or by pressing a [Voice Mailbox Access] key (Class 14.01, key data = (d1) 011 (d2) = 47-50) then dialing the guest mailbox number. The Guest Mailbox Number may be any combination of digits up to a maximum of four digits in length. The maximum length of system mailbox numbers is programmed in Class 04 Item 71 < NUM16 >.

Conditions:

- 1. Guest mailboxes are created in the voice mail system.
- Guest Mailboxes have the same capabilities as system mailboxes, however, they are not associated with a specific station and require no ADIX hardware (i.e., a dedicated ADIX station port with a station terminal).
- 3. A mailbox number may consist of any combination of digits between 0 and 9.
- 4. Mailbox numbers may be up to four digits in length. The length of system mailbox numbers is programmed in Class 04 Item 71 < NUM16>. At default, the mailbox number length is three digits.
- 5. After dialing either the [Voice Mailbox Access] key + {mailbox number}, or {Mailbox Access Code} + {mailbox number}, the ADIX will call the voice mail hunt group after either:
 - The number of digits programmed as the mailbox length in Class 04 Item 71 < NUM16> have been dialed.
 - The [#] key is pressed.
 - The 10-second inter-digit timer has elapsed.
- 6. Iwatsu recommends that you program all mailbox numbers and system extension numbers to be the same length.
- 7. A Guest Mailbox cannot be programmed for Message Waiting lamp appearance on an IX-DSSA-2 unit
- 8. If the voice mail number does not match the system extension number, the system/voice mail will not control the station Message lamp.

Operation:

- To access a Guest Mailbox from a ADIX or ZT-D/S KT, SATT, ATT, VT, or SLT:
 - 1. Press [ICM] + either the [Voice Mailbox Access] key or *mailbox access code*.
 - 2. Enter the mailbox number.
 - 3. Press [Connect] or go on-hook to connect

Database Programming:

Class 04 Item 71 <NUM16>; Class 07.06 <NUM47-50>; Class 14.01/15.01, key data: (d1) = 011 (d2) = 48.

Whisper Page

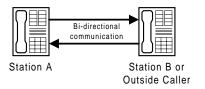
When a busy station is called using the Whisper Page feature, the busy station will hear the voice announcement via the handset receiver. Neither the voice of the station sending the whisper page, nor the busy station's response is audible to the outside party.

The Whisper Page feature allows ADIX station users to communicate with busy extensions without requiring the IX-BPAD Busy Bypass Unit. This feature is available from any ADIX digital key telephone, SLT, ZT-x Telephone, or Attendant station.

Whisper Page State. As illustrated below, Station A is on a call with Station B (either another station or an outside line as illustrated in figure 3.2-1). Station C places an intercom call to station A and receives busy tone. Station C presses the [*] key to initiate the Whisper Page feature. At this point (figure 3.2-1), Station C receives confirmation tone and Station A receives conference tone to indicate their station is in the Whisper Page state.

In the Whisper Page state, Station A may listen to Station C, while continuing bi-directional communication with Station B. Station B cannot hear the voice of Station C. Station A may choose to establish bi-directional communication with Station C by pressing the [*] key while in the whisper page state (figure 3.2-1). At this point, Station A hears audio from Station B, but cannot return audio to Station B. Station A may press the [*] key a second time to restore bi-directional communication with Station B (figure 3.2-1).

1. Station A is on a call with Station B.



2. Station C calls Station A and receives busy signal. Station C presses [*] to initiating the Whisper Page feature.

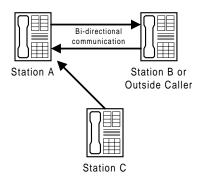
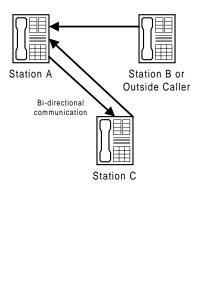


FIGURE 3.2-1 WHISPER PAGE FEATURE

3. In the Whisper Page state, Station A may establish bi-directonal communication with Station C by pressing [*].



Conditions:

- 1. The ADIX will support a maximum of 32 simultaneous Whisper Page operations.
- 2. The following station types may access this feature: ADIX Digital Telephones, IX-ATT, Attendant KTs, Versa-Phones, SLTs (DTMF), ZT-*x* Telephones.
- 3. Stations equipped with a Busy Bypass Unit (IX-BPAD) cannot receive a Whisper Page.
- 4. When a station calls a busy extension, that call is treated as a second call and will follow the class of service programmed for the called station. (For example, if off-hook signaling is enabled at the called station, the station will ring. If off-hook signaling is disabled at the called station, the calling station will hear busy tone.) In order to activate the Whisper Page feature, the calling extension must press the [*] key.
- 5. In the Whisper Page state, two stations are in bi-directional communication, with the third capable of sending only voice to one of the stations. For example, Station A is communicating bi-directionally with station B and can listen to voice from station C.
- 6. There is no display indication sent to a station during a Whisper Page.
- 7. A short alert tone is sent to the interrupted station only after the calling station presses the [*] key to initiate Whisper Page.
- 8. Confirmation tone is sent to the calling station after pressing the [*] key to initiate Whisper Page.
- 9. If a SLT in the Whisper Page state dials [*] to respond, a DTMF tone is also sent to the outside party.
- 10. If a station is programmed as protected in Class 10.44, that station may not receive a Whisper Page.
- 11. The called station in the Whisper Page state may toggle bi-directional communications between the two stations by pressing the [*] key.
- 12. If either station A, B, or C hangs up while in the Whisper Page state, as illustrated in figure 3, the line status changes as listed below:

Disconnecting	Line Condition
Station	
Station A	All lines are disconnected and all stations go to idle.
Station B	Bi-directional communications between stations A and C
Station C	Bi-directional communications between stations A and B

- 13. When the call in a Whisper Page state is placed on hold (system hold, park hold, consultation hold), the Whisper Page state is terminated.
- 14. The Barge-In and Call Monitor features are disabled when a station is in the Whisper Page state.
- 15. The Text Message feature is disabled when a station is in the Whisper Page state.
- 16. An ACD agent may not make a ACD Help call or ACD Emergency Help call while in the Whisper Page state.
- 17. Station in DND mode or with a call on Hold may not receive a Whisper Page.
- 18. The Whisper Page feature should not be used with stations that have Call Forwarding set.

Operation:

Operation for shifting to whisper page:

After busy signal press [*].

☞ Whisper page toggle change:

During whisper page press [*].

Database Programming:

01.03; 01.04; 10.44

Hardware Required:

Standard.

Whisper Page with Text Message

The Whisper Page feature now allows a busy station to communicate with a station user by sending a 16-character text message to the station that sends a Whisper Page. When a busy station is called using the Whisper Page feature, the busy station will hear the voice announcement via the handset receiver. Neither the voice of the station sending the whisper page, nor the busy station's response is audible to the outside party. At that point, the busy station can return a text message to the originating station that sent the Whisper Page, eliminating the need to interrupt the conversation in progress.

There are two types of text messages, system text messages and personal text messages. Up to 90 system text messages and 10 personal text messages are available to each user. System text messages are accessible by all ADIX station users. They are entered in *Class 02.20* and can be a maximum of 16 digits in length. Personal text messages, also a maximum of sixteen digits in length are programmed by the individual station user and may only be accessed at the specific station set.

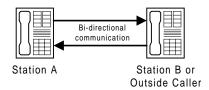
Whisper Page with Text Message Feature Operation

Whisper Page State. As illustrated below, Station A is on a call with Station B (either another station or an outside line as illustrated in figure 5-1). Station C places an intercom call to station A and receives busy tone. Station C presses the [*] key to initiate the Whisper Page feature. At this point (figure 5-2), Station C receives confirmation tone and Station A receives conference tone to indicate their station is in the Whisper Page state.

In the Whisper Page state, Station A may listen to Station C, while continuing bi-directional communication with Station B. Station B cannot hear the voice of Station C. Station A may either choose to establish bi-directional communication with Station C by pressing the [*] key OR to send a text message by pressing the [TXT MSGn] button (key data 162) (or the [TXT MSG] button (key data 161) and the message number 00-99) while in the whisper page state (figure 3.2-2). At this point, Station A hears audio from Station B, but cannot return audio to Station B. Station A may press the [*] key a second time to restore bi-directional communication with Station B (figure 3.2-2)

[*] key a second time to restore bi-directional communication with Station B (figure 3.2-2).

1. Station A is on a call with Station B.



2. Station C calls Station A and receives busy signal. Station C presses [*] to initiating the Whisper Page feature.

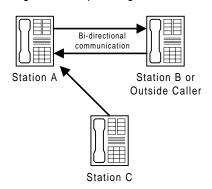
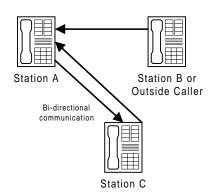


FIGURE 3.2-2 WHISPER PAGE



3. In the Whisper Page state, Station A may either establish bi-directonal communication with Station C by pressing [*] OR send a text message by pressing the [TXT MSGn] button or the [TXT MSG] button plus the message number 00-99.

Sending Text Messages During Whisper Page. When a whisper page is received, a text message may be selected and sent by either pressing the [TEXT MSG] key (key data 161) plus a two-digit access code, or a [TEXT MSGn] key (key data 162) programmed to access a specific text message. The station user may choose to change the text message to a Stored Text Message by pressing [#] after selecting a text message.

A Manual Signal text message can be sent by either pressing the [TEXT MSG] key (key data 161) plus a two-digit access code, or a [TEXT MSGn] key (key data 162) programmed to access a specific text message followed by an extension number, DSS key, or Call Coverage key. Text message alert tone is sent to the recipient along with each text message, while the sender receives confirmation tone. If the recipient is talking through the handset, alert tone is audible through the earpiece. If the recipient is talking through the speakerphone, or the station is inactive, alert tone is sent through the speaker. Text message alert tone is also sent to a recipient station that is in DND mode. However, *Class 10.72*, *Element 03* may be used to disable text message alert tone at a DND station.

Text Message Display. When a text message arrives at a station, the top line of the display contains the text message which can be up to 16 digits in length. The bottom line of the display contains the station user ID (*Class 10.04*). If no station user ID is programmed, the station number is displayed on the second line. When multiple text messages are sent to a station, each new text message overwrites the existing text message. The preceding message is deleted. A text message will remain on the LCD for the duration programmed in *Class 04.71* or until manually deleted by the recipient or the sender. Press [FEAT] + [6][3] or [LCD Mode Change] to change the displayed data. At the sending station, the text message number appears on the first line of the LCD and the message text appears on the second line of the display for 10 seconds or until the station goes on hook.

Stored Text Message Display. Stored text messages cause the [TEXT MSG] key to light but do not appear on the station LCD. Station users are notified of a new stored text message via an alert tone, and when the red lamp on the [TEXT MSG] key lights. A maximum of three stored text messages can be

saved in memory. Stored text messages remain in memory until either canceled by the sender or deleted by the recipient. Stored text messages may only be sent to stations that have a [TEXT MSG] key (key data 161).

Text Message Groups. Up to sixteen stations may be joined in a text message group. Using a [MSGGPn] key (key data 170), a station user can send a text message to all the stations in a text message group simultaneously. Text message groups are programmed in *Class 08.06*. The system supports a maximum of 60 text message groups.

Whisper Page During Consultation Hold

Whisper is now possible during consultation hold. When a station tries to transfer a call to a busy station (and thus the call is temporarily placed on consultation hold) the station can send a whisper page to the busy station. This allows the transferring party to announce a call to a busy station and then campon the call all in one step.

Operation:

20. Operation for shifting to whisper page state

After busy signal press [*]

21. Whisper page toggle change

During whisper page press [*]

22. To select and send a text message to the originating Whisper Page station

After you receive a whisper page, press the Text Message button [**TEXT MSG**] + *text message number* (00 - 99), or the Preprogrammed Text Message button [**TEXT MSGn**]

23. To scroll through the available system text messages

- 1. Go off hook and press the Text Message button [TEXT MSG]
- 2. Press [*]
- 3. Enter a system text message number 00-89
- 4. With a message displayed, press [#] to scroll forward and [*] to scroll backward

24. To select and send a manual signaling text message to the originating Whisper Page station

- 1. After you receive a whisper page, press the Text Message button [**TEXT MSG**] + text message number (00 99), or the Preprogrammed Text Message button [**TEXT MSGn**]
 - 2. Dial an extension number or press a DSS key or Call Coverage key

25. To delete a text message from your display

- 1. While a text message is on your display press the Text Message button [TEXT MSG]
- 2. Press [#]
- 3. Press [*]

26. To send a Whisper Page during consultation hold

- 1. During consultation hold press [*] and announce the call
- 2. If the busy station wishes to take the call, hang up to camp-on the call

Conditions:

- 1. When a station sends a Whisper Page to a busy station, the busy station (KT, SATT, or ATT) can return a text message.
- 2. When a station sends a Whisper Page to a busy station, the busy station can only send a text message to that station.
- 3. When a station sends a Whisper Page to a busy station, and the busy station also receives a text message from another station, if the busy station sends a text message, the text message goes to the Whisper Page station.
- 4. The station that initiates Whisper Page can complete the transfer by hanging up or by using the connecting key.
- 5. The ADIX will support a maximum of 32 simultaneous whisper page operations.
- 6. Stations equipped with a Busy Bypass Unit (IX-BPAD) cannot receive a Whisper Page.
- 7. When a station calls a busy extension, that call is treated as a second call and will follow the class of service programmed for the called station. (For example, if off-hook signaling is enabled at the called station, the station will ring. If off-hook signaling is disabled at the called station, the calling station will hear busy tone.) In order to activate the Whisper Page feature, the calling extension must press the [*] key.
- 8. In the whisper page state, two stations are in bi-directional communication with the third capable of sending only voice to one of the stations. For example, Station A is communicating bi-directionally with station B and can listen to voice from station C.
- 9. There is no display indication sent to a station during a Whisper Page.
- 10. A short alert tone is sent to the interrupted station only after the calling station presses the [*] key to initiate whisper page.
- 11. Confirmation tone is sent to the calling station after pressing the [*] key to initiate whisper page.
- 12. If a single line telephone in the Whisper Page state dials [*] to respond, a DTMF tone is also sent to the outside party.
- 13. If a station is programmed as protected in Class 10.44, that station may not receive a Whisper Page.
- 14. The called station in the whisper page state may toggle bi-directional communications between the two stations by pressing the [*] key.
- 15. If either station A, B, or C hangs up while in the Whisper Page State as illustrated in figure 5, the line status changes as listed below:

Disconnecting	Line Condition			
Station				
Station A	All lines are disconnected and all stations go to idle.			
Station B	Bi-directional communications between stations A and C			
Station C	Bi-directional communications between stations A and B			

- 16. The Barge-In and Call Monitor features are disabled when a station is in the Whisper Page state.
- 17. The Text Message feature is disabled when a station is in the Whisper Page state.
- 18. An ACD agent may not make a ACD Help call or ACD Emergency Help call while in the Whisper Page state.

19. An ACD agent on an ACD call cannot respond with a Text Message to a Whisper Page.

- 20. Stations in DND mode or with a call on Hold may not receive a Whisper Page.
- 21. The Whisper Page feature should not be used with stations that have Call Forwarding set.
- 22. Text messages cannot be sent to stations that are not connected (including IX-8PSUB cards in make-busy state), subject to station call restriction, or in use by a different tenant.
- 23. System text messages, bins 00-89, are programmed in *Class 02.20* and may be changed from attendant stations. Personal text messages, bins 90-99, may be added, deleted or changed at the individual station.
- 24. Text messages may be sent to any system extension equipped with a display telephone.
- 25. Saved text messages may only be sent to stations that have been assigned a [TEXT MSG] key (key data 161).
- 26. The [TEXT MSG] key is required to display saved text messages.
- 27. Text messages may be sent to stations in DND mode.
- 28. At system default, text message alert tone is not audible from the recipient station when that station is in DND mode. Use *Class 10.72*, *Element 2=3* to enable text message alert tone at a DND station.
- 29. Text message alert tone is audible at the recipient station from either the earpiece or the handset according to the following conditions:

If the station is on a call using the handset, alert tone is sent through the earpiece.

If the station is on a call using the speakerphone, alert tone is sent through the speaker.

If the station is idle, alert tone is sent through the speaker.

30. Text message confirmation tone is audible at the originating station from either the earpiece or the handset according to the following conditions:

If the originating station is calling using the handset, confirmation tone is received through the earpiece.

If the originating station is calling using the speakerphone, confirmation tone is received through the speaker.

- 31. *Class 04.71, Element 39* determines the length of time in minutes (0-255) that a text message remains on the recipient station LCD.
- 32. The recipient station cannot view or respond to a saved text message while on an intercom or CO call.
- 33. The originating station cannot delete a text message from the recipient station set.
- 34. A reply to a text message may be sent to the sender during an intercom or outside line call by pressing [TEXT MSG] + [*] + message number + [#] while the message is displayed.
- 35. A text message is not forwarded with a call to the forwarding destination. The text message is displayed on the forwarded station.
- 36. The [MSGGPn] key (key data 170) is required to send messages to a text message group. Text message groups are programmed in *Class 08.06*. The system supports a maximum of 60 text message groups with 16 stations maximum per group.

Database Programming:

01.03; 01.04; 02.20 System Text Message; 04.71, Element 39 Text Message Display Duration; 08.06 Text Message Group; 10.44;10.72, Element 3 Text Message Confirmation Tone; 14.01/15.01 Key Assignment; 26.01 Station Text Message (Ports 001-224); 27.01 Station Text Message (Ports 225-448).

Required Hardware

Omega-Phone Display Telephones.



This chapter lists features that are exclusive to attendant positions. If you cannot find information about the feature you are looking for see Chapters 1 and 2.

Alarm Clear

System alarm indication is provided at and can be cleared from an attendant position station set.

Operation:

To clear a major or minor system alarm: At ICM dial tone press $[\underline{FEAT}] + [\#] + [7]$

Database Programming:

None.

Hardware Required:

Standard.

Attendant Automatic Hold

By pressing the button indicating a new call while on a call, the current call is automatically placed on hold and the new call is put through. This feature must be enabled in *Class 10.53*.

Database Programming:

10.53 Attendant Automatic Hold.

Hardware Required:

Attendant Override

If this feature is enabled in *Class 10.41*, the attendant can override a call at a busy station or a station in do not disturb mode. The extension user is notified by a tone burst or SLT ringing.

Database Programming:

10.41 Busy Overriding; 10.43 Off-Hook Signaling; 10.44 Protected Station.

Hardware Required:

Standard.

Automatic Answer Mode

An attendant position that has been assigned an [Automatic Answer] key in *Class 15.01* can place the system in automatic answer mode. The attendant is required to switch the system out of automatic answer mode using the [Automatic Answer] key.

Operation:

To manually switch to automatic answer mode from an attendant position:

At ICM dial tone press [Automatic Answer] once to display, and multiple times to toggle between VOICE MESSAGE 1, VOICE MESSAGE 2, and OFF.

Database Programming:

03.01 Time of Day; 04.14 Automatic CO Answer; 04.20 VSS Recording Time; 04.33 Automatic CO Answer Day; 11.24 Automatic Answer Line; 11.45 Auto Answer Message 1; 11.46 Auto Answer Message 2; 15.01 Attendant Key Assignment.

Hardware Required:

IX-MSGU, IX-CMSG or IX-CMSG-1 for custom messages.

Attendant Intercept

This programming option (*Class 11.26*) allows outside calls to be directed to ring at the attendant console if they go unanswered, if they are transferred to a non-existent extension, or if they reach an extension in the do no disturb mode. If a call is transferred to a non-existent extension the [Recall Answer] button LED will light on the attendant console.

Database Programming:

11.26 Attendant Intercept Line; 15.01 Attendant Key Assignment.

Hardware Required:

Chapter 3 Attendant Features

Attendant Overflow Transfer

If the number of calls waiting to be answered at an attendant position exceeds the value programmed in *Class 10.55*, new incoming calls to the attendant position will overflow to the destination programmed in *Class 10.56*. Indication of the number of calls waiting in the queue of an attendant position are indicated by the Operator Wait LEDs. If the number of calls waiting in queue exceeds 12 queue indication is not provided. The attendant overflow level and destination can be changed at the attendant station.

Operation:

- To manually set the attendant overflow level:

 At ICM dial tone press [FEAT] + [Over Ride] + [#] + overflow level (01-30)
- To manually set the attendant overflow destination:

 At ICM dial tone press [FEAT] + [Over Ride] + extension number or hunt group number

Database Programming:

10.55 Attendant Overflow Level; 10.56 Attendant Overflow Destination.

Hardware Required:

Standard.

Clock Set/Adjustment

The system clock can be adjusted at the attendant position.

Operation:

To set the system clock at an attendant position: Press [FEAT] + [6][4] + time in military time

Database Programming:

None.

Hardware Required:

Standard.

Direct Station Selection

A [DSS n] button provides one-touch access to call extensions. At default there are 30 [DSS n] buttons on an attendant console (first 30 station logical ports) and 100 on a DSS unit (first 100 station logical ports).

Operation:

To call a specific extension:

Press the [DSS n] button representing that extension

Database Programming:

15.01 Key Assignment.

Hardware Required:

Standard.

Operator Call

The attendant receives internal (ICM) calls on an [Operator] key. When a call is answered, the LCD displays the following information about the calling extension: extension number, extension ID, and toll restriction class.

Database Programming:

None.

Hardware Required:

Standard.

Paging/Park

When an operator pages while on a call, the call is automatically placed in an attendant call park orbit. The orbit number and trunk number are displayed on the LCD.

Conditions:

1. If all attendant park orbits are full the call is placed on system hold.

Database Programming:

07.01 Attendant Call Park Orbit; 07.04 Paging Group Access Number; 08.04 Paging Group – Station/Zone.

Hardware Required:

Chapter 3 Attendant Features

Serial Call

By pressing a [Serial Call] button, a call transferred from the attendant position will return to the attendant position when the extension the call was transferred to hangs up.

Operation:

To perform serial call operation:

While on a call

Attendant Console: Press *extension number* + [Serial Call]
DSS unit: Press [TRAN] + *extension number* + [Serial Call]

Database Programming:

15.01 Key Assignment.

Hardware Required:

Standard.

Station Call Forward/Do Not Disturb Release

The attendant may cancel the call forward or do not disturb settings at any other system extension.

Operation:

To cancel call forwarding or DND at another extension:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F4] + extension number + [F2] + [END] DSS Unit: Press [Forced Release] + [3] + extension number + [Release]

Database Programming:

15.01 Key Assignment.

Hardware Required:

Standard.

Station Class Restriction Change

Each system extension can be programmed to have a different toll restriction class in the day mode and night mode. The attendant can switch the toll restriction class of a group of extensions or an individual extension.

Operation:

To change the class of service of a station:

At ICM dial tone:

Attendant Console: Press [ETC] + [F2] + extension number + [1] (day mode) or [2] (night mode) + [END]

DSS Unit: Press [SPKR] + [Station Service] + [*] + extension number + [1] (day mode) or [2] (night mode)

To change the class of service of a group of stations:

At ICM dial tone:

Attendant Console: Press [ETC] + [F2] + [F2] + group number + [1] (day mode) or [2] (night mode) + [END]

DSS Unit: Press [SPKR] + [Station Service] + [*] + $group\ number$ + [1] (day mode) or [2] (night mode)

Database Programming:

10.52 Toll Restriction Class Alternating Group; 15.01 Key Assignment.

Hardware Required:

Standard.

Station Forced Release

This feature allows the attendant to remove an extension from service.

Operation:

To remove a station from service:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F2] + extension number + [F3] DSS Unit: Press [Forced Release] + [1] + extension number + [Release]

To put a station back in service:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F2] + extension number + [F2] DSS Unit: Press [Forced Release] + [1] + extension number + [Connect]

Database Programming:

15.01 Key Assignment.

Hardware Required:

Chapter 3 Attendant Features

Station Lock

This feature allows the attendant to deny an extension access to outside lines.

Operation:

To lock a station:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F1] + [#] + extension number DSS Unit: Press [Station Lockout] (or [FEAT] + [4][4])+ [#] + extension number

To unlock a station:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F1] + [#] + extension number + [RLS] DSS Unit: Press [Station Lockout] (or [FEAT] + [0][4][4])+ [#] + extension number

Database Programming:

15.01 Key Assignment.

Hardware Required:

Standard.

System Speed Dial Registration

System speed dial numbers can be changed from the attendant position without accessing database programming mode. Depending on the programming in *Class 02.01* there are either 90 two-digit speed dial numbers (01-89) or 900 three-digit speed dial numbers (001-899). The numbers can be a maximum of 32 digits in length and can include the insertion of a pause.

Operation:

To register a system speed dial number:

At ICM dial tone:

Attendant Console: Press [ETC] + [F5] + speed dial bin number + CO line group number + telephone number + [F1]

DSS Unit: Press [FEAT] + [SPEED] + [#]+ speed dial bin number + CO line group number +

telephone number + [FEAT]

Database Programming:

02.01 System Speed Dial Type; Class 05 System Speed Dial; 15.01 Key Assignment.

Hardware Required:

Through Dialing

This feature allows an attendant position to make CO calls or provide CO dial tone for toll restricted or access restricted extensions. The attendant's LCD shows the station's toll restriction class when called.

Operation:

To grant dial tone to a toll restricted or access restricted station:

After answering ICM call press [HOLD/DND] + [COL n] or [FLT n] + telephone number + [Connect]

Database Programming:

10.21 Outgoing CO Line Group; 10.23 Toll Restriction Class.

Hardware Required:

Standard.

True Attendant Position

Attendant positions defined in *Class 04.55* as true attendant positions will receive attendant intercept calls and all attendant calls.

Conditions:

- 1. Attendant intercept calls and all attendant calls are equally distributed among the true attendant positions.
- 2. If no attendant positions are defined as true attendant in *Class 04.55*, the attendant position connected to the lowest logical port becomes the true attendant position.
- 3. The system will support eight true attendant positions.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.55 True Attendant Position; 07.06, Element 30 Feature Access Numbers.

Hardware Required:

Standard.

Trunk Access Control

The attendant can deny stations access to an individual trunk or trunk group.

Note: The attendant can still access a denied trunk.

Chapter 3 Attendant Features

Operation:

To set the access control of a trunk or trunk group:

At ICM dial tone:

Attendant Console: Press [ETC] + [F3] (+ [F4] trunk group only) + *trunk logical port number* or *trunk group number* + [F3] (deny) or [F2] (allow) + [END]

DSS Unit: Press [Trunk Access CNT] + [*]+ trunk logical port number or trunk group number + [Release] (deny) or [Connect] (allow)

Database Programming:

11.38 Outgoing CO Line Group; 15.01 Attendant Key Assignments.

Hardware Required:

Standard.

Trunk Forced Release

This feature allows an attendant position to remove a trunk or trunk group from service.

Operation:

To set the access control of a trunk or trunk group:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F3] (+ [F4] trunk group only) + *trunk logical port number* or *trunk group number* + [F3] (release) or [F2] (connect)

DSS Unit: Press [Forced Release] + [2] (+ [*] trunk group only) + $trunk \ logical \ port \ number$ or $trunk \ group \ number$ + [Release] or [Connect]

To display the status of a trunk or trunk group:

At ICM dial tone:

Attendant Console: Press [ETC] + [ETC] + [F3] + trunk logical port number + [F1]

Database Programming:

11.37 Forced Release Condition; 11.38 Outgoing CO Line Group; 15.01 Attendant Key Assignments.

Hardware Required:



This chapter lists features that are useful for systems installed in hotels and motels. System-wide, station, and attendant features are also available for hotel and motel operation. If you cannot find information about the feature you are looking for see Chapters 1, 2, and 3.

Hardware Requirements

The following hardware is recommended for hotel/motel operation:

- IX-DSSA or IX-DSSB for receptionist or room supervisor
- IX-SCIF for call accounting device connection
- IX-HCIF for interface between the ADIX and the hotel/motel property management system.

Hotel Mode

Class 04.28 is used to place the system in *hotel mode*. When in hotel mode, the keys on a DSS unit function as room indication keys.

Conditions:

- 1. The differences between hotel mode and normal mode are as follows:
 - In hotel mode, an attendant position equipped with a KT + DSS unit will display the room status on the BLF unit.
 - If a station is set as "occupied" by the attendant, the station is not restricted from making outgoing calls. If a station is set as "vacant" by the attendant, the station is restricted from making outgoing calls.
- 2. A reset is required to effect the changes programmed in *Class 04.28*.

Hardware Required:

KT + DSS units, IX-8SUBM (for message waiting), IX-DCDCA.

Intercom Call Restriction

The ADIX can be programmed to restrict guest rooms from calling each other. Guests can still make intercom calls to the hotel/motel's administrative extensions. For more details on this feature see Chapter 1, Intercom.

Message Waiting Control

This feature allows the operator to inform a guest that a message(s) is waiting by lighting a message waiting lamp on the phone in their room. This operation allows you to send a message without having the phone ring. For more information on this feature see Chapter 2, Message Waiting.

Property Management System (PMS) Interface

The IX-HCIF card provides an interface between the hotel/motel property management system and the ADIX. This interface allows commands issued for the property management system to control the individual room telephones as listed:

- **Toll Restriction** PMS can change the toll restriction class of a station depending on the room status vacant or occupied. Toll Restriction levels are assigned in *Class 10.23*. determines event code can restrict Place outgoing dialing restrictions on a room terminal when the room is vacant.
- **Message Waiting** The PMS can light the message lamp at a specific station. in order for this feature to operate, *Class 10.45* must be set to **1** (message key enabled).
- Wake-Up Call Wake-up call requests are output to the PMS. PMS can track result of wake-up call attempts answered, recall. Wake-Up Call report prints to the port defined in *Class 04.07*.
- **Room Status** ADIX outputs room status for PMS reporting. The ADIX must be in hotel mode (*Class 04.28*) for this feature to work.
- **Lamp Control** PMS can change the room status indication lamp at the attendant position DSS. The ADIX must be in hotel mode (*Class 04.28*) for this feature to work.

See Section 5 for IX-HCIF configuration and installation instructions.

Database Programming:

04.07 Wake-Up Call Report Port; 04.28 Hotel/Motel Mode; Class 6 Toll Restriction; Class 10.23 Toll Restriction Level and Class; Class 10.45 Message Key; Class 14.01 Key Assignment; Class 15.01 Attendant Key Assignment.

Hardware Required:

IX-HCIF.

Chapter 4 Hotel/Motel Features

Room Status

The buttons on a DSS unit can be programmed to display the status of each guest room. There are nine status indications:

- Vacant-Ready (Cleaning Confirmed)
- Vacant-To Be Cleaned
- Vacant-Cleaned
- Occupied (In Room)-Ready (Cleaning Confirmed)
- Occupied (In Room)-To Be Cleaned
- Occupied (In Room)-Cleaned
- Occupied (Out Of Room)-Ready (Cleaning Confirmed)
- Occupied (Out Of Room)-To Be Cleaned
- Occupied (Out Of Room)-Cleaned

When the status of a guest room is changed from "occupied (in room)" to another status, the guest room phone is restricted.

The maid can change the status of the guest room from "to be cleaned" to "cleaned" by dialing a code from the guest room phone. The supervisor, after inspection of the cleaning, can change the status of the guest room from "cleaned" to "ready (cleaning confirmed)" by dialing a code from the guest room phone.

Room Status	Button Lamp	Call Externally
Vacant-Ready	off	No
Vacant-To Be Cleaned	red-fast flash	No
Vacant-Cleaned	red-slow flash	No
Occupied (In Room)-Ready	green	Yes
Occupied (In Room)-To Be Cleaned	green & red-fast flash	Yes
Occupied (In Room)-Cleaned	green & red-slow flash	Yes
Occupied (Out of Room)-Ready	green-slow flash	No
Occupied (Out of Room)-To Be Cleaned	green-slow flash & red-fast flash	No
Occupied (Out of Room)-Cleaned	green-slow flash & red-slow flash	No

Operation:

To change the status of a guest room from the DSS:

- 1. Press the button on the DSS representing the desired guest room
- 2. Press the button representing the desired room status and the lamp on that button will change to represent the new status

To change the status of a guest room from the guest room:

From to be cleaned to cleaned: At ICM dial tone press [5][3][6]

Wait for the confirmation tone then hang up

From to be cleaned or cleaned to ready: At ICM dial tone press [5][3][7]

Wait for the confirmation tone then hang up

Database Programming:

04.28 Hotel/Motel Mode; 07.06 Feature Access Numbers; 15.01 Key Assignment.

Wake-Up Call

This feature allows the hotel operator or a guest to enter the time that they wish to receive a wake-up call. Guests are notified by having their phone ring five minutes before the time set. If the first wake-up call is not answered, the ADIX will call the guest room at the time set. The guest room phone will ring five times. When the receiver is lifted the guest has the option of hearing music-on-hold or either a prerecorded or customized message if the system is equipped with a message card and associated hardware.

Operation:

To set a wake-up time from the attendant position:

At ICM dial tone press [Wake Up Call ATT] + room extension number + wake-up time in military time

To cancel a wake-up time from the attendant position:

At ICM dial tone press [Wake Up Call ATT] + [*] + room extension number

To set a wake-up call from a guest room:

At ICM dial tone press [5][2][6] + wake-up time in military time

To set a wake-up call from a guest room:

At ICM dial tone press [5][2][6] + wake-up time in military time

To cancel a wake-up call from a guest room:

At ICM dial tone press [5][0][1] + [5][2][6]

Wake-Up Call Report

If your system is connected to a printer you can have the status of wake-up call attempts printed as they occur. An example of the printout is illustrated below.

DATE	TIME	TEL	ANSWER	
07/29	08:20	230	O	

FIGURE 3.4-1

The result of the call attempt is shown in the ANSWER column.

O = call was answered, X = call was not answered

Note: This feature will only work with the IX-CPUL-1 and newer processors.

Database Programming:

04.07 Wake-Up Call Report Port; 04.28 Hotel/Motel Mode.

Hardware Required:

IX-SCIF, Printer.

Voice Mail/Automated Attendant Integration

Most of the voice mail and automated attendant systems on the market today are compatible with the ADIX. The ADIX sends in-band DTMF packet signals that identify the call status when the AA/VM system answers a call. The degree of integration between the ADIX and the VM/AA system depends on the packet handling capability of the VM/AA system.

Hardware Requirements

The following hardware is recommended for voice mail/automated attendant operation:

- At least an IX-CPUL-1 CPU card
- An IX-8SUBS card for VM/AA port connection
- An IX-SCIF card for call accounting device connection

In-Band Packet Codes

The actual data of each DTMF in-band packet sent from the ADIX to the voice mail or auto attendant port is programmed in *Class 04.77*. The data for each packet can be entered according to the specifications of the voice mail/automated attendant system. The ADIX uses two types of DTMF in-band packets:

Call Identifier Packets Call identifier packets consist of a *call type identifier* and a *call detail identifier*. The call type identifier identifies the type of call that is being sent to the VM/AA port. The call type identifier is followed by a call detail identifier. The call detail identifier identifies the mailbox number, extension number, or trunk number. In some cases the call detail identifier may be omitted either automatically or through database programming. Call identifier packet data flow is as follows:

[Pause 1] □ [Call Type Identifier] □ [Pause 2] □ [Call Detail Identifier]

Pause 1 Predial pause of one second after the VM/AA closes the loop

Call Type Identifier Type of call sent to the VM/AA port

Pause 2 In-packet pause time programmable between 0 and 9 seconds

Call Detail Value depends on the call type identifier.

Identifier

Call Process Packets These packets indicate to the VM/AA port a specific change in the status of an ADIX extension. Two call process packets are provided.

Note: The integration capability with voice mail and automated attendant systems was introduced in software version 4.0 and consisted of 10 packets. In software versions 4.2 and higher the integration capabilities of the ADIX to voice mail and automated attendant systems was enhanced to include 20 packets.

The table below lists each in-band packet code (software version 4.71/5.71 and higher):

DTMF Packets				Connection			04.71
Number and Contents	To Po	rt	System Function	ADIX	VM	Operation	<e14></e14>
[pkt 01]+[trunk no.]	AAVM	AA	A CO call that rings directly to the VM.	CO	AA	Direct ringing to VM port.	√
[pkt 02]+[ext. no.]	AAVM	AA	A station dialed the VM.	ICM	AA	{on ICM}-[ext. no.]	
[pkt 03]+[trunk no.]	AAVM	AA	A station transferred a CO call to the VM.	CO	VM	{on CO}-[TRAN]-[4][7]-[on-hook]	√
[pkt 04]+[ext. no.]	AAVM	AA	A station transferred an ICM call to the VM.	ICM	VM	{ on ICM}-[TRAN]-[4][7]-[on-hook]	
[pkt 05]+[trunk no.]	AAVM		VM transferred a CO call to a station, but it recalled to the VM because the station does not exist.	CO	AA	{on CO}-[TRAN]-[4][7- [on-hook]-{recall}	
[pkt 06]+[mbox no.]	AAVM	AA	A station wants to leave a message in a specific voice mailbox.	ICM	MB	{ on ICM}-[*]-[mbox no.]	
[pkt 07]+[mbox no.]	AAVM	AA	A station transferred a CO call to a specific voice mailbox.	CO	MB	{on CO}-[TRAN]-[*]-[mbox no.]- [on-hook]	V
[pkt 08]+[mbox no.]	AAVM	AA	A station transferred an ICM call to a specific voice mailbox.	ICM	MB	{ on ICM}-[TRAN]-[*]-[mbox no.]-[on- hook]	V
[pkt 09]+[mbox no.]	AAVM		An incoming CO call to a station is forwarded to the VM.	CO	MB	{incoming CO call}-{forwarded}	V
[pkt 10]+[mbox no.]	AAVM		An incoming ICM call to a station is forwarded to the VM.	ICM	MB		V
[pkt 11]+[ext. no.]	AAVM		VM transferred a call to a station, but it recalled to the VM because the station does not answer.	CO	AA	{on CO}-[hook flash]-[ext. no.]-[on-hook]- {recall}	
[pkt 12]+[ext. no.]	AAVM		VM transferred a CO call to a station, but it recalled to the VM because the station is busy or in DND.	CO	AA		
[pkt 13]+[mbox no.]	AAVM	AA	A station wants to retrieve a message from its own voice mailbox.	ICM	MB	{on ICM, at own sta.}-[*]-[mbox no.]	
[pkt 14]	AAVM	AA	A station answered during CO (screened) transfer by the VM.				
[pkt 15]+[trunk. no.]		AA	An incoming CO call to a station is forwarded to the AA.	CO	AA		V
[pkt 16]+[ext. no.]		AA	An incoming ICM call to a station is forwarded to the AA.	ICM	AA	{incoming ICM call}-{forwarded}	
[pkt 17]+[ext. no.]		AA	VM transferred a CO call to a station, but it recalled to the AA because the station does not answer.	СО	AA		
[pkt 18]+[ext. no.]		AA	VM transferred a CO call to a station, but it recalled to the AA because the station is busy or in DND.	CO	AA		
[pkt 19]	AAVM	AA	A party (CO/ICM) connected to the VM hangs up.				
[pkt 20]	AAVM	AA	A packet separator for the Caller ID information.				
[pkt 21]+[mbox no.]	AAVM	AA	A station started to record a call to its voice mailbox.	ICM/CO	MB	{on ICM}-[REC]	
[pkt 22]	AAVM	AA	A station ended conversation recording.	ICM/CO	MB	{ on ICM, at recording station}-[REC]	

Packet Programming Options

The table below lists each packet programming option:

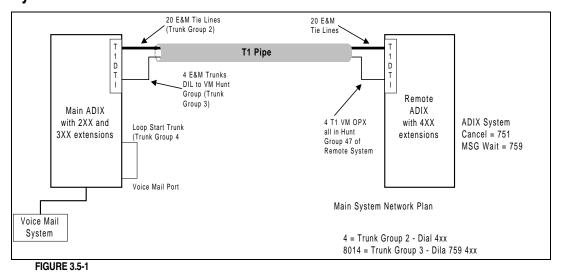
Option	Database	Notes
DTMF Packet	04.71, Element 10	The DTMF packet signal speed is programmable between 50 ms
Speed		on/off and 200 ms on/off.
In-Packet Pause	04.71, Element 11	The pause time between the call type identifier and call detail
Time		identifier is programmable between 0 and 9 seconds.
Pre-Disconnect	04.71, Element 12	The pause time between disconnection detection and the
Packet Pause		disconnect packet is programmable between 0 and 9 seconds
Time		
Disconnect Signal	04.71, Element 13	Select between loop open or DTMF disconnect packet for
Type		disconnection detection.
Trunk ID Packet	04.71, Element 14	Enabling this element prevents the trunk ID from being included
		as a call detail identifier
Disconnect Signal	04.71, Element 15	If Class 04.71, Element 13 is set to loop open, this element is
Type		used to program the loop open duration for SLT ports

Centralized Voice Mail via the T1 Off-Premise Voice Mail Port

The ADIX system can now be configured with Voice Mail Off-Premise (OPX) ports (Class 01.03, data = 0-4-3) for channels on the T1 card. This allows one or more branch locations to share the voice mail system connected to the main ADIX system. The channels at each branch system will be configured as T1 Voice Mail OPX ports. At the branch office, these channels are treated as regular voice mail channels. All voice mail operation at the branch office will be the same as if the ADIX had a dedicated voice mail system attached. Users can forward calls to the voice mail hunt group that will send the calls to the main location and play a personal greeting. These ports will be used to turn message waiting lights on and off. In addition, pressing a flashing [MSG] key plus the [#] key will call the voice mail system at the main location for message retrieval.

The voice mail packets are sent by each branch system. Therefore, the packet structure of Class 04.77 must be configured the same for each ADIX system in the voice mail network.

System Connection:



Note: The numbering plan shown above is an example. The actual numbering plan of the system may vary based on the overall configuration.

Main Location:

The voice mail system will be installed at the main location with conventional analog voice mail ports. The main location will be set up following standard programming for voice mail integration outlined in the ADIX Technical Manual.

The T1 channels at the main location must be programmed as T1 E&M Trunk, Wink Start (Class 01.03 data = 1-0-7, Class 01.04 data = 1-1-3) to accept the incoming voice mail calls from the branch locations. These T1 E&M Trunks must be programmed for DIL to hunt group 47 (Voice Mail) of the main system.

If your voice mail system will only support one common operation for activating message waiting, the network dial plan can be used to access the different branches and turn the message lights on and off. This application requires one analog voice mail port looped back into a loop start trunk position at the main location only. This allows the system to access message lights from a trunk position on all systems.

Branch Locations:

The T1 channels used for voice mail at the branch locations will be programmed as T1 Voice Mail OPX (Class 01.03 data = 0-4-3). The configuration will be programmed as AA/VM and Wink Start. (Class 01.04 data = 0-3). The T1 Voice Mail OPX ports are assigned to hunt group 47.

Note: If you have trunk packets enabled (Class 04.71 data = 14) at the main system, you will receive packet 01 + the trunk number, a one second pause and then the packet from the branch system.

Calls can be forwarded to Voice Mail using the hunt group access number of their local system. This access code can be the same number for all systems within the network.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration

Hardware Required:

IX-T1DTI, IX-TIRCV for off-premise voice mail port.

Analog Single-Line Features

ADIX station ports defined as voice mail/auto attendant ports in Class 01.03 (data=0-4-1) now support features available to single line telephone ports. The Features now available are listed below:

- Answer Hold
- Attendant Call Park Answer
- Busy Override
- Call Forwarding
- Call Forward Destination Set
- Call Forward Mode Set
- Call Park
- Call Park Split

- Fixed Call Forward
- Forced Account Code
- Group Call
- Information Service
- Last Number Redial
- Meet Me Answer Page
- Network Dial Access Codes
- Override

- Call Pickup
- CO Account Code
- CO Hold Pickup
- Conference, Add On
- Conference, Multitrunk
- Conference, Trunk-to-Trunk
- CO Flash (Long and Short)
- CO Conference Call
- Conference Between CO Lines
- Do Not Disturb
- Equal Access

- Paging Access
- Shift Call/Clear Call
- Station Conference Call
- Station Hold
- Station Callback
- Station Lock
- Time Trunk Queuing
- UNA Pickup
- Voice/Tone Calling Mode
- Wake Up Call Service

Message Waiting Lamp Control

The VM/AA system can turn on or off the [MESSAGE] LED on an ADIX KT or the message lamp on a SLT through the VM/AA port. The following information must be supplied by the VM/AA system:

- MSG feature code programmed in *Class 07.06*, *Element 19*
- Message cancellation code programmed in *Class* 07.06, *Element* 01
- Extension Number

Call Progress Tones to VM/AA Port

The following call progress tones are sent to the VM/AA port:

- ICM dial tone when the VM/AA closes the loop.
- Ringback tone when VM/AA calls an idle station or a busy station that is allowed off-hook signaling.
- Busy tone when the VM/AA calls a busy station that is denied off-hook signaling, a DND station, a station with an active absence message, or when the AA/VM dials an invalid number.

ADIX T1 Interface

Traditionally, twisted pair cable has been used to provide connection between the local telephone company exchange and a PBX system. As a result calls were always routed through the local telephone companies. For example, to place a call from New York to Los Angeles requires connection through three telephone companies; NYNEX in New York, A long distance company such as AT&T or MCI for long distance connection, then Pacific Bell in California. This telephone network is called the Public Switched Telephone Network (PSTN). Figure 3.6-1 illustrates the PSTN. In this example two ADIX systems, one in New York the other in Los Angeles are connected to their local telephone company (CO) using twisted pair cable for each subscriber line. At the CO, the lines are multiplexed and carried on a two-pair cable. This is called the T1 carrier. (In fact, a much higher rate of multiplexing than T1 is used within telephone companies.) In the illustration, the long distance carrier's property includes Toll Offices and ends at the T1 cabling to the CO.

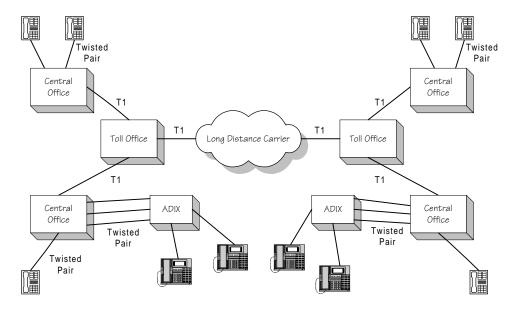


FIGURE 3.6-1 PSTN

If a carrier company provides toll service such as WATS 800 service, the conventional system subscriber is required to pay an "access charge" to the local telephone company for every WATS call made or received.

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The T1 Interface

Another choice for line connection is available to the ADIX. With an IX-T1DTI digital trunk card, the long distance carrier's T1 pipe interface circuit can be connected directly to the ADIX bypassing the local CO. Therefore the customer avoids an access charge from the local CO. Figure 3.6-2 illustrates T1 termination at the ADIX.

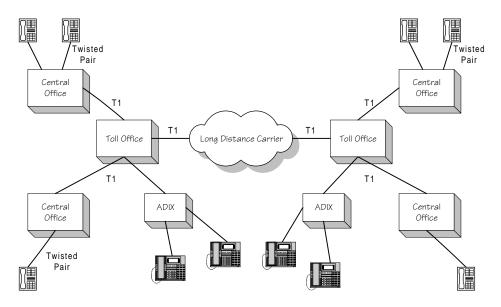


FIGURE 3.6-2 T1 TERMINATION AT THE ADIX

For more details on T1 connection contact your local long distance company.

The service charges with and without the T1 pipe are compared in the following table:

Service Charges	With T1	Without T1
Installation charge	\$1600	24 x \$40
Monthly charge	\$800 for T1 pipe	24 x \$60 trunk line charge
WATS call charge	\$50 WATS service charge	\$50 WATS service charge + Access charge
Total	\$2450	\$2450

The basic cost is about the same, however, with traditional twisted pair connection through the local CO you are paying a monthly access charge to the local CO on every WATS call. The monthly service charges from the long distance carrier are the same in either case. The T1 subscriber will pay much less than the local telephone company subscriber. In general, a business that uses 12 WATS lines will save over \$20,000 each year.

Chapter 6 ADIX T1 Interface

Local Telephone Company Trunking In some areas the local CO provides a service called Direct Distance Dialing (DDD). DDD is local line connection through T1 pipes. As illustrated in Figure 3.6-3, the local CO provides a digital line facility called SLC96 that allows up to 96 subscribers to be served on three pairs of wire. Although this facility is owned by the CO and is not exactly the T1 format, the ADIX T1 interface (IX-T1DTI) allows the customer to bypasses the SLC96 and connect directly to the CO's digital T1 pipe.

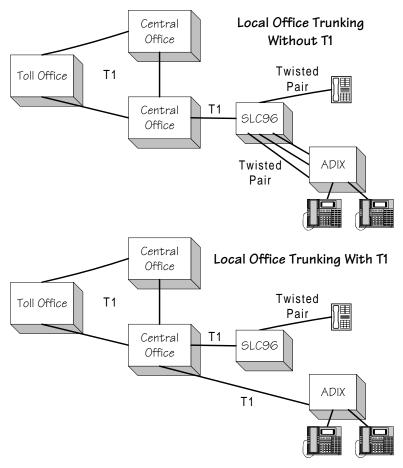


FIGURE 3.6-3 LOCAL OFFICE TRUNKING

Private Line Connection One of the most common uses for the local CO's T1 pipe is system interconnection through point-to-point links. As illustrated in figure 3.6-4, the point-to-point T1 link connects two remote ADIX systems together bypassing the CO altogether. This application is equivalent to using the system networking feature to connect two ADIX systems using 24 E&M tie lines. The private T1 lines can be used for voice communications as well as data communication.

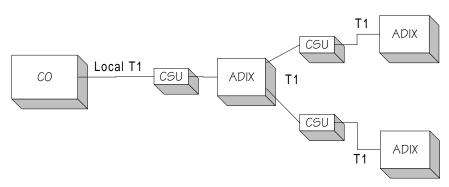


FIGURE 3.6-4 POINT-TO-POINT CONNECTION

Characteristics of the T1 Pipe

The T1 pipe is a digital signal carried over two-pair (four wire) data cable. Twenty-four channels are carried on a single T1 pipe as a series of digital pulses using Time Division Multiplex (TDM) technology. Every channel of the T1 frame represents one digitized voice path. In the U.S., the PCM coding scheme of mu255 is used with the D2 to D4 channel banks; with which the ADIX system is compatible. The signal itself is a bipolar pulse train that represents digital 1 and 0. The telephone company provides various voice functions for each channel as requested. However, the ADIX T1 interface is only compatible with the following functions:

- FXS
- FXO
- E&M
- DID

The following channel functions are not compatible with ADIX:

- ARD
- TO
- PLR
- DPT
- DPO
- SAO, SAA
- DS0

T1 connection to the ADIX is provided using the IX-T1DTI Digital Trunk Interface Card. This circuit card connects directly to the T1 pipe via a CSU as illustrated in Figure 3.6-4. Because the digital signal is transmitted over long distances, a channel service unit (CSU) is required before termination at the ADIX to recondition and reshape the digital signal. The IX-T1DTI card can be configured as an 8-, 16-, or 24-port card. This feature is called fractional setting. Through database programming (*Classes 01.03 and 01.04*) the digital ports can be individually configured to provide any combination of the following T1 channel functions:

- Loop Start Trunk
- Ground Start Trunk
- ANI Trunk
- DNIS Trunk
- E&M Signaling Trunk
- DID Trunk
- E&M Tie Line
- OPX Line

Data Communication

The ADIX T1 interface does not provide data service such as Digital Data Service (DDS) or 64 kbps data line (DS0) over the T1 span. However, the customer can split the T1 span at the CSU and direct it to an individual data connection port, such as RS232C or X.25. The remaining digital channels are then connected to the IX-T1DTI card. For more information on this application see "ADIX System T1 Interface" (EBA-91009-1).

Features Supported by the IX-T1DTI Card

T1 Framing

ADIX supports both D4 Superframe (SF) and Extended Superframe (ESF) for the T1 connection. Extended Superframe is used more often for high-speed data communication. Superframe is recommended for voice communication to the ADIX. Extended Superframe is not available in some areas.

Zero Suppression

In most cases, AMI (B7 stuffing) is used for Superframe (D4) and B8ZS is for ESF. The ADIX supports both of the zero suppression schemes.

Trunk Type Selection

The following types of signaling can be selected for each T1 channel through database programming to simulate the following types of trunks:

Outgoing/Incoming Trunks

- Loop Start Signaling
- Ground Start Signaling
- E&M Signaling
- Two-Way DID Signaling

Incoming Trunks

- DID Signaling
- E&M Tie Line Signaling functions as IX-4EMTK for tie line use
- OPX Signaling
- ANI Signaling
- **■** DNIS Signaling

T1 Alarms

The IX-T1DTI card will respond to conditions on the T1 span and issue the following alarms:

Red Alarm

When the ADIX system detects one of the following T1 signal failures on the receiving line they are determined to be framing errors. The response is a red alarm.

- Out of Frame (OOF) alarm
- Loss of Signal (LOS) alarm

Yellow Alarm

The yellow alarm is sent to the T1 carrier to indicate that a Red Alarm condition is detected.

Chapter 6 ADIX T1 Interface

Blue Alarm

This signal informs the T1 carrier that the ADIX system is up and running. This alarm signal is sent to the carrier by the CSU during ADIX system troubleshooting.

T1 Network Clock Synchronization

In the U.S., a master clock source provides T1 network clock synchronization. Network clock synchronization trickles down to the ADIX from the long distance carrier, toll offices, and central office. The ADIX synchronizes itself to the master clock in *slave* mode. Within the ADIX, clock synchronization between IX-T1DTI cards is provided through slave-primary/slave-backup operation. In networked ADIX systems, T1 clock synchronization is provided using master/slave-private operation.

ADIX Master/Slave Operation

Positions 1 and 2 of Switch 1 on the IX-T1DTI card is used to select clock mode setup of each T1 connection. The selection will assign one of the following four clocking modes:

Slave-Primary – Card synchronizes itself to the master clock source of the T1 carrier signal.

Slave-Backup – Card synchronizes itself to the card configured as slave-primary. A slave-backup card will provided synchronization if the slave-primary card fails.

Master Clock – The master clock source can either be internal or external. **External Source:** In a network configuration synchronization is to the slave card at the distant end of the span. **Internal Source:** Used when the ADIX is the main switch. Synchronization is to the system highway clock.

Slave-Private – Card synchronizes itself to the card configured as Master Clock.

System Requirements for T1 Termination

The requirements listed below vary according to the channel functions that are utilized by the ADIX system.

Minimum Requirements

- One IX-PLLU clock card is required per system.
- One IX-T1DTI digital trunk interface card is required for each T1 (DS1) pipe.
- Software versions 4.10/5.10 and higher and the compatible PC programmer version.
- At least an IX-CPUL-1 CPU card.
- One external CSU for each T1 pipe.

Optional Hardware

- IX-T1RCV digital receiver card.
- One or two IX-8ERCV DTMF receiver daughterboards.

System Capacity

ADIX

The ADIX supports two IX-T1DTI card per shelf in universal card slots 1 and 5 only. If the fractional setting is 24 channels, the next two card slots after the IX-T1DTI card cannot be used. If the fractional setting is 16 channels, the card slot after the IX-T1DTI card cannot be used.

Note: Regardless of the fractional setting, if an IX-T1RCV card is required it must be installed in the card slot to the immediate right of the IX-T1DTI.

ADIX-M

Each shelf of the ADIX-M (IX-CMM, IX-EXPMM) has a 24-circuit card slot designed specifically for IX-T1DTI installation. This card slot allows for the installation of the IX-T1DTI card without addition card slot loss.

Computer Telephony Integration

Computer Telephony is a relatively new technology that combines several existing technologies to connect callers with people and information over a public or private telephone network. Iwatsu has used this new technology to develop products designed to allow users to handle telephone calls in an automated manner. By combining standard ADIX features such as Caller ID, Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS) with the powerful processing engines of PC applications, important information about a call or caller will arrive at the ADIX station user's PC with an incoming call.

Common Computer Telephony Applications

- Intelligent Call Routing
- Interactive Voice Response
- Desktop Telephony
- Unified Messaging
- Call Center

Computer Telephony User Benefits

- Increase Call Center Efficiency
- Reduce Call Center Staffing Requirements
- Level Call Center Traffic Peak Load
- Reduce 800 # Charges
- Lower Host Computer Costs
- Reduce Call Setup Time
- Improve Customer Service Response Time

Iwatsu America offers two products developed to bring computer telephony to the desktop:

IX-COMLINK — IX-COMLINK offers you the best of both sides of the computer telephony equation by combining the features available with your ADIX digital telephone and the information processing power of your PC. For example, IX-COMLINK allows you to make a call by selecting a telephone number embedded in a document, database, or contact manager. You can also have your PC display information about an incoming call triggered by the caller ID or ANI number, keep track of calls through a personal call log, and activate telephony features. More information on IX-COMLINK may be found later in this chapter.

IX-COMLINK

IX-COMLINK is a TAPI-compliant Computer Telephony Interface adapter that bridges the gap between your PC and your ADIX desktop digital telephone. IX-COMLINK offers you the best of both sides of the computer telephony equation by combining the features available with your ADIX digital telephone and the information processing power of your PC. For example, IX-COMLINK allows you to make a call by selecting a telephone number embedded in a document, database, or contact manager. You can also have your PC display information about an incoming call triggered by the caller ID or ANI number, keep track of calls through a personal call log, and activate telephony features.

IX-COMLINK was designed with the flexibility you require. That's why we equipped it with separate voice inputs for an ADIX Key Telephone, an ADIX Handset/Cradle, a headset, and voice in and out jacks for connection with your PC sound card. As a result, you can tailor your setup to best satisfy your voice communication needs.

- Connect an ADIX Digital Key Telephone for parallel operation between your PC and telephone.
- Connect a cost effective ADIX Handset/Cradle and let your PC do all the work.
- Connect a headset for hands-free conversation.
- Connect your PC sound card for speakerphone capability.

ADIX Requirements

- ADIX Software Versions 4.71/5.71 and higher
- IX-8PSUB-1 Digital Station Port

Minimum Computer Requirements

Hardware

- An IBM® compatible PC with a Pentium® 100 MHz or higher processor.
- Microsoft Windows 95[®].
- 16MB of RAM.
- A 16-bit ISA Slot.
- 2 MB of free hard disk space.
- RS232C serial port.
- Sound Board (for computer telephony application software).
- 3.5" Disk Drive.

Software

- IX-COMLINK Installation Disk.
- TAPI.DLL Dynamic-Link Library Version 1.4.
- Personal Information Manager Software.

Specifications:

Line Interface

- An ADIX digital station port (one IX-8PSUB-1 port) is required for each IX-COMLINK adapter.
- RJ11.

I/O Connections

- Jack for an ADIX Handset/Cradle.
- Jack for Headset.
- Jack for ADIX Digital Telephone.
- Jack for modem connection (allows outgoing calls only).
- Jack for digital station port (IX-8PSUB-1) connection.

Computer Telephony Software Requirements

■ TAPI-compliant Computer Telephony application software is required to operate the IX-COMLINK. Please refer to the Software Compatibility Chart on page 3-211 of this chapter.

Optional Equipment:

You may also be installing or connecting the following optional equipment:

- IX-CTH/C Handset and Cradle with Hookswitch
- ADIX IX-12KTD/S-2 (w or w/o IX-ELK) Digital Key Telephone
- ADIX IX-24KTD/S Digital Key Telephone
- Headset
- Modem
- Sound Card or PC Speakers
- Microphone

Connection Options:

IX-COMLINK by itself, is not a communication device. However, by connecting your computer to one of the following primary communication devices, its design offers a full range of Computer Telephony (TAPI) features. There are also connectors provided to allow the use of a modem for outgoing calls and Line In/Out jacks for connection of a sound card or PC speakers if supported by your application software. Strapping options are provided to select the primary communication device used with IX-COMLINK.

Primary Communication Devices:

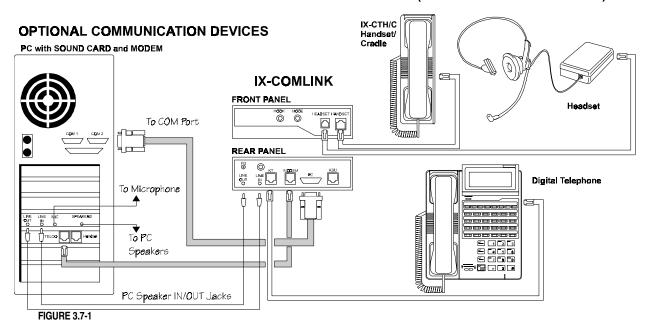
Only one primary communication device may be connected at a time. Simultaneous connection of multiple primary communication devices is not supported.

- An ADIX Digital Telephone, model IX-12KT/S-2 or IX-24KTD/S, may be connected to the KT connector. The ADIX digital telephone operates in parallel with IX-COMLINK.
- The IX-CTH/C Iwatsu Handset and Cradle with Hookswitch may be connected to the HANDSET connector
- A headset (compatible with ADIX telephones) may be connected to the HEADSET connector.

Optional Communication Devices:

- A connection from the modem LINE jack to the IX-COMLINK MODEM jack may be used for originating outgoing calls.
- A SoundBlasterTM or SoundBlasterTM-compatible PC sound card or PC speakers may be connected to the LINE IN/LINE OUT connectors. The speakers must be amplified when connected directly to the IX-COMLINK LINE IN/LINE OUT connectors. **Note:** IX-COMLINK is not compatible with all sound cards.

PRIMARY COMMUNICATION DEVICES (One Device Per IX-COMLINK)



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IX-COMLINK Application Compatibility Chart

The table below lists the features supported by each of the computer telephony applications tested by Iwatsu America.

				ACT!™ for	Phone-	Phone-
	Feature			Windows™	Max™ *8	Tastic™ Pro
	1 outuro			V.3.0	v.1.0	Tuotio 110
Off Hook	Dial Tone	speaker		✓	Ø	\square
on noon		handset		☑	\square	$\overline{\mathbf{Z}}$
Dial	intercom	valid ext.		☑	\square	\square
Diai		illegal ext.			<u> </u>	
		busy ext.				<u> </u>
	outside line	buoy on				<u> </u>
Answer	intercom	use KT		<u> </u>		
Allowei	Intercom	answer buttor		<u> </u>		
	outside line	use KT		<u> </u>		☑
	outside line	answer buttor	•			
Disconnect	intercom	use KT		<u>✓</u>	<u> </u>	<u> </u>
Disconnect	intercom		\n_		<u> </u>	V
	outoido lino	hang up butto use KT	<u> </u>	✓	<u> </u>	<u> </u>
	outside line		<u> </u>		<u> </u>	
Hald	lataus	hang up butto	וו	<u> </u>	<u> </u>	☑
Hold	intercom	hold				
		unhold		☑	<u> </u>	Ø
		held ext. disc	onnect	☑	<u> </u>	☑
	outside line	hold		☑	<u> </u>	☑
		unhold		<u> </u>	<u> </u>	☑
	ļ	held party dis	connect	Ø	<u> </u>	☑
Transfer	unscreened	ICM to ICM		NA	Ø	☑
		CO to ICM		NA NA		Ø
	screened	ICM to ICM		✓		☑
		CO to ICM		I	<u> </u>	Ø
Conference	add	all intercom		☑	<u> </u>	N/C
		outside to ICN	<u> </u>		Ø	N/C
	disconnect	individual		☑ *1	Ø	N/C
		other party		☑	Ø	N/C
Caller ID				*2	☑ *5	☑ *5
Generate Dial	intercom	KT or Keyboa	ard	⊿ *3	Ø	⊿ *3
	outside line	KT or Keyboa	ard	☑ *3	Ø	☑ *3
Operation	hold			☑		Ø
From Other	off hold			☑		\square
System	transfer	unscreened	Intercom		Ø	Ø
Extensions			Outside	Ø	Ø	Ø
		screened	Intercom	Ø	Ø	Ø
			Outside	☑	☑ *6	Ø
	conference	add	All intercom	☑ *4	Ø	☑ *7
			Inc. outside	☑ *4	☑ *6	☑ *7
Supports PBX- Specific Functions				N/C	N/C	N/C

Notes:

- ☑ The application feature functions well with IX-COMLINK.
- *1 The conference call can only be disconnected if it originated at the PC. If the conference call originated at another system extension, it cannot be disconnected at the PC.
- *2 When set in the application, ACT™ will provide an information window which displays with an incoming call. This window includes miscellaneous information including caller ID.
- *3 Can be dialed though the dial pad on the KT, not though the keyboard.
- *4 After making a conference call, the computer telephony application stops functioning properly and must be restarted.
- *5 Caller ID information is displayed when a direct incoming call is received. The Caller ID information is not displayed with a screened transfer or a call park pickup at another extension.
- *6 Caller ID information is not displayed.
- *7 After making a conference call, the call may only be terminated from the PC.
- *8 Feature operation using PhoneMax™ while running Microsoft® Windows® 3.11 is limited. Iwatsu America recommends using Microsoft® Windows® 95 with PhoneMax™. Iwatsu America is actively working with Active Voice, the manufacturer of PhoneMax™ to improve this condition.
- N/C This feature is not compatible and may not be used with IX-COMLINK.
- NA Not available with the application software.

SDN Basic Rate Interface (BRI)

This chapter describes the system database programming required for ADIX ISDN Basic Rate Interface (BRI) subscriber line connection using the IX-2ICOTB trunk interface card. Refer to EBA-97007 for programming information required for ISDN Primary Rate Interface (PRI) subscriber line connection using the IX-ICOTP trunk interface card.

This chapter consists of the following sections:

- ISDN Basic Rate Interface Overview
- ADIX System Requirements

ISDN Basic Rate Interface (BRI) Overview

An ISDN Basic Rate Interface subscriber line consists of two 64 kilobits per second B channels (or "bearer" channels) and one 16 kilobits per second D channel. This type of configuration is commonly called "2B+D." In the ADIX system, the two B channels are used to transmit voice and the D channel is reserved for signaling. Two of the key advantages of installing ISDN BRI lines in the ADIX are:

- Lower line costs (depending on location).
- Supports multiple telephone numbers on a single line.

ADIX ISDN BRI Support

Below is a description of ISDN BRI line support in the ADIX:

- Each IX-2ICOTB card supports two ISDN BRI lines.
- Each ISDN BRI line provides two B channels for voice and one D channel for signaling.
- An NT1 is required to interface ISDN BRI lines to the IX-2ICOTB card installed in the ADIX system.
- At this time, Iwatsu America the ADIX system will only support IX-2ICOTB card installations in the United States. The IX-2ICOTB is not supported in Canada

ADIX System Requirements

In order to support ISDN BRI subscriber lines, the ADIX system must meet the following hardware and software requirements:

- ADIX System Software Version 4.75/5.73 or higher, or ADIX ACD software version 2.31.
- One IX-2ICOTB card is required for each two ISDN BRI (2B + D) subscriber lines.
- One IX-PLLU clock card (part number 101250) is required per system. (Not required if IX-CPU16M is installed in the system.)
- One NT1 device is required to interface each ISDN BRI line (2B + D) to the IX-2ICOTB card.
- The table below lists the switch types and protocols supported by the ADIX IX-2ICOTB card:

Switch Type	Protocol Type	Detail Type
DMS-100	National ISDN DMS-100 (Custom)	Multipoint2
5ESS	National ISDN	Multipoint2

■ The ADIX must be installed within the United States. ADIX does not support ISDN BRI installations in Canada.

SDN Primary Rate Interface (PRI)

An ISDN Primary Rate Interface (PRI) subscriber line consists of 23 64 kilobits per second B channels (or "bearer" channels) and one 64 kilobits per second D channel. This type of configuration may be referred to as "23B+D."

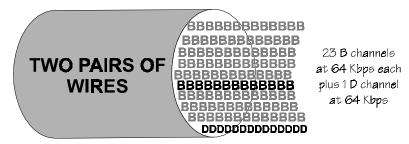


FIGURE 3.9-1 ISDN PRI LINE

As illustrated above, a PRI is delivered as a single pipe using two pairs of wires. One pair of wires is used for transmit, the other pair for receive. A high capacity, 1.544 megabit per second (Mbps) T1 circuit is used for delivery of this service. This 1.544 Mbps bandwidth or "23B+D" consists of 23 64Kbps B channels which are used for call connection and one 64 Kbps D channel used for control of the circuit.

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ISDN PRI Services Supported by the IX-ICOTP Card

Central Office Switch Types Supported

- AT&T 5ESS
- Other (e.g., DMS-100, DMS-250)

Note: Iwatsu America has conducted extensive testing at Bellcore testing facilities and field test sites to confirm the compatibility of the AT&T 5ESS, DMS-100, and DMS-250 central office switches. These three switches are the most common used to provide ISDN PRI service in North America. However, other switches may be available that offer comparable services. Should the ISDN service provider in your area use a switch other than the AT&T 5ESS, DMS-100, or DMS-250, contact Iwatsu America for compatibility information.

Basic Services Supported

Service	Description
Bearer Service	Basic service to circuit switch the ISDN network establishing the B-channel for communication between two end points and the D channel for signaling. Bearer service includes dialing, ringing, busy, etc.
Point-to-Point Connection	ADIX supports only point-to-point connection of the ISDN PRI span. Point-to-point connection means a direct connection from the ADIX site to the ISDN PRI provider. No fractional connection is supported at this time.
Directory Number	Telephone number assigned to ISDN PRI line for dialing in.

Optional Services Supported

Service	Description	Conditions
Direct Outward Dialing (DOD)	Direct line access for outgoing calls for local or long distance.	May not be used with any other outgoing dialing services.
Direct Inward Dialing (DID)	Allows call connection directly to a system extension or group of extension bypassing an attendant.	Calls follow DNIS routing. May not be used in combination with ANI for routing.
Automatic Number Identification (ANI)	Identifies the calling party's telephone number with an incoming call. Note: No alphanumeric ID is sent with the call.	Calls may be routed according to ANI received. If calls are received with both DNIS and ANI, Class 04.70 < NUM22> determines routing table - ANI or DNIS.
Dialed Number Identification Service (DNIS)	Identifies the number the caller dialed with an incoming call. Note: No alphanumeric ID is sent with the call.	Calls may be routed according to DNIS received. If calls are received with both DNIS and ANI, Class 04.70 < NUM22> determines routing table - ANI or DNIS.
Dynamic Channel Allocation	All 23 B Channels of the PRI span may be used for both incoming and outgoing dialing.	This feature will be required in the future to implement Call-by-Call NSF (network specific facilities).
Multi-PRI (Multi-DS1)	Use one D channel for signaling on multiple PRI spans.	Up to 8 spans may be assigned to one D channel.

Services Not Supported

Service	Description	
Call-by-Call NSF	Allows multiple inbound and outbound network specific services (i.e., out WATS,	
	Foreign Exchange, DID) on a line depending on the telephone number dialed or received.	
Network Ringback	When a busy call is made, NSF waits for availability then redials the number.	
Channel Restriction	Fractional use of an ISDN PRI span.	
D-channel Backup	Secondary D-channel for use as a backup with Multi-PRI feature. This feature would allow the capability to use the D channel of another ISDN PRI span in the event that the	
	primary D channel fails.	
Calling Line ID (Delivery on	ADIX does not include calling party number identification element with outgoing calls	
Outbound Calls)	from the ISDN PRI. This information must be requested through your ISDN service provider. (See Services Supported on page 3.)	

ADIX System Requirements

In order to support ISDN PRI subscriber lines, the ADIX system must meet the following hardware and software requirements:

- ADIX Software Version 4.73/5.73 or higher; ADIX ACD Software Version 2.31 or higher.
- One IX-ICOTP card (part number 102100) for each ISDN PRI subscriber line.
- One IX-PLLU clock card (part number 101250) is required per system. (Not required if IX-CPU16M is installed in the system.)
- One external CSU for each ISDN PRI subscriber line. This component must be provided by the customer.

Configuring and Defining ISDN PRI Lines

The data settings in Class 01.03 and Class 01.04 that are discussed in this section are programmed to identify and configure ISDN lines. All channels of the IX-ICOTP card must be defined as ISDN trunks. The 24th channel must be defined as the "D" channel.

Physical Port Assignment

The table below illustrates physical port mapping of the IX-ICOTP ISDN PRI card:

Physical Port	Channel	
1-23	B channel 1-23 respectively of the ISDN PRI subscriber line	
24	D channel of first ISDN PRI subscriber line	

Relationship Between Logical Port and ISDN PRI Channel

Like all other lines terminated to ADIX, the association between physical and logical ports is programmed in Class 01.03 of the system database. All subsequent database programming is based on the logical port assignment. However, when a line is seized for an outgoing call, the system connects with the highest available channel of the ISDN PRI span regardless of the logical port number. Also, when an incoming call arrives on the PRI span, it always arrives via the first available channel of the ISDN PRI span. However, the call is connected through the highest available logical port associated with the ISDN PRI span.

The relationship between logical port and PRI channel for incoming and outgoing calls is explained in greater detail below.

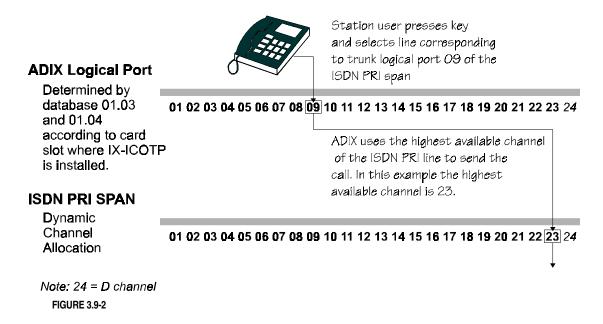
Outgoing Calls

When an ISDN PRI line (i.e., a PRI channel identified by its logical port number) is seized for an outgoing call, the system will select the highest available channel from one of the 23 B channels on the card to connect the call. All programming (e.g., toll restriction, outgoing group) is still associated with the call according to the logical port number.

For example, an IX-ICOTP card is installed in card slot 1 of an IX-CM (B channels = physical ports 001-023) and associated in Class 01.03 with trunk logical ports 001-023 respectively. A system extension presses a [FLT] key and seizes trunk logical port 001. The system will then use the highest available channel of the ISDN PRI span to connect the outgoing call. For example, channel 23. All database programming for the call is associated with trunk logical port 1.

Figure 3.9-2 further illustrates the relationship between logical port number and ISDN PRI channel for outgoing calls.

Outgoing Call on an ISDN PRI Line



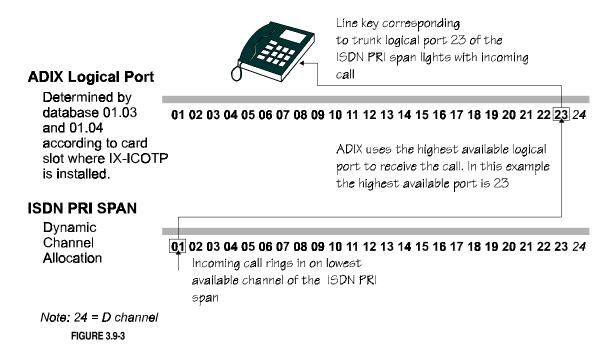
Incoming Calls

An incoming call on an ISDN PRI line will always arrive at the ADIX on the lowest available channel of the ISDN PRI span. Connection to the system, however, is always through the highest available ISDN PRI logical port.

For example, an IX-ICOTP card is installed in card slot 1 of an IX-CM (B channels = physical ports 001-023) and associated in Class 01.03 with trunk logical ports 001-023. Trunk logical ports 001 through 023 are programmed to ring in at station 201. A call arrives on the ISDN PRI line via the first channel of the IX-ICOTP card. The system then selects the highest available trunk logical port associated with that PRI span to connect the call. In this example, the call rings in at station 201 via trunk 23.

Figure 3.9-3 further illustrates the connection path of an incoming call.

Incoming Call on an ISDN PRI Line



Protocol Type

The protocol type must be set in Class 11.73, Element 2 of the ADIX database. ADIX supports the following ISDN PRI protocol types:

Software Version	CO Switch Type	Protocol Supported
4.75/5.73/ACD 2.31	5ESS	National ISDN Only
	DMS	National ISDN, DMS Custom
6.00/ACD 6.00	5ESS	National ISDN, 5ESS Custom
	DMS	National ISDN, DMS Custom

Entering the PRI Interface ID for Multiple ISDN PRI Lines

Class 11.74 <TRKLxxx-01> is used to program the identification number for each PRI line when multiple ISDN PRI lines are terminated to ADIX. The PRI Interface ID for each line is a number between zero and eight that is assigned by the telephone company. Programming in this item is only required when the Multi-DS1 feature is used.

Programming the Controlling D Channel for Multiple ISDN PRI Lines

Class 11.74 <TRKLxxx-02> is used to identify the controlling D channel when the Multi-DS1 feature is used. Enter the last logical port number of the IX-ICOTP card that contains the controlling D channel. Programming in this item is only required when the Multi-DS1 feature is used. A maximum of eight IX-ICOTP cards may be controlled by a single D channel

Preventing Call Blocking on ISDN PRI Lines

In many ISDN PRI installations, the span is configured to allow incoming traffic only on one specific block of channels, and outgoing traffic only on the remaining block of channels. This type of configuration may be programmed in the ADIX database using Class 11.38 and Class 24.07 or 25.07. An ISDN PRI span may also be ordered from the service provider with this type of configuration already in place. For example, Channels 1-12 of the ISDN PRI span are used for incoming traffic only, while channels 13-23 are used for outgoing traffic only.

Because the ADIX uses the highest available ISDN PRI trunk logical port to connect an incoming call, and also uses the highest available ISDN PRI trunk logical port to connect an outgoing call (as explained on page 58 of this bulletin), care must be taken when programming outgoing trunk groups in Class 11.38. When configuring an ISDN PRI span for specific incoming and outgoing channel assignment, Iwatsu America recommends using the lowest trunk logical port numbers available when creating outgoing trunk groups in Class 11.38. This will prevent the possibility of call blockage occurring on the line when an outgoing call is attempted.

Note: The information in this section only affects ISDN PRI spans in which access to specific channels is restricted for incoming call traffic only or outgoing call traffic only. Call blocking, as described in this section, is not an issue when all 23 B channels of the ISDN PRI span are accessible for both incoming and outgoing call service.

Enabling ISDN PRI Lines for Routing Based on ANI or DNIS

All incoming calls on an ISDN PRI lines may be routed based on either the ANI conversion table or DNIS conversion table. Calls received with DNIS or DID information are both treated as DNIS calls. ADIX does not refer to the DID table in Class 9 for ISDN PRI calls received with DID. In order for this feature to operate, the following programming is required:

- Class 04.70 < NUM22 > must be enabled for either ANI call routing or DNIS call routing.
- If routing is according to ANI, each individual channel of the ISDN PRI span, on which routing according to ANI received with the call is desired, must be enabled for routing based on the ANI received in each line of the conversion table (1-500) in Class 24.07.
- If routing is according to DNIS or DID, each individual channel of the ISDN PRI span, on which routing according to DNIS received with the call is desired, must be enabled for routing based on the DNIS received in each line of the conversion table (1-200) in Class 25.07.

If the ANI or DNIS conversion table does not contain routing information for the call, or if the trunk is not enabled for ANI in Class 24.07 or DNIS in Class 25.07, the ADIX will route the call according to the following programming:

- Class 11.34 DIL to Hunt Group
- Class 11.32 Ringing Station
- Class 11.26 Attendant Intercept Line
- Class 04.55 True Attendant Position

Call Routing Based on ANI. When an incoming call with ANI digits is received on an ISDN trunk, the system first looks to Class 24.07 to determine if the trunk is enabled for ANI call routing. If the ISDN trunk is enabled for ANI, the ADIX will search *Class 24.01* for a match. If a match is found the system searches *Class 24.03* for an alphanumeric ID and *Class 24.02* for a ringing assignment. The ringing assignment can be either a station, master hunt group, ACD group or voice mailbox.

Call Routing Based on DNIS. When an incoming call with DNIS digits is received on an ISDN trunk, the system first looks to Class 25.07 to determine if the trunk is enabled for DNIS call routing. If the ISDN trunk is enabled for DNIS, the ADIX will search *Class* 25.01 for a match with the DNIS digits received. If a match is found the system searches *Class* 25.03 for an alphanumeric ID and *Class* 25.02 for a ringing assignment. The ringing assignment can be either a station, master hunt group, ACD group or voice mailbox.

Note: Incoming calls routing according to the DID digits received follow programming in the Class 25 DNIS Conversion Tables. Class 09 does not affect DID calls on ISDN PRI lines.

Conditions:

- 1. One IX-ICOTP card is required for each ISDN PRI line.
- 2. Incoming ISDN calls can be routed according to the ANI, DNIS, or DID digits received. DID routing follows the DNIS conversion tables (Class 25).
- 3. Class 24.07 must be enabled to allow call routing according to ANI on ISDN lines. Class 25.07 must be enabled to allow call routing according to DNIS on ISDN lines.
- 4. When both ANI and DNIS digits are received with a call, the system may use only ANI or DNIS to route the call. Routing is based on the programming in Class 04.70 < NUM22>.

5. When both ANI and DNIS digits are received with a call, only the ANI digits will print on the SMDR.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.70 < NUM 22>; 04.71 Call Coverage/Voice Mail Data; 04.72 < NUM15> Event Code Output Port; 04.77 Voice Mail/Auto Attendant Packet Codes; 11.73 ISDN Switch Type; 11.74, < NUM 2>=1 PRI Interface ID; 11.74, < NUM 2>=2 Controlling D Channel; Class 24, Class 25.

Hardware Required:

IX-ICOTP



SMDR, or Station Message Detail Recording, is a data stream generated by ADIX that records incoming and outgoing call activity. SMDR output is through the RS232C port of the IX-SCIF, IX-HCIF, or IX-EDVIF serial interface card. One of these cards is required in the system to activate SMDR.

This bulletin provides a detailed description of the SMDR data generated by various types of incoming and outgoing calls.

Data Transmission

SMDR data transmission from the ADIX is in ASCII code. Various data transmission parameters must be defined by setting DIP switch SW2 on the IX-SCIF and IX-EDVIF cards, or DIP switch SW4 on the IX-EDVIF card. These parameters include the transmission speed, data size, data length, parity and stop bits. The ADIX system also supports printer controls such as XON-XOFF flow control and DTR. For more information on DIP switch settings please refer in **Section 4** under the respective card.

Printout Configuration

Standard 8.5" by 11" printer paper is used for the SMDR printout. It is formatted as follows:

Pages

Each page contains 66 lines and includes the following information:

- Line 1 through 6 = header / date
- Line 7 through 64 = SMDR records
- Line 65 through 66 = footer

If there is not enough space remaining on the page to print out all the information for a particular call, it is continued on the next page. When the date changes, it will automatically print a new page.

Records

A record contains 80 characters followed by a [CR/LF]. The detail of each record is described later in this chapter.

SMDR Data Fields

Each SMDR record contains eight data fields:

- Sequence number
- Extension number
- Time when call is made
- Duration
- Time of the call
- Called number
- Account number
- Notes

Each of these data fields is described below.

Sequence Number

Title:	SEQ
Position:	1 through 3
Range:	001 through 999. When it exceeds 999, it restarts at 001

Note: The ADIX will record up to two call transfers. The extension the call was transferred to and the duration of the calls will be included in the second and third line of the call.

Trunk Number

Title:	TRK
Position:	5 through 7
Range:	Up to three digits, showing a logical port number of the trunk port

Extension Number

Title:	EXT
Position:	9 through 12
Range:	Up to four digits

Note: If a station number is not assigned in Class 10, XXXX prints as the station number.

Call Start Time

Title:	TIME
Position:	15 through 19
Range:	00:00 through 23:59.

Duration Of The Call

Title:	DUR
Position:	21 through 28
Range:	Up to 9 hours 59 minutes and 59 seconds for the call duration time. If a call exceeds the maximum time, it will be indicated as "*h:mm:ss" for the duration over the maximum time. (10 hours, 59 minutes and 10 seconds will be shown as "*1:59:10).

Chapter 10 ADIX SMDR Data Streams

Called Number (Outgoing Calls)

Title:	CALLED NUMBER			
Position:	35 through 61			
Range:	Up to 28 digits			

Special Symbols For Called Number (Outgoing Calls). The following symbols are used to indicate a "pause" and "dial mark."

Condition	Description	Symbol
Dial Pause	A pause in the dial string.	(ASCII code 2DH) X
Dial Mark	When the invisible system speed dial is accessed, this code is printed instead of the speed dial number. This is a programming option.	(ASCII code 58H).

Calling Number (Incoming Calls)

Title:	CALLED NUMBER		
Position:	35 through 44		
Range:	Up to 10 digits		

Calling Name (Incoming Calls)

Title:	CALLED NUMBER			
Position:	46 through 61			
Range:	Up to 16 characters			

Account Code

Title:	ACCT NO.
Position:	62 through 73
Range:	Up to 12 digits

Note: Account Codes are not included in the text strings if they are entered before sender time out.

Notes

Title:	NOTE
Position:	75 through 80
Range:	Up to 6 alpha characters

Call Detail Notations in the Note Column. The ADIX system SMDR print out provides the call detail in the NOTE column with the notations listed below.

Incoming Calls			
DID	DID incoming call		
DIS	DISA incoming call (without station password)		
DIP	DISA incoming call (with station password)		
DIA	DISA incoming call (Remote programming access)		
TRA	Incoming call on the activated Remote Call Forwarding line		

Outgoing Calls			
DIS	Outgoing call through DISA (with station password)		
TRN	Outgoing call through Remote Call Forwarding		
TIE	Outgoing call through Tie Line		

Common Symbols

The following symbols are added before a call record:

Symbol	Description		
*.	Indicating first transfer		
**.	Indicating second		
	transfer		

The following symbols are added at the end of a call record:

Symbol	Description
#	Outgoing call
Α	Attendant handled call

SMDR Output Format

OUTGOING RECORD			INCOMING RECORD		
Field	Start Col	Length	Field	Start Col	Length
SEQUENCE	1	3	SEQUENCE	1	3
TRUNK	5	3	TRUNK	5	3
EXTENSION	9	4	EXTENSION	9	4
TIME	15	5	TIME	15	5
DURATION	21	8	DURATION	21	8
NUMBER DIALED	35	28	CALLING NUMBER	35	10
ACCOUNT NUMBER	62	12	CALLING NAME	47	16
OUT INDICATOR	75	1	ACCOUNT NUMBER	62	12
NOTES	76	3	OUT INDICATOR	75	1
ATTENDANT MARK	79	1	NOTES	76	3
			ATTENDANT MARK	79	1

Chapter 10 ADIX SMDR Data Streams

Sample Printouts

00000000011111111111222222 12345678901234567890123456				-
DATE: JAN.21/'96				
~	OUR C	CALLED NUMBER	ACCT NO.	NOTE
Outgoing call dialed by an extension. 001 11 3305 8:53 1	:58	9290242	#	
Outgoing call dialed by an attendant. 002 23 3301 9:15 1	:15	9290242	#	A
	and transferred to an extension. : 18 : 08	12019358580	#	А
Outgoing international call. 005 21 3306 10:36 2	:15 01141325	5789645231524	#	
Outgoing call using an account code 006 12 3302 10:57 10	:32	12019355220 12	234567890 #	
	at caller ID, answered by the atter 16 2149290242 IV 36	ndant and transferred. NATSU AMERICA		A
	d by the attendant and transferred. : 24 2149298935 : 27			А
Incoming call with caller ID, with ring 009 2 3302 11:49 2	ging directed to an extension other : 07 2149298918	than an attendant.		

FIGURE 3.10-1

1234	5678	390123	4567890		333333333444444 01234567890123456				
		N.21/ EXT	TIME	DUR		CALLED	NUMBER	ACCT :	NO. NOTE
Incom 010 * **			caller ID, 11:58	answered by th 0:21 1:27 3:06	he attendant and transfer 2149298919	red twice.			A
<i>Incon</i> 011		NIS cali 3303	13:14	3:06	6701				
		OID call. 3305	13:32	2:08					DID
<i>Incon</i> 013			e call to a 14:36	n attendant. 3:04					DISA
			e call to a 15:00	n extension. 6:04					DIS
		OISA Line 3305	e call. 15:17	4:49			4677		#DIS
Outgo 016	oing T 47	ie Line o 3304	eall. 16:11	10:05			2203		#TIE
			optimized 16:22	d routing with 4:18	digit insertion and a pau	se. XX-1201	9358580		#
<i>Aban</i> 001	doned 3	call wit	hout being 15:41	g answered	3012587563				ABN
<i>Aban</i> 002			er being at 15:42	nswered and w 0:14	hile on hold 3012587563				ABNA
<i>Aban</i> 003 *			er being at 15:43	nswered , trans 0:22 0:13	sferred, and then while o 3012587563	n hold			A ABN

FIGURE 3.10-2

SMDR Cable Pin Outs

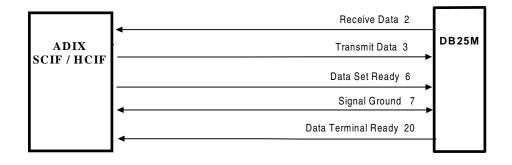


FIGURE 3.10-3 SCIF / HCIF OUTPUT USING THE DB25 MALE CABLE.

Chapter 10 ADIX SMDR Data Streams

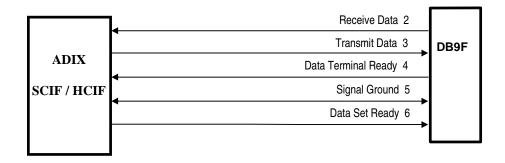


FIGURE 3.10-4 SCIF / HCIF OUTPUT USING THE DB9 FEMALE CABLE.

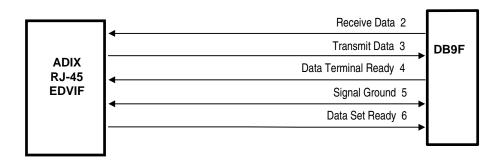


FIGURE 3.10-5 EDVIF OUTPUT USING THE RJ-45 / DB9 FEMALE CABLE.



Section 4

Component Description

I ntroduction

This section describes in detail the ADIX and ADIX-M components. All ADIX and ADIX-M components can be divided into four basic categories:

Common Modules and Accessories

This category includes the different types of common modules, expansion modules, and accessories such as connecting modules, battery boxes, terminator units, and motherboard interface units.

Power Supplies

This category includes the two types of power supplies: *main power supplies* which provide basic operating power to the system components, and *additional power supplies* which provide additional power resources when certain circuit cards or station terminals are installed in the system.

Circuit Cards

Circuit cards control system functions, add features to the system, and provide a physical path between outside lines, ADIX components, and individual stations. This category is divided into four subcategories:

Common Control Cards control system functions by interpreting and executing instructions as they are received. This category includes central processing units, memory expansion modules, and highway controller cards.

Trunk Interface Cards provide an interface between the system universal ports and the different types of trunk lines.

Station Interface Cards provide an interface between the system universal ports and the individual station terminals.

Shared Resource Cards or **Miscellaneous Cards** add features to the ADIX system. For example, external MOH, conferencing, paging, and message recording.

Station Equipment

This category includes the station equipment that can be installed in the system. For example, digital telephones, attendant consoles, and data modules.

Figure 4.1-1 on the next page illustrates the basic ADIX components.

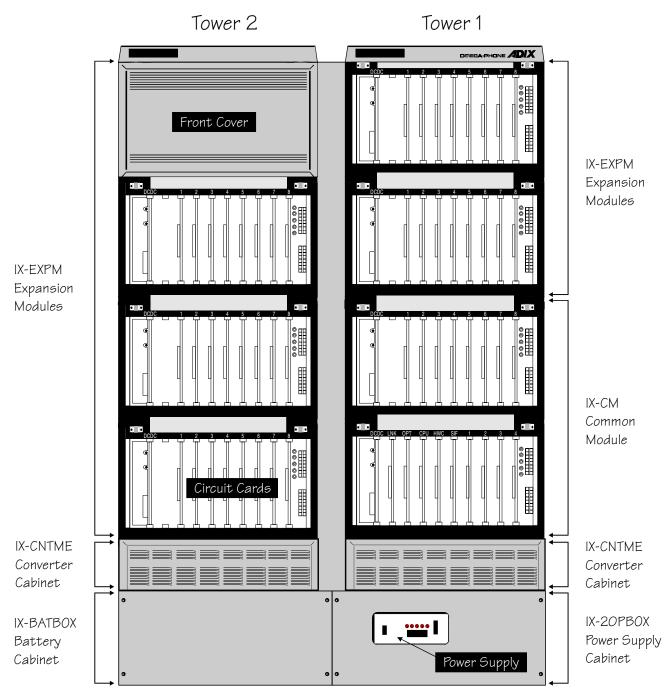


figure 4.1-1 ADIX components



Common Modules

There are three types of common modules:

- IX-50CM Common Module (Discontinued) Stand-alone common module that supports the ADIX 56-port system.
- IX-CM Common Module Core common module for the expandable ADIX.
- IX-CMM Common Module Expandable common module for the ADIX-M.

IX-50CM Common Module (Discontinued)

The IX-50CM common module supports a stand-alone 56-port system. The IX-50CM requires an IX-50PWS power supply. Any of the ADIX common control cards are compatible with the IX-50CM. This system cannot be expanded beyond 56 ports. However, all components and station equipment (with the exception of the IX-50PWS) can be used with the standard IX-CM and IX-EXPM modules.

Model:IX-50CMCard SlotsPart No.:100010 (discontinued)Common:2Capacity:56 ports, non-expandableUniversal:7

CPU: Compatible with all models Other: DC/DC; Space for IX-EDCTU

Power Supply: IX-50PWS **Size:** 20"H x 20"W x 11.5"D

Weight: 40 lbs.

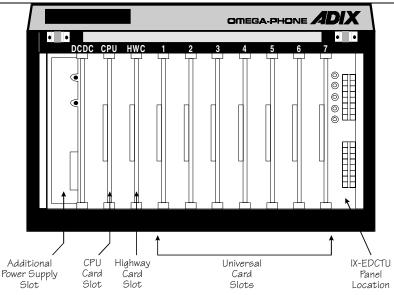


FIGURE 4.2-1 IX-50CM COMMON MODULE

IX-CM Common Module

The IX-CM common module is the fundamental component of the modular ADIX system. It contains the system CPU, highway control card, and 12 universal card slots for a total of 96 universal ports. The IX-CM common module is a two-shelf unit. The first shelf has five dedicated card slots (for common control cards and a serial interface card) and four universal card slots. The second shelf has eight universal card slots. Both shelves of the IX-CM have space for an additional power supply and an IX-EDCTU board. With the addition of IX-EXPM expansion modules, the ADIX can be expanded up to 448 ports. Common control card and power supply requirements vary depending on the number of system ports.

Model: IX-CM **Card Slots** 100020 Part No.: Common: 5 Universal: Capacity: 96 ports, expandable to 448 ports 12 CPU: DC/DC (2) IX-CPUP/HW with IX-CPU MEM M -Other:

1-224 port systems

IX-CPUP/HW with IX-CPU20 MEM-L --

1-225-448 port systems

Power Supply: IX-100PWS - systems with 96 ports or

IX-200PWS – systems larger than 96

ports

Space for IX-EDCTU on each shelf

Size: 32"H x 20"W x 11.5"D

73 lbs. Weight:

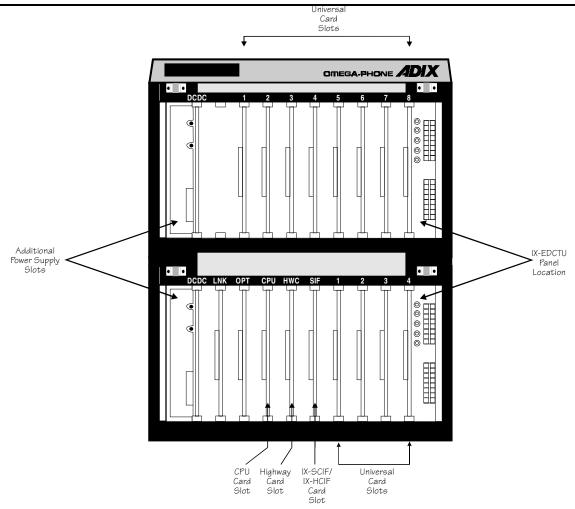


FIGURE 4.2-2 IX-CM COMMON MODULE

IX-CMM Common Module

The IX-CMM common module is the fundamental component of the ADIX-M and ADIX-S systems. This unit has space reserved for the main power supply, IX-DCDCM, IX-RNGUM, and five universal card slots. Card slot one can accommodate up to 24 ports. This is advantageous when installing cards such as the IX-T1DTI T1 interface card, IX-ICOTP ISDN PRI interface card, and IX-044 with IX-400 card. Card slots 2-5 are designed to will each support up to 12 ports.

Two CPUs are available for use with the IX-CMM. For standard ADIX features the IX-CPU16M CPU card may be used. The IX-CPU16M is installed in the CPU slot and controls system highway functions as well as CPU functions. If ACD is required, the IX-CPU32M must be used. This card is installed in the 24-circuit card slot (labeled 97-120) of the IX-CMM. When the IX-CPU32M is utilized an IX-HWCL card must be installed in the CPU slot to control system highway functions.

ADIX-S. ADIX-S configurations require the IX-PWSS main power supply. The IX-CMM will support up to 52 ports when equipped with an IX-PWSS main power supply. The ADIX-S can be easily upgraded to an ADIX-M by replacing the IX-PWSS with an IX-PWSM main power supply.

ADIX-M. ADIX-M configurations require the IX-PWSM main power supply. The IX-CMM will support up to 72 ports when equipped with an IX-PWSM main power supply. With the addition of two IX-EXPMM expansion modules, the ADIX-M maxes out at 200 ports.

 Model:
 IX-CMM
 Card Slots

 Part No.:
 040010
 Common:
 1

 Capacity:
 224
 Universal:
 5

CPU: IX-CPUP/HW with IX-CPU20-MEM_M Other: IX-RNGUM, IX-DCDCM

Size: 15.5"H x 19"W x 11.5"D

Power Supply: IX-PWSS, IX-PWSM Weight: 26 lbs.

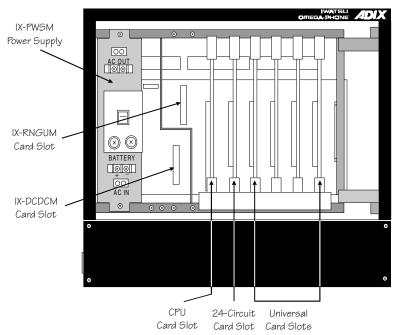


FIGURE 4.2-3 IX-CMM COMMON MODULE

IX-CML Common Module

The IX-CML common module is the fundamental component of the ADIX APS system. This unit has space reserved for the IX-PWSL power supply, IX-CPUP/HW CPU Card, IX-DCDCM, IX-RNGUM, and five universal card slots. Card slot one can accommodate up to 24 ports, card slots 2 through 5 will accommodate up to 16 ports each. The IX-CML provides a maximum of 88 ports.

The IX-CPUP/HW with either an IX-CPU20/MEM-M or IX-CPU20/MEM-L loaded with Software Version 6.10 or higher is required in the IX-CML. This card is installed in the CPU slot. It contains the system operating system and customer database. It controls all system highway functions as well as CPU functions.

Model:IX-CMLCard SlotsPart No.:040013Common:1Capacity:88 ports with IX-PWSLUniversal:5

CPU: IX-CPUP/HW with either Other: IX-RNGUM, IX-DCDCM

IX-CPU20/MEM-M or IX-CPU20/MEM-L Size: 12.5"H x 19"W x 11.5"D

Power Supply: IX-PWSL Weight: 17 lbs. Empty

30.4 lbs. Full capacity

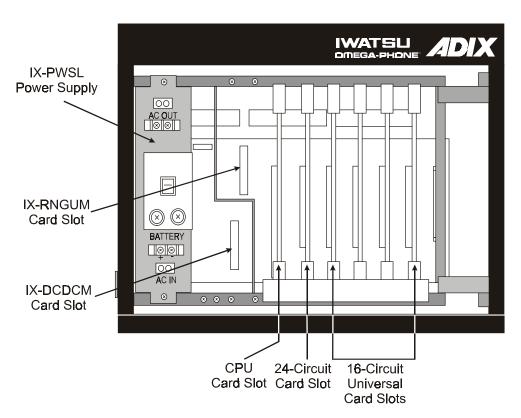


FIGURE 5. IX-CML COMMON MODULE

Space for IX-EDCTU

Expansion Modules

There are two types of expansion modules:

- IX-EXPM Expansion Module ADIX expansion module. Each unit adds 64 ports.
- IX-EXPMM Expansion Module ADIX-M expansion module. Each unit adds a maximum of 64 ports.

IX-EXPM Expansion Module

The IX-EXPM expansion module adds eight universal card slots/64 universal ports to the ADIX system. Six IX-EXPM units can be added to the IX-CM common module. This unit has dedicated space for an additional power supply and an IX-EDCTU board. The IX-200PWS power supply is required when the first IX-EXPM expansion module is added to the IX-CM.

 Model:
 IX-EXPM
 Card Slots

 Part No.:
 100050
 Common:
 0

 Capacity:
 64 ports
 Universal:
 6

 CM Required:
 IX-CM
 Other:
 DC/DC

CPU: IX-CPUP/HW with IX-CPU MEM M —

1-224 port systems

IX-CPUP/HW with IX-CPU20 MEM-L -- Size: 12"H x 20"W x 11.5"D

1 – 225-448 port systems

Power Supply: IX-200PWS Weight: 35 lbs.

Interconnection: Power cable and MBIF cable

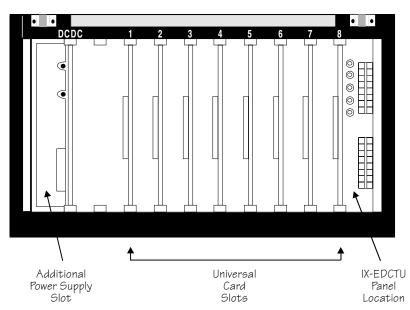


FIGURE 4.2-4 IX-EXPM EXPANSION MODULE

IX-EXPMM Expansion Module

The IX-EXPMM expansion module adds six universal card slots/64 universal ports to the ADIX system. IX-EXPMM card slot 1 supports a maximum of 24 ports. Cards slots 2-6 each support a maximum of 8 ports. A maximum of two IX-EXPMM units can be added to the IX-CMM common module. This unit has dedicated space for the IX-PWSM main power supply and two additional power supplies. An internally-mounted IX-PWSM power supply is required in each IX-EXPMM expansion module.

Model:IX-EXPMMCard SlotsPart No.:040020Common:0Capacity:48 ports (64 ports with IX-T1DTI card)Universal:6

CM Required: IX-CMM

Power Supply: IX-PWSM in each unit

Interconnection: Power supply connecting cable

Universal: 6
Other: IX-DCDCM

Size: 11.5"H x 19"W x 11.5"D

IX-RNGUM

Weight: 16 lbs.

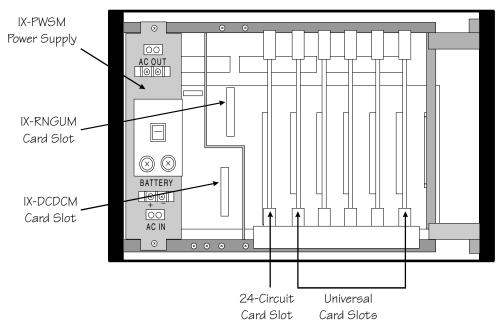


FIGURE 4.2-5 IX-EXPMM EXPANSION MODULE

Because of differences in the highway architecture, the IX-EXPMM Expansion Module (ADIX-M) may not be connected to an IX-CML Common Module, IX-EXPML1 Expansion Module, or IX-EXPML2 Expansion Module (ADIX APS).

The table below lists the Expansion Modules supported by each Common Module.

System	Common Module	Expansion Modules Supported
ADIX APS	IX-CML	IX-EXPML1, IX-EXPML2
ADIX-M	IX-CMM, IX-CMM-1	IX-EXPMM
ADIX-S	IX-CMM, IX-CMM-1	NONE.
ADIX 100, ADIX	IX-CM	IX-EXPM
200, ADIX 450		

IX-EXPML1 Expansion Module

The *IX-EXPML1* Expansion Module is used when adding a second, third, or fifth shelf to the ADIX APS system. The *IX-EXPML2* Expansion module must be used when adding a fourth shelf to the ADIX APS system.

The IX-EXPML1 expansion module adds six universal card slots and 96 universal ports to the ADIX APS system. In IX-EXPML1, the first card slot supports a maximum of 24 ports. The second card slot supports a maximum of 8 ports. The third through sixth card slots each support a maximum of 16 ports. This unit has dedicated space for the IX-PWSL main power supply as well as the IX-DCDCM, IX-RNGUM power supplies. An internally-mounted IX-PWSL power supply is required in each IX-EXPML1 expansion module.

Model:IX-EXPML1Card SlotsPart No.:040021Common:0Capacity:96 ports with IX-PWSLUniversal:6

CM Required: IX-CML Other: IX-DCDCM
Power Supply: IX-PWSL in each unit IX-RNGUM

Interconnection: Power supply connecting cable Size: 11.5"H x 19"W x 11.5"D

Weight: 16 lbs. Empty

29.7 lbs. Full Capacity

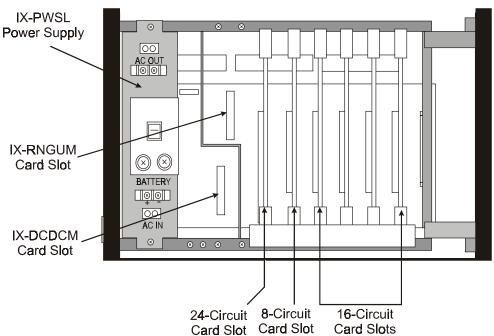


figure 6. IX-EXPML1 EXPANSION MODULE

IX-EXPML2 Expansion Module

The *IX-EXPML2* Expansion Module is used exclusively when adding a fourth shelf to the ADIX APS system. The *IX-EXPML1* Expansion module must be used when adding a second, third, or fifth shelf to the ADIX APS system.

The IX-EXPML2 expansion module adds six universal card slots and 96 universal ports to the ADIX APS system. In IX-EXPML2, the first card slot supports a maximum of 24 ports. The second card slot supports a maximum of 8 ports. The third through sixth card slots each support a maximum of 16 ports. This unit has dedicated space for the IX-PWSL main power supply as well as the IX-DCDCM, IX-RNGUM power supplies. An internally-mounted IX-PWSL power supply is required in the IX-EXPML2 expansion module.

Model:IX-EXPML2Card SlotsPart No.:040022Common:0Capacity:96 ports with IX-PWSLUniversal:6

CM Required:IX-CMLOther:IX-DCDCMPower Supply:IX-PWSL in each unitIX-RNGUM

Interconnection: Power supply connecting cable Size: 11.5"H x 19"W x 11.5"D

Weight: 16 lbs. Empty

29.7 lbs. Full Capacity

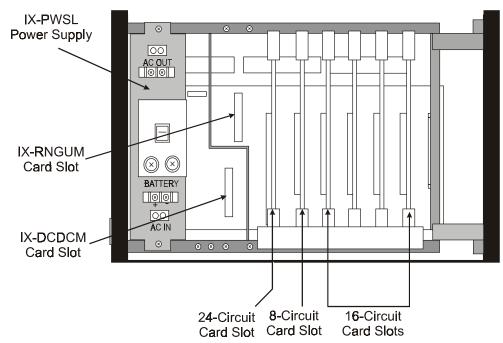


FIGURE 7. IX-EXPML2 expansion module

Common Module/Expansion Module Related Hardware

IX-20PBOX Power Supply Cabinet and Base

The IX-20PBOX power supply cabinet houses the IX-200PWS power supply. It allows for easy access to the IX-200PWS for maintenance and removal. This cabinet is installed at the bottom of tower 1 and sits on a base that is factory connected. The IX-20PBOX is required in all systems larger than 224 ports.

Model: IX-20PBOX **Size:** 17.2"H x 20.5"W x 11.5"D

Part No.: 100500

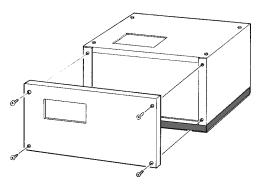


FIGURE 4.2-6 IX-20PBOX POWER SUPPLY CABINET

IX-BATBOX Battery Cabinet and Base

The IX-BATBOX battery cabinet and base supports the second tower in an ADIX larger than 224 ports. Space is provided inside this unit for optional system back-up batteries. This cabinet is installed at the bottom of tower 2 and sits on a base that is factory connected.

Model: IX-BATBOX **Size**: 17.2"H x 20.5"W x 11.5"D

Part No.: 100510

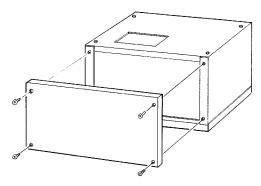


FIGURE 4.2-7 IX-BATBOX BATTERY CABINET

IX-CNTM / IX-CNTME Converter Cabinet

The IX-CNTME converter cabinet is mounted between the power supply (single-tower systems), power supply cabinet (tower 1), or battery cabinet (tower 2) and the IX-CM (tower 1) or first IX-EXPM (tower 2). It provides space for running cables and installing two IX-RNGU units. The IX-CNTME converter cabinet is included with each power supply. The IX-CNTM is part of the IX-450 hardware kit.

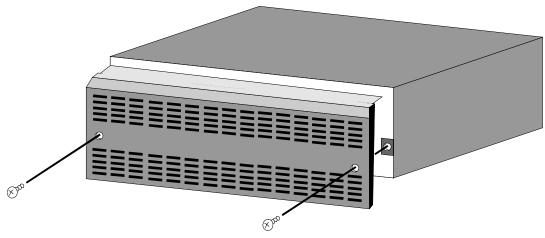


FIGURE 4.2-8 IX-CNTME CONVERTER CABINET

IX-450 Hardware Kit

The IX-450 hardware kit is required to expand the ADIX beyond 224 ports by adding a second tower. Included in the kit are the following components:

- Brackets to connect and secure tower 1 and tower 2
- IX-DCDCU DC-to-DC converter unit
- IX-CNTME converter cabinet
- Top cover for tower 2
- Bus connecting cable
- Power supply cable
- Grounding wires

Model: IX-450HK Part No.: 100260

IX-CMMBU Base Unit

Important: An IX-CMMBU Base Unit is required when installing a fourth cabinet (IX-EXPML2) to the ADIX APS System.

The IX-CMMBU Base Unit is installed under the IX-CML Common Module and is needed in two cases: when mounting the ADIX APS on the floor, and when routing a second AC power supply cable to an AC Power outlet. The first AC power supply cable is connected and exits from the IX-CML to an AC Power outlet. The second power cable is connected to the IX-PWSL Power Supply installed in the IX-EXPML2 Expansion Module then secured to the IX-CMMBU Base Unit, exiting to the same AC Power outlet This base unit is required to meet UL approval.

Note: Both AC power supply cables must be plugged into the same AC Power Circuit.

The AC power supply cable plate on the left side of the unit can be removed to allow an exit point for the second AC power supply cable to the outlet (see left side view on Figure 10.) The perforated opening on right side of the unit is used for cabling attached to the circuit cards installed in the system (see right side view on Figure 10.) The IX-CMMBU Base Unit is compatible for all ADIX Systems.

Model: IX-CMMBU
Location: Installed under

IX-CML + four or

more shelves

Weight: 8 lbs. Height: 4"

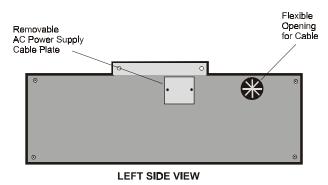
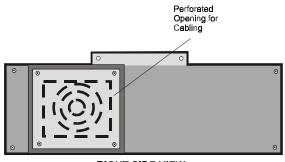


figure 10. LEFT AND right side panel of ix-cmmbu base unit



IX-MBIF Motherboard Interface Unit

The IX-MBIF motherboard interface unit is connected to the motherboard at the top right of the upper shelf of the IX-CM common module. An IX-MBIF must be connected to the top shelf of the IX-CM and to the top right of the motherboard of each IX-EXPM installed in the system. Rotary Switch SW1 must be set to indicate the location of the IX-MBIF unit. An IX-TERM unit must be connected to the IX-MBIF unit located on the top shelf of each tower.

Model: IX-MBIF On Board Setting: Set rotary switch

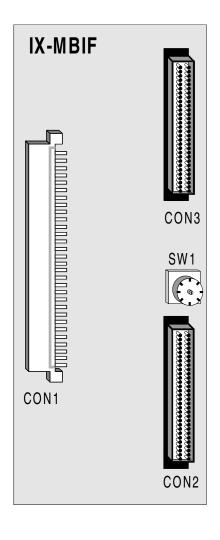
SW1 to

table below.

Part No.: 103060 indicate shelf number. See

Location: Top shelf of IX-CM, right side of

motherboard; Right side of motherboard on each IX-EXPM



Rotary Switch SW1 Settings		
Position	Shelf	
0	Not Used	
1	Top shelf of IX-CM	
2	First IX-EXPM	
3	Second IX-EXPM	
4	Third IX-EXPM	
5	Fourth IX-EXPM	
6	Fifth IX-EXPM	
7	Sixth IX-EXPM	

FIGURE 4.2-9 MOTHERBOARD INTERFACE UNIT

Motherboard Terminator Unit for ADIX

The IX-TERM unit terminates the data bus line of the ADIX common module and expansion modules. The IX-CM comes equipped with an IX-TERM unit connected to the FCON1 jack on the far left of the first shelf. A second IX-TERM must be connected to the CON2 jack on the IX-MBIF unit located on the upper right of the highest shelf of each tower. In a two-tower ADIX, the IX-TERM from the first shelf of the IX-CM is removed and connected to the CON2 jack on the IX-MBIF unit located on the upper right of the highest shelf of tower 2.

Note: This unit is not compatible with the ADIX-M.

Model: IX-TERM Part No.: 103060

Location: FCON1 jack of IX-CM, IX-MBIF on the top shelf

of each tower.

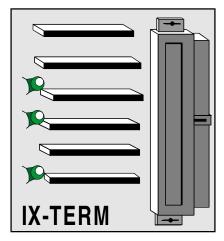


FIGURE 4.2-10 MOTHERBOARD TERMINATOR UNIT

Motherboard Terminator Unit for ADIX-M

The IX-TERMM unit terminates the data bus line of the ADIX-M common module and expansion modules. The IX-CMM comes equipped with an IX-TERMM unit connected to the FCON jack on the motherboard. This card must be moved when the system is expanded. See **Section 5 – Installation Guide** for instructions.

Note: This unit is not compatible with the ADIX.

Model: IX-TERMM Part No.: 040040

Location: One per system. FCON jack of IX-CMM, FCON 2 of

first IX-EXPMM,FCON 1 of second IX-EXPMM

IX-TERML Motherboard Terminator Card for ADIX APS

Two IX-TERML cards (see Figure 2) are used to terminate the data bus of the starting at IX-CML common module and pass through IX-EXPML1 or IX-EXPML2 expansion modules. The IX-CML comes equipped with two IX-TERML cards: an IX-TERML card connected to the FCON1 connector on the IX-CMBDL motherboard and one IX-TERML card connected to the FCON2 connector on the IX-CMBDL motherboard. These cards must be moved to the end of each bus connection when the system is expanded. These procedures are discussed in the *ADIX APS Installation* section of the *ADIX APS Technical Manual*.

Note: This unit is not compatible with the ADIX. The IX-TERML is however compatible with the ADIX-M common module and expansion modules.

Model: IX-TERML Part No.: 040042

Location: Two per system.

1 cabinet FCON1 and FCON 2 jack of IX-CML

2 cabinets FCON1 of IX-CML

FCON1 of 1st IX-EXPML1

3 cabinets FCON1 of IX-CML

FCON2 of 2nd IX-EXPML1

4 cabinets FCON2 of 2nd IX-EXPML1

FCON2 of IX-EXPML2

5 cabinets FCON2 of 2nd IX-EXPML1

FCON1 of 3rd IX-EXPML1

Note 1: Make sure the IX-TERML is completely inserted in the connector.

Note 2: The IX-TERMM is not compatible with the IX-CML common module and the IX-EXPML*n* expansion modules.

Note 3: Make sure the correct terminator cards are installed in your system.

IX-EDCTU External Device Connecting Terminal

The IX-EDCTU connecting panel provides phono jacks and screw terminals for connecting external devices such as P.A. amplifiers and MOH sources to the IX-MISC card.

Model: IX-EDCTU Control: MOH, Page Amp, Zone Page

Order No.: 101740 Speakers, Loud Ringer, Night Ringer

MOH, BGM, Night Switch Remote Control

Outputs: Page, BGM Location: Right Front of Shelf

Requirement: IX-MISC

Inputs:

Note: The IX-EDCTU board is labeled IX-EDCTB.

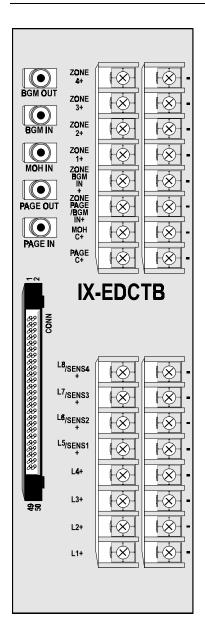


FIGURE 4.2-11 IX-EDCTU CONNECTING PANEL

PFXU-M Power Failure Transfer Unit (Discontinued)

This optional device can be used as an alternate back-up method to a battery array. When connected, the PFXU-M power failure transfer unit will automatically transfer designated CO/PBX lines from the ADIX to single line telephones in the event of a power failure. Each PFXU-M can accommodate eight CO lines.

Model IX-PFXU-M Conne CN1 - CO lines ctors: Order 204021 CN2 - SLTs No.: IX-8LGTK-2, IX-8SUBS-1 Requi CN3 – battery jack remen t: External SLTs, +24 VDC Locati on:

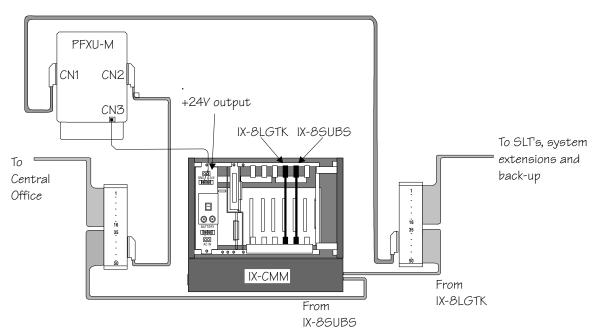


figure 4.2-12 IX-PFXU-M power failure transfer unit



This chapter describes in detail each ADIX power supply. There are two types of power supplies: *main power supplies* which provide basic operating power to the system components, and *additional power supplies* which provide additional power resources when certain circuit cards or station terminals are installed in the system. The IX-100PWS and IX-200PWS main power supplies for the ADIX are connected to the common modules using an identical connector. Therefore, the power supply can be easily upgraded. The IX-PWSM main power supply is required in each shelf of the ADIX-M system. The table below points out the distinction between power supplies.

Model	Туре	Function
IX-50PWS	Main	56-port ADIX system
IX-100PWS	Main	ADIX systems with up to 96 ports
IX-200PWS	Main	ADIX systems with greater than 96 ports
IX-PWSM	Main	ADIX-M system
IX-PWSL	Main	ADIX APS system
IX-DCDCA	Additional	Provides an additional -48VDC, +90VDC for ADIX
IX-DCDCB	Additional	Provides an additional -48VDC for ADIX
IX-DCDCM	Additional	Provides an additional -48VDC for ADIX-M
IX-DCDCU	Additional	Provides an additional ±8VDC for tower 2.
IX-MSGPW	Additional	Provides an additional +90VDC
IX-RNGU	Additional	Provides an additional +90VAC for ADIX
IX-RNGUM	Additional	Provides an additional +90VAC for ADIX-S/ADIX-M
IX-PMMSG	Additional	Mounts on IX-8SUBM-2. Provides an additional +90VDC

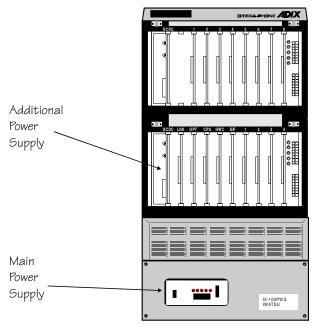


FIGURE 4.3-1 POWER SUPPLY LOCATION

Main Power Supplies

IX-50PWS Power Supply (Discontinued)

The IX-50PWS power supply is the main power source for the stand-alone 56-port ADIX system. A NEMA 5-15R outlet is required for AC connection. This power supply cannot be used with the IX-CM.

IX-50PWS BTU: Model: Part No.: 100310 (discontinued) Circuit

90-135 VAC, 50-60 Hz Protection: **Input Requirement:** F1 250V, 2 amp fuse **Outputs:**

4"H x 20"W x 11.5"D 5 VDC/2.6 amps for transistor logic Size: 24 VDC/5.5 amps for top battery Weight: 15 lbs.

relay operation Connectors: CN1

8 VDC/0.9 amps for coding and CN₂

CN3 decoding -8VDC/0.9 amps for analog/digital

conversion

CN1		
3	2	1
+5V	-8V	+8V
Red	Brown	Yellow
6	5	4
+5V	GND	+24V
Red	Black	Orange
9	8	7
GND	GND	GND
Black	Black	Black
12	11	10
+24	GND	+24
Orange	Black	Orange

CN2	
1 GND	
2 +24V	

CN3		
2	1	
PFDS*	GND	
Red	Brown	
4 Not	3	
Used	FALM**	
Yellow	Orange	

- PFDS: Power Failure Detector, notifies the CPU that there has been a loss of power. This signal is noted in the error log as "Power failure detects."
- FALM: Fuse Alarm, notifies the CPU that the alarm fuse is blown. This causes a minor alarm indication on the alarm panel.

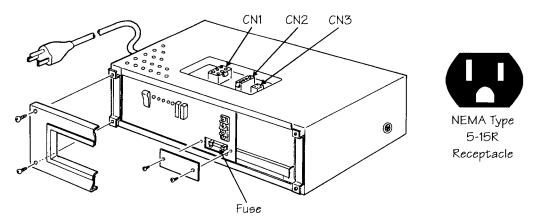


FIGURE 4.3-2 IX-50PWS POWER SUPPLY

Chapter 3 **Power Supplies**

IX-100PWS Power Supply

The IX-100PWS power supply is the main power source for ADIX systems up to 96 ports. This power supply must be replaced with the IX-200PWS power supply when a system is expanded over 96 ports. A NEMA 5-15R outlet is required for AC connection.

Model: IX-100PWS BTU: 1330

Part No.: 100320

Protection: Input Requirement: 90-135 VAC, 50-60 Hz Size:

Outputs: 5 VDC/4.7 amps for transistor logic 24 VDC/11 amps for top battery

relay operation

8 VDC/1.5 amps for coding and

decoding

-8VDC/1.5 amps for analog/digital

conversion

Circuit

F1 250V, 2 amp fuse 6"H x 20"W x 11.5"D

Weight: 22 lbs. Connectors: CN1, CN2

CN3

CN1		
3	2	1
+5V	-8V	+8V
Red	Brown	Yellow
6	5	4
+5V	GND	+24V
Red	Black	Orange
9	8	7
GND	GND	GND
Black	Black	Black
12	11	10
+24	GND	+24
Orange	Black	Orange

CN2
1 GND
2 +24V

CN3		
2	1	
PFDS*	GND	
Red	Brown	
4 Not	3	
Used	FALM**	
Yellow	Orange	

- PFDS: Power Failure Detector, notifies the CPU that there has been a loss of power. This signal is noted in the error log as "Power failure detects."
- ** FALM: Fuse Alarm, notifies the CPU that the alarm fuse is blown. This causes a minor alarm indication on the alarm panel.

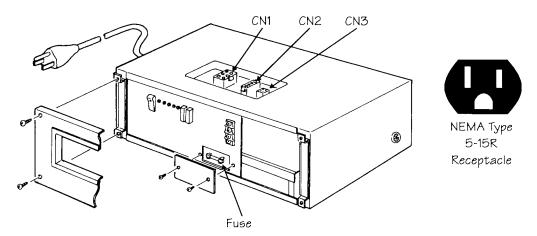


FIGURE 4.3-3 IX-100PWS POWER SUPPLY

IX-200PWS Power Supply

The IX-200PWS power supply is required as the main power source in all ADIX systems larger than 96 ports. A NEMA 5-20R outlet designed for 20 amp maximum current is required for AC connection. This unit cannot be connected to a standard outlet (NEMA 5-15).

 Model:
 IX-200PWS
 BTU:
 162

 Part No.:
 100330
 Circuit

Input Requirement:90-135 VAC, 50-60 HzProtection:F1 - 250V, 2 amp fuseOutputs:5 VDC/8.5 amps for transistor logicF2 - 250V, 3 amp fuse24 VDC/25 amps for top batterySize: $12^{\circ}\text{H x} \times 20^{\circ}\text{W} \times 11.5^{\circ}\text{D}$

24 VDC/25 amps for top battery relay operation Size: 12"H x Weight: 44 lbs.

8 VDC/3.6 amps for coding and Connectors: CN1, CN4

decoding CN2
-8VDC/3.6 amps for analog/digital CN3
conversion

CN1, CN4		
3	2	1
+5V	-8V	+8V
Red	Brown	Yellow
6	5	4
+5V	GND	+24V
Red	Black	Orange
9	8	7
GND	GND	GND
Black	Black	Black
12	11	10
+24	GND	+24
Orange	Black	Orange

CN2
1 GND
2 +24V

CN3		
2	1	
PFDS*	GND	
Red	Brown	
4 Not	3	
Used	FALM**	
Yellow	Orange	

- * PFDS: Power Failure Detector, notifies the CPU that there has been a loss of power. This signal is noted in the error log as "Power failure detects."
- ** FALM: Fuse Alarm, notifies the CPU that the alarm fuse is blown. This causes a minor alarm indication on the alarm panel.

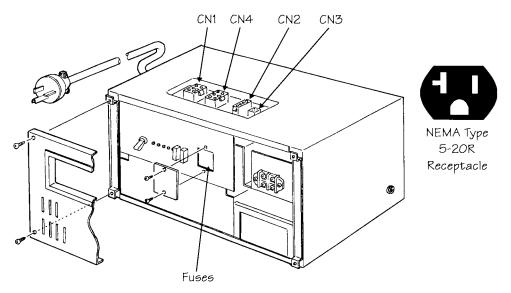


FIGURE 4.3-4 IX-200PWS POWER SUPPLY

Chapter 3 Power Supplies

IX-PWSS Power Supply

The IX-PWSS power supply is the main power source for the ADIX APS and ADIX-S systems. This unit is installed in the IX-CMM/L common module. The IX-PWSS is mounted in a dedicated slot at the far left of the IX-CMM/L. The IX-PWSS will support a maximum of 52 ports installed in an IX-CMM/L.

Model: IX-PWSS BTU: 130

Part No.: 040300 Circuit

Input Requirement:90-135 VAC, 50-60 HzProtection:F4 - 125V, 3.15 amp fuseOutput:5 VDC/2.3 amps for transistor logicF5 - 125V, 8 amp fuse

24 VDC/2.2 amps for top battery **Size:** 10.5"H x 2.75"W x 11.5"D

relay operation Weight: 5 lbs.

8 VDC/0.3 amps for coding and

decoding

-8VDC/0.2 amps for analog/digital

conversion.

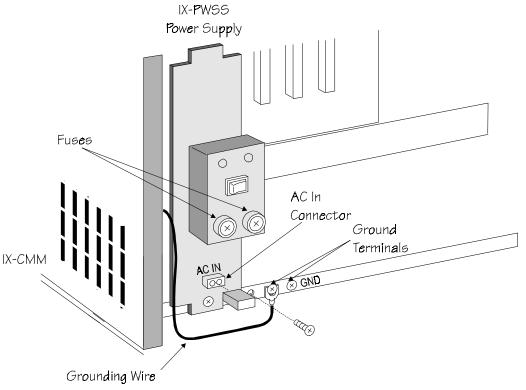


FIGURE 4.3-5 IX-PWSS POWER SUPPLY

IX-PWSM Power Supply

The IX-PWSM power supply is the main power source for the ADIX APS and ADIX-M system. Each IX-CMM/L or IX-EXPMM/L module requires its own IX-PWSM power supply. The IX-PWSM is mounted in a dedicated slot at the far left of the IX-CMM/L or IX-EXPMM/L module. When an IX-EXPMM/L is added, a power supply connecting cable must be installed. Each IX-PWSM/L must be grounded to a dedicated ground terminal on the IX-CMM/L or IX-EXPMM/L module.

 Model:
 IX-PWSM
 BTU:
 470

 Part No.:
 040300
 Circuit

conversion.

Input Requirement: 90-135 VAC, 50-60 Hz **Protection:** F4 – 125V, 3.15 amp fuse

Output: 5 VDC/2.2 amps for transistor logic F5 - 125V, 8 amp fuse

24 VDC/3.6 amps for top battery Size: 10.5"H x 2.75"W x 11.5"D

relay operation Weight: 5 lbs. 8 VDC/0.7 amps for coding and Connectors: AC OUT

decoding
-8VDC/0.7 amps for analog/digital

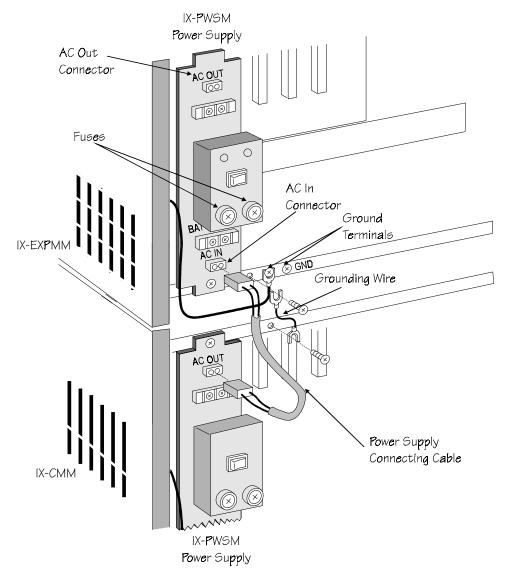


FIGURE 4.3-6 IX-PWSM POWER SUPPLY

Chapter 3 Power Supplies

IX-PWSL Power Supply

Note 1: Only the IX-PWSL Power Supply can support the maximum capacity of the ADIX APS System. The IX-PWSS or IX-PWSM Power Supply can also be installed in ADIX APS system. However, the following conditions apply: 1.) The IX-PWSS Power Supply installed in the ADIX APS has the same capacity limitation as the IX-PWSS installed in the ADIX-S (IX-CMM). The IX-PWSS will support a maximum of 24 digital stations. 2.) The IX-PWSS will not support the addition of IX-EXPML*n* Expansion Modules. 3.) The IX-PWSM Power Supply has the same capacity limitation as the shelf of an ADIX-M system with an IX-PWSM. The IX-PWSM Power Supply will support a maximum of 40 digital stations per shelf.

Note 2: Please note that both IX-PWSL Power Supplies installed in the IX-CML and IX-EXPML2 must be turned OFF when powering down the ADIX APS System. Turning OFF only one of the IX-PWSL units may shorten the life span of some components.

Note 3: When a back-up battery is connected to ADIX APS system, each IX-PWSL Power Supply installed in the ADIX APS System must be connected to a back-up battery.

The IX-PWSL power supply generates the DC voltages required for system operation. The DC output voltages of the power supply are +5 Vdc, +8 Vdc, -8 Vdc and +24 Vdc. These voltages are converted from the 120 Vac commercial power supply or the +24 Vdc emergency backup battery at the main power supply unit. The system power supply specifications are as follows:

System Power Supply Specifications

Model: IX-PWSL BTU: Approximately 225

Part No.: 040305 Circuit

Input Voltage: 120 Vac \pm 10%,, 50-60 Hz Protection: F4 – 125V, 3.15 amp fuse F5 – 125V, 10 amp fuse

Input Current: 3A for systems with only an IX-CML unit. Size: 10.5"H x 2.75"W x 11.5"D

6A for systems with an IX-CML unit plus one IX-EXPML1 unit.
9A for systems with an IX-CML unit plus two IX-EXPML1 units.

Weight: 10.5 H x 2.75 W X 11.5 Weight: 5 lbs.

15A for systems with an IX-CML unit plus three IX-EXPML1

units and one IX-EXPML2 unit.

DC Output:Voltage: 26.8 Vdc
Current: 0.15 A

Note: The IX-PWSL Power supply can be identified by the marking rated 10A on the Fuse holder F5 on the right side of the front of the unit (see Figure 8). The amp rating mark on the F5 fuse holder on the IX-PWSM is 8A. An IX-PWSS does not have "AC OUT" connector and can be easily discerned from other power supply units.

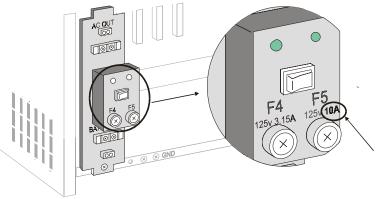


FIGURE 4.3-7. IX-PWSL SHOWING 10A MARKING ON F5 CONNECTOR

Additional Power Supplies

An additional power supply is required when circuit cards and station terminals that require power sources other than those supplied by the main power supply are installed. An additional power supply will generate one or more of the following voltages:

- -48VDC talk battery for ground start trunks, E&M tie lines, DID lines, and off premises SLTs
- +90 VDC lamp power source for single-line telephones with message lamps
- 90 VAC power source for single-line telephone ringing signal
- \blacksquare ±8 VDC for tower 2

The different types of additional power supplies and their outputs are listed below:

ADIX

Model	Output
IX-DCDCA	-48 VDC, +90 VDC
IX-DCDCB	-48 VDC
IX-DCDCU	±8 VDC for tower 2
IX-RNGU	90 VAC
IX-MSGPW	+90 VDC

ADIX-M

Model	Output	
IX-DCDCM	-48 VDC	
IX-RNGUM	90 VAC	

Additional Power Supply Usage with the ADIX. The -48 VDC additional power output is distributed throughout the ADIX. However, when the total current requirement of the circuit cards exceeds the capacity provided by the first additional power supply, a second additional power supply is required. The +90 VDC power output for message lamp lighting is distributed only to the shelf where the additional power supply is mounted. The IX-DCDCU is required in two-tower ADIX systems.

Additional Power Supply Usage with the ADIX-S/M The -48 VDC and +90 VDC additional power outputs are distributed only to the shelf where the additional power supply is located. The total current requirement of the circuit cards installed on each shelf cannot exceed the capacity provided by the additional power supply. The IX-CMM and IX-EXPMM are equipped with a dedicated card slot for each type of additional power supply.

Chapter 3 Power Supplies

Circuit Cards That Require Additional Current:

Circuit Card	Type of Voltage Required	Current Requirement of Card	Current Requirement of Each Circuit
IX-8LGTK, -1, -2*	-48 VDC	10 m-amps	1.3 m-amps
IX-4EMTK	-48 VDC	80 m-amps	20 m-amps
IX-4DITK	-48 VDC	120 m-amps	30 m-amps
IX-4SUBL	-48 VDC	320 m-amps	80 m-amps
IX-8SUBS-2	+90 VDC	N/A	Dependent on type of SLT
IX-8SUBM**	+90 VDC	12 m-amps	1.5 m-amps
IX-044	+90 VDC	N/A	Dependent on type of SLT

^{* -} The IX-8LGTK, -1, -2 requires -48 VDC only when used with ground start trunks.

^{** –} The total current requirement of all IX-8SUBM cards mounted on one shelf cannot exceed the power capacity of the additional power supply installed on the shelf.

IX-DCDCA Additional Power Supply for ADIX

The IX-DCDCA converter provides -48 VDC and +90 VDC outputs. There is a dedicated card slot for this unit on the IX-CM and IX-EXPM. The -48 VDC output power is distributed throughout the ADIX provided the capacity of the IX-DCDCA satisfies the requirement of the cards installed in the system. The +90 VDC output power is distributed only to the shelf where the IX-DCDCA is installed. It provides power to light SLT message lamps.

Tip: To minimize the system requirement for +90 VDC, install all IX-8SUBM cards on the same shelf.

Model: IX-DCDCA Stations/Cards Required For:

Part No.: 100410

Location: DCDC dedicated card slot
Outputs: -48 VDC / 2 amps

+90 VDC/0.35 amps (1s on/3s off)

Circuit Protection: F1 - 125V, 15 amp fuse

IX-8LGTK,-1,-2 (ground start trunks)
IX-4EMTK, IX-4DITK, IX-4SUBL
IX-8SUBS,-1,-2,IX-SUBM, SLT with
message lamp, off-premises SLT

Size: 9.7"H x 9.5"W x 1.0"D

Weight: 2.5 lbs.

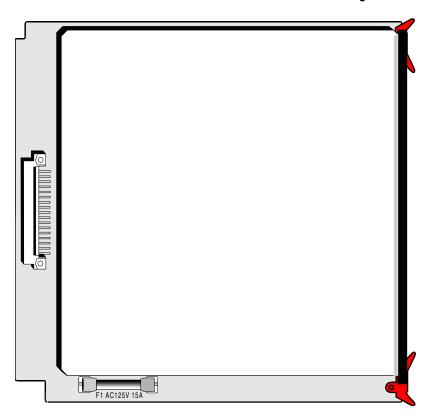




FIGURE 4.3-7 IX-DCDCA DC-TO-DC CONVERTER

Chapter 3 **Power Supplies**

IX-DCDCB Additional Power Supply for ADIX

The IX-DCDCB converter provides -48 VDC output only. There is a dedicated card slot for this unit on the IX-CM and IX-EXPM. The -48 VDC output power is distributed throughout the ADIX provided the capacity of the IX-DCDCB satisfies the requirement of the cards installed in the system. If an IX-8SUBM card is installed on the same shelf, the IX-DCDCA must be used instead.

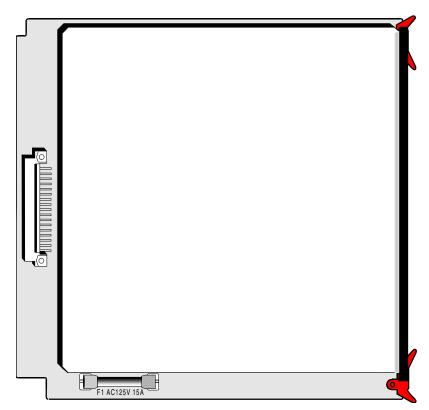
Model: IX-DCDCB **Stations/Cards Required For:**

IX-8LGTK,-1,-2 (ground start trunks) Part No.: 100420 Location: DCDC dedicated card slot IX-4EMTK, IX-4DITK, IX-4SUBL,

off-premises SLTs

Outputs: -48 VDC/3 amps **Circuit Protection:** F1 - 125V, 15 amp fuse Size: 9.7"H x 9.5"W x 1.0"D

> 2.7 lbs. Weight:



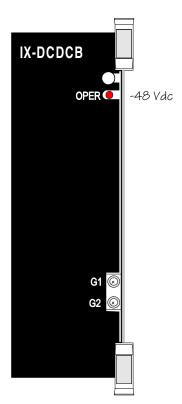


FIGURE 4.3-8 IX-DCDCB DC-TO-DC CONVERTER

IX-DCDCU Additional Power Supply for ADIX

The IX-DCDCU converter provides an additional ±8 VDC to drive CODEC circuits in a two-tower ADIX. The IX-DCDCU converts the +24 VDC input from the IX-200PWS to a +24 VDC output and a ±8 VDC output. The ±8 VDC for the first tower is provided by the IX-200PWS main power supply. This power supply is included in the IX-450 hardware kit.

Model:IX-DCDCBOutputs:+24 VDCPart No.:100260 (IX-450 Hardware Kit)+5 VDCLocation:IX-CNTME of Tower 2 $\pm 8 \text{ VDC}$

Inputs: +24 VDC **Size:** 3.0"H x 3.0"W x 7.5"D

+5 VDC Weight: 2.7 lbs.

 \pm 8 VDC

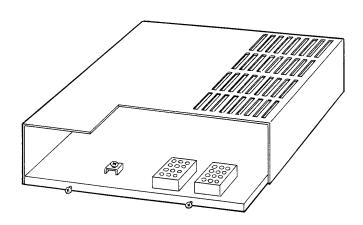


FIGURE 4.3-9 IX-DCDCU DC-TO-DC CONVERTER

Chapter 3 Power Supplies

IX-MSGPW Additional Power Supply (Discontinued)

The IX-MSGPW converter provides +90 VDC output only. There is a dedicated card slot for this unit on the IX-CM and IX-EXPM. The +90 VDC output power is distributed only to the shelf where the IX-MSGPW is installed. It provides power to light SLT message lamps.

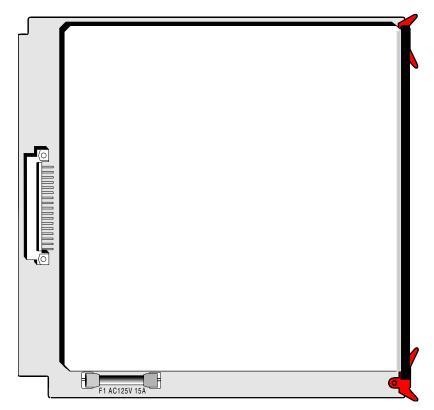
Model: IX-MSGPW (Discontinued) Stations/Cards Required For:

Part No.: 100430 IX-8SUBM with SLTs with

Location: DCDC dedicated card slot message lamp

Outputs: +90 VDC/0.35 amps (1s on/3s off) Size: 9.7"H x 9.5"W x 1.0"D

Circuit Protection: F1 – 125V, 15 amp fuse **Weight:** 2.7 lbs.



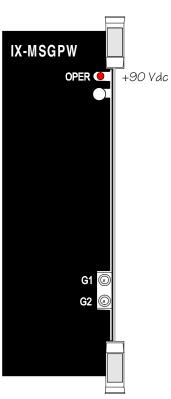


FIGURE 4.3-10 IX-MSGPW DC-TO-DC CONVERTER

IX-DCDCM Additional Power Supply for ADIX APS, ADIX-S/M

The IX-DCDCM DC-to-DC converter unit generates -48 VDC. This voltage is required when the following cards are installed in the IX-CMM/L or IX-EXPMM/L: IX-8LGTK (ground start operation), IX-4EMTK, IX-4DITK, or IX-4SUBL. The IX-DCDCM will only supply -48 VDC to the cards located on the same shelf as the power supply. A maximum of three cards per system are permitted. There is a dedicated card slot on the left side of the IX-CMM/L and IX-EXPMM/L modules for the IX-DCDCM.

Model: IX-DCDCM Stations/Cards Required For:

Part No.:040310IX-8GLTK,-1,-2 for ground startLocation:DC/DC Dedicated Card Slottrunks, IX-4EMTK, IX-4DITK,

Output: -48 VDC / 0.5 amps IX-4SUBL

Size: 4.5"H x 9.34"W x 1.2"D

Weight: 0.4 lbs.

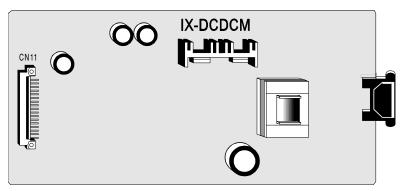


FIGURE 4.3-11 IX-DCDCM DC-TO-DC CONVERTER

Chapter 3 Power Supplies

IX-RNGU Ring Generator for ADIX

The IX-RNGU ring generator unit supplies ringing voltage to two consecutive shelves of the ADIX by converting +24 VDC from the main power supply to 90 VAC. This voltage is used to ring up to 128 single-line telephones. Ringing voltage is supplied by the IX-RNGU using a system of *phase-shift ringing*. The phase-shift ringing cycle is divided into four one-second time slots. During each time slot, a maximum of 32 SLTs will receive a one-second ring burst then go idle for three seconds. Each ADIX tower has connectors for two IX-RNGU units. The IX-RNGU is located in the IX-CNTM converter cabinet. It is connected to PCON2A on the IX-CM/EXPM motherboard. To extend the range to a second shelf a connection must be made from PCON2B on the first shelf to PCON2A on the shelf directly above. (See the wiring diagram below.)

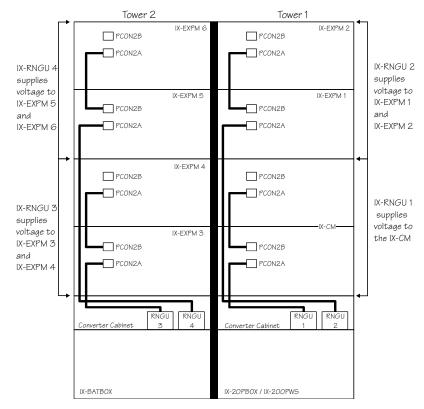
Model: IX-RNGU Stations/Cards Required For:

Part No.: 101950 IX-8SUBS, IX-4SUBL, IX-8SUBM,

Location:DC/DC Dedicated Card SlotIX-044, SLTsOutputs:90 VAC (1s on/3s off)Size:3"H x 3"W x 7.5"D

Connect To: PCON2A Weight: 2.7 lbs.

4 Ring Voltage (ONS)	1 +24 VDC
5	2
-48 VDC	GND
6 Ring	3
Voltage	Not
(ONS)	Used



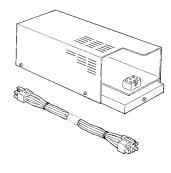


FIGURE 4.3-12 IX-RNGU RING GENERATOR UNIT AND WIRING DIAGRAM

IX-RNGUM Ring Generator for ADIX APS, ADIX-S/M

The IX-RNGUM ring generator unit supplies ringing voltage to *on-premise* and *off-premise* single-line telephones that are terminated at an IX-CMM/L or IX-EXPMM/L by converting +24 VDC from the IX-PWSM power supply to 90 VAC. This unit is required on each shelf equipped with an IX-8SUBS, IX-8SUBM, IX-4SUBL, or IX-044 card. This unit will ring only single-line stations connected to a circuit card that is located on the same shelf as the power supply. There is a dedicated card slot on the left side of the IX-CMM/L and IX-EXPMM/L modules for the IX-RNGUM.

Model: IX-RNGUM Stations/Cards Required For:

Part No.: 040500 IX-8SUBS, IX-4SUBL, IX-8SUBM,

Location: RING Dedicated Card Slot IX-044, SLTs

Outputs: 90 VAC (1s on/3s off) **Size:** 5"H x 9.75"W x 1.5"D

Weight: 1.8 lbs.

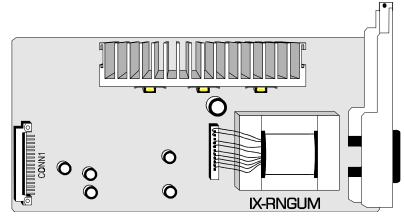


FIGURE 4.3-13 IX-RNGUM RING GENERATOR UNIT

Chapter 3 Power Supplies

IX-PMMSG 90V Power Supply for IX-8SUBM-2

The IX-PMMSG is a miniature DCDC power supply that is mounted on the IX-8SUBM-3 or IX-8SUBM-2 card at the MCONN connectors. It provides 90 VDC that is required to turn on the message waiting lamps of single line telephones connected to the IX-8SUBM-3, IX-8SUBM-2 and IX-8ESUBM cards.

The IX-8SUBM-3 card requires one IX-PMMSG for each 8 ports. For instance, only one IX-PMMSG power supply is required for the IX-8SUBM-3, but two IX-PMMSG power supplies are required if you add the IX-8ESUBM card.

The IX-PMMSG is required for each IX-8SUBM-3, IX-8SUBM-2 and IX-8ESUBM card installed in an ADIX or ADIX APS system to which single line telephones with message lamps are connected. In an ADIX system, an IX-PMMSG is not required if an IX-DCDCA or IX-MSGPW is installed on the same shelf as the IX-8SUBM-3 or IX-8SUBM-2.

Model: IX-PMMSG **Size:** 0.75"L x 0.88"W x 1.5"D

Part No.: 101483 **Weight:** 0.2 lbs.

Location: IX-8SUBM-2 or IX-8SUBM-3

MCONN Connector

Outputs: 90 VDC

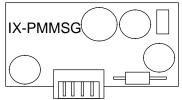


FIGURE 4.3-14 IX-PMMSG 90V POWER SUPPLY

Common Control Cards

Central Processing Units

IX-CPUP/HW Controller Card Overview

The IX-CPUP/HW Controller Card contains a 32-bit processor that controls all ADIX and ADIX APS system functions. When utilized, either an IX-CPU20 MEM-M or IX-CPU20 MEM-L CPU/Memory Module is also required. The IX-CPUP/HW Controller Card has connectors for the CPU/Memory Module and supplies 4 MB of RAM for back-up memory. In addition, the IX-CPUP/HW Controller Card performs highway controller functions, synchronizes digital trunk clock timing and system highway timing (IX-PLLU). The CPU/Memory Module contains the 68EC020/25 MHz Central Processing Unit (CPU), as well as 4 MB of Intel® flash memory for the ADIX operating system. These components replace the IX-CPU32-1, IX-CPU32M, and IX-CPU16M.

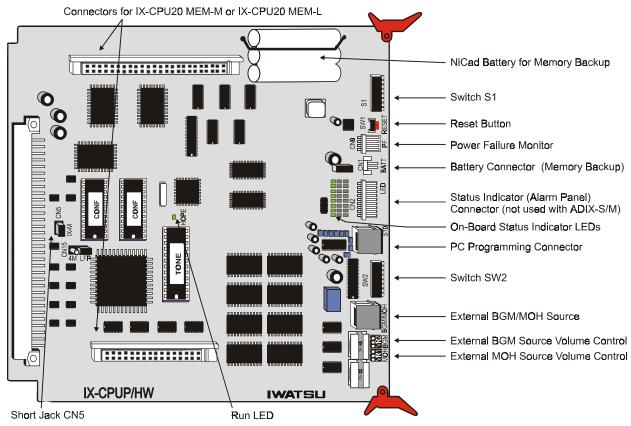


FIGURE 4.4-1 IX-CPUP/HW CONTROLLER CARD

IX-CPUP/HW Features

- Connectors for IX-CPU20 MEM-M or IX-CPU20 MEM-L CPU/Memory Module.
- Highway Control 16 highways and 32 4-party conference circuits.
- System Clock (integrated IX-PLLU). Synchronizes the system clock with a digital circuit.
- 4 MB of RAM for customer database storage.
- **PC Programming Port**. See description below.
- NiCad Battery and connector for customer database backup.
- Tone Control. Sound sources such as intercom dial tone, DTMF and door phone chime are provided on the board.
- On-board Status Indicator. Eight LEDs that show the status of the system software. LEDs indicate memory clear, major alarm, minor alarm, and system operating status. These LEDs provide the same status indication as the Status Indicator Panel located on the top cover of IX-CM Common Module.
- LED indication of CPU operating status.
- PC Programming Port Baud Rate Selection.
- Eight Internal MOH Tunes.
- External MOH/BGM Source Connector.
- External MOH Source Volume Control.
- External BGM Source Volume Control.
- Connectors for Power Failure Monitor and Status Indicator Panel.

Card Location

The card slot that the IX-CPUP/HW Controller Card is installed in differs depending on the common module model. On the IX-CMM common module (ADIX-S/M) the card is installed in the slot marked CPU. On the IX-CM common module (full-size ADIX) the card is installed in the slot marked HWC.

CPU/Memory Module

Depending on the system size, either an IX-CPU20 MEM-M or IX-CPU20 MEM-L Memory Module is required. The table below lists the memory module requirement based on system size:

System	Memory Module Requirement	Part Number
ADIX, ADIX-S/M, ADIX ACD System up to 224 Ports	IX-CPUP/HW with IX-CPU20 MEM-M	
ADIX System greater than 224 Ports	IX-CPUP/HW with IX-CPU20 MEM-L	
ADIX APS (2 shelves/184 Ports)	IX-CPU20/ MEM-M	101095
ADIX APS (3 shelves/280 Ports)	IX-CPU20/ MEM-L 280	041100
ADIX APS (4 shelves/376 Ports)	IX-CPU20/ MEM-L 376	041120
ADIX APS (5 shelves/472 Ports)	IX-CPU20/ MEM-L 472	101100
ADIX APS with ADIX ACD (2 shelves/184 Ports) *	IX-CPU20/ MEM-M ACD	101096
ADIX APS with ADIX ACD (3 shelves/280 Ports)	IX-CPU20/ MEM-L 280 ACD	041110
ADIX APS with ADIX ACD (4 shelves/376 Ports)	IX-CPU20/ MEM-L 376 ACD	041130
ADIX APS with ADIX ACD (5 shelves/472 Ports)	IX-CPU20/ MEM-L 472 ACD	041150

IX-CPUP/HW and IX-CPU20 MEM-x System Memory Overview

The table below lists the memory capacity of the IX-CPUP/HW Controller Card, IX-CPU20 MEM-L CPU/Memory Module, and IX-CPU20 MEM-M CPU/Memory Module.

Component	Flash Memory	RAM
IX-CPUP/HW	None	4 MB
IX-CPU20 MEM-M	4 MB	0 MB
IX-CPU20 MEM-L	4 MB	2 MB

Physical and Logical Port Assignment for the IX-CPUP/HW Programming Port

The IX-CPUP/HW contains a serial port (S10 Connector) for PC Programming. The table below lists the physical and logical port assignment depending on the type of install, configuration and system size.

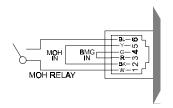
Type of Install	System Size	Default Physical Port	Default Logical Port
		Number	Number
New Install	Up to 224 ports	227	MISC 001
New Install	225-448 ports	483	MISC 001
			Next available MISC logical
CPU Upgrade with existing	Up to 224 ports	227	after running DBC7U database
MISC ports			conversion program

In a new system, this programming port defaults as Physical Port 227 or 483 depending on the system size. The DBC7U conversion program (Included with ADIX PC Programmer Version 8.00) automatically assigns the next available MISC logical port as the programming port.

External MOH & BGM Connection

The table and drawing below illustrate how to connect external music on hold (MOH) and background music (BGM) sources to the IX-CPUP/HW card CN14 connector.

	External MOH & BGM Connection				
Pin No.	Name	Color	Function		
1	MOH Relay (S)	white	MOH Device Control Relay (stationary)		
2	MOH (+)	black	External MOH Source Input		
3	BGM (+)	red	External BGM Source Input		
4	BGM (-)	green	External BGM Source Input		
5	MOH (-)	yellow	External MOH Source Input		
6	MOH Relay (M)	blue	MOH Device Control Relay		



Important Note when Installing the IX-CPUP/HW in an IX-CM Common Module

In order to accommodate the new IX-CPUP/HW Controller Card in ADIX systems larger than 224 ports, the IX-CM Common Module IX-100MBD in some systems must be replaced.

IX-100MBD motherboard replacement is only required in ADIX systems larger than 224 ports which currently have a motherboard manufactured prior to **Rev. 1, Lot 97H.** IX-100MBD motherboard replacement is not required in ADIX systems 224 ports or less, or if the IX-100MBD motherboard was manufactured during or after **Rev. 1, Lot 97H.** Iwatsu America has been shipping these motherboards since October 1997.

For information on replacing the IX-100MBD motherboard, please refer to Section 5 of this manual.

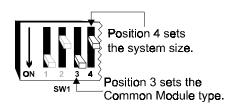
DIP Switch Setting on the IX-CPUP/HW Card

A DIP switch setting is required on CPUSW of the IX-CPUP/HW card to differentiate the configuration between the ADIX-S/M, ADIX, and the ADIX APS. These settings accommodate the new highway and FIFO bus structure of the ADIX APS.

The following table illustrates the setting of Position 3 and 4 on the IX-CPUP/HW, and total number of shelves accessed by the system for each given module and setting.

WARNING: For an ADIX APS system, position 3 must be set to **ON**.

CPUSW of IX-CPUP/HW					
	Position 3	Position 4	Components	Memory Module	
ADIX APS (1 shelf)	ON	OFF	IX-CML	MEM-M	
ADIX APS (2 shelves)	ON	OFF	IX-CML + one IX-EXPML1	MEM-M	
ADIX APS (3 shelves)	ON	ON	IX-CML + two IX-EXPML1 units	MEM-L 280	
ADIX APS (4 shelves)	ON	ON	IX-CML + two IX-EMPML1 units + one IX-EXPML2	MEM-L 376	
ADIX APS (5 shelves)	ON	ON	IX-CML + three IX-EMPML1 + one IX-EXPML2	MEM-L 472	
ADIX-S/M	OFF	OFF	All shelves (1-3)	MEM-M	
ADIX	OFF	OFF	Single Tower	MEM-M	
ADIX	OFF	ON	Single or Double Tower	MEM-L 472	



Strapping Jack CN5 Setting on the IX-CPUP/HW Card

The setting for the Strapping Jack CN5 on the IX-CPUP/HW card remains the same for the IX-CM and the IX-CMM. When installing the IX-CML, set the Strapping Jack CN5 to the OFF position as the drawing and table below illustrate:

Strapping Jack CN5 Setting			
IX-CMM (ADIX-S)	ON		
IX-CMM (ADIX-M)	ON		
IX-CM (ADIX)	OFF		
IX-CML (APS)	OFF		



IX-CPU20 MEM-M CPU/Memory Module Overview

The IX-CPU20/ MEM-M CPU/Memory Module with Version 6.10 Software is required in all ADIX Systems with up to two shelves or 184 ports. This card contains 4 MB of Intel flash memory that contains the ADIX operating system. The IX-CPU20/ MEM-M also contains the 68EC020/25 MHz Central Processing Unit (CPU).

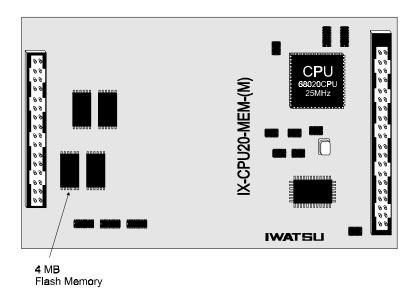


FIGURE 4.4-3 IX-CPU20 MEM-M CPU/Memory Module

IX-CPU20 MEM-L CPU/Memory Module Overview

The IX-CPU20 MEM-L CPU/Memory Module is required in all ADIX systems larger than 224 ports. This card contains 4 MB of flash memory contains the ADIX operating system. The IX-CPU20 MEM-L contains an additional 2MB of RAM. The IX-CPU20 MEM-L also contains the 68EC020/25 MHz Central Processing Unit (CPU).

Important: Position 4 of CPUSW on IX-CPUP/HW is always set to ON when installing an IX-CPU 20/ MEM-L in an ADIX APS system.

Three types IX-CPU20/ MEM-L CPU/Memory Modules with Software Version 6.10 are used in the ADIX APS. The table below lists the type of IX-CPU20/ MEM-L CPU/Memory Module required based on system size.

System	Memory Module Requirement	Part Number
ADIX APS (3 shelves/280 Ports)	IX-CPU20/ MEM-L 280	041100
ADIX APS (4 shelves/376 Ports)	IX-CPU20/ MEM-L 376	041120
ADIX APS (5 shelves/472 Ports)	IX-CPU20/ MEM-L 472	101100
ADIX APS with ADIX ACD (3 shelves/280 Ports)	IX-CPU20/ MEM-L 280 ACD	041110
ADIX APS with ADIX ACD (4 shelves/376 Ports)	IX-CPU20/ MEM-L 376 ACD	041130
ADIX APS with ADIX ACD (5 shelves/472 Ports)	IX-CPU20/ MEM-L 472 ACD	041150

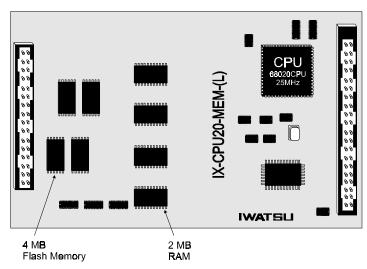


FIGURE 4.4-4 IX-CPU20 MEM-L CPU/Memory Module

IX-CPU20/ MEM-L Upgrade

CAUTION! Make sure that the power switch is turned OFF on the IX-PWSL Power Supply installed in the IX-CML and the IX-PWSL Power Supply installed in the IX-EXPML2, and unplug both AC power cords from the AC outlet before installing the new software.

The following steps outline an upgrade from an IX-CPU20/ MEM-M to an IX-CPU20/ MEM-L:

☞ IX-CPU20/ MEM-L Upgrade

- 1. Download the current system database to ADIX PC Programmer.
- 2. Power down the ADIX APS System.
- 3. Remove the CPU card from the IX-CML.
- 4. Remove the IX-CPU20/ MEM-M from the IX-CPUP/ HW Card.
- 5. Connect the IX-CPU20/ MEM-L to the IX-CPUP/HW Card and insert the IX-CPUP/HW into the IX-CML.
- 6. After the new IX-CPUP/HW IX-CPU20/ MEM-L has been installed, change system size. **Note:** CPUSW Position 4 is always set to **ON** when installing an IX-CPU 20/ MEM-L.
- 7. Default the system (see EBA98001 or ADIX Technical Manual Edition 4 for details on defaulting the system).
- 8. When the default is complete, access the programming mode through the primary attendant Key Telephone. Check *Class 01 Items 01, 06, and 07* to determine the system size, number of stations, and trunks reported to the system memory during default.
- 9. Using PC Programmer version 9.00, check the system size, and the number of station and trunk ports registered in the converted database files. The system size and the number of station and trunk ports in steps 8 and 9 must be the same.

IF THE NUMBERS DO NOT MATCH, STOP HERE AND CALL THE IWATSU TECHNICAL SUPPORT CENTER (1-800-955-8581) for instructions to correct this situation.

If the numbers match go to step 10.

To upload the converted database:

Note: If using ACD, you must use ACD PC Programmer to upload ACD Classes.

- 1. Start PC Programmer Version 9.00 and establish a data link with the ADIX system.
- 2. **Upload the new, converted configuration from the PC to the ADIX**. When the configuration upload is complete, terminate the data link.
- 3. Wait 10 seconds after terminating the data link, or until the Code 4 LED on the CPU or alarm panel stops flashing.
- 4. Reset the system.
- 5. When the reset is complete, establish a data link. Select **System Data Upload**. Upload **All Classes**.
- 6. When Classes 02 through 17, 24 through 30 are uploaded, terminate the data link and exit the PC Programmer.
- 7. Reset the ADIX system.

The software upgrade is now complete. Conduct a thorough test of system operations.

IX-CPU32-1 CPU Card

The IX-CPU32-1 card is a direct replacement for the IX-CPU32 card. This 32-bit central processing unit has an expanded RAM capacity of 6 MB and will support ADIX configurations up to 448 ports. Either the IX-ROMP32-1 or IX-ROMP32-1S (ACD) system software daughterboard is also required when this CPU is utilized. Nickel-cadmium batteries are provided with the IX-CPU32-1 card to retain the stored contents of the RAM for 14 days.

Important: The IX-CPU32-1 card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPU32-1 card when turning off the system power or removing the card from the common module.

System Size Setting Use the switch S1, positions 3 and 4 to register the system size. The table below lists the function of each S1 switch position.

S1 on the IX-CPU32-1					
System Size	Start Up	Position 1	Position 2	Position 3	Position 4
	Mode				
Up to 448 Ports				On	On
	Default	Off	Off		
	Protected	On	Off		



Use positions 3 and 4 to set the system size.

 Model:
 IX-CPU32-1

 Part No.:
 101160

 Location:
 CPU Slot

 Clock:
 25 MHz

 EPROM:
 None

RAM: 6 Mbytes (4 MB System,

2 MB Database)

On-Board S1 Default Condition and System

Functions: Size. S2 System Reset Add-Ons: Software Package

IX-ROMP32-1, IX-ROMP32-1S(ACD) **Connectors:**

CN1 Alarm Panel Connector

CN2 (Not Used) CN4 Motherboard

CNROM1/CNROM2 IX-ROMP32-1, IX-ROMP32S-1(ACD)

CN6 Nickel-Cadmium Batteries Indicators: D1, flashing=memory clear, solid=

memory write

Memory
Retention:
Size:

Nickel-Ćadmium Batteries,
minimum 14 days.
9.7"H x 9.5"W x 1"D

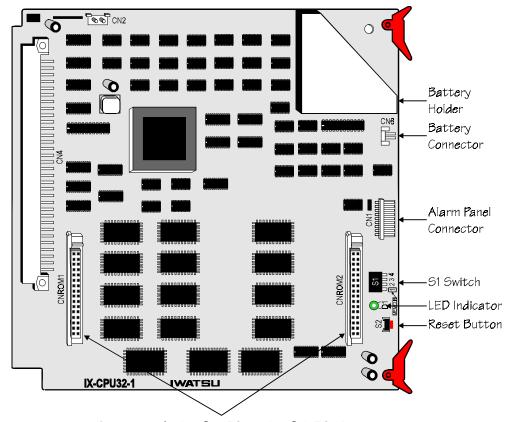
Weight: 0.7 lbs.

To default the system database using the IX-CPU32-1 card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch S1 on the IX-CPU32-1 card to the **OFF** position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to ON.

- 3. Press the red reset button (S2).
- 4. When the green LED (D1) on the IX-CPU32-1 card begins to flash, return position 1 of switch S1 on the IX-CPU32-1 card to the **ON** position.



Connectors for IX-ROMP32-1 or IX-ROMP32-1S

FIGURE 4.4-5 IX-CPU32-1 CPU card

IX-CPU32M Card

The IX-CPU32M card is a new central processing unit for the ADIX-S and ADIX-M systems that will support standard ADIX and ACD features. This 32-bit central processing unit has an expanded RAM capacity of 6 MB and will support ADIX-S configurations up to 52 ports and ADIX-M configurations up to 200 ports. The IX-HWCL is also required when the IX-CPU32M is utilized. Unlike the IX-CPU16M card, the IX-CPU32M card must be installed in the card slot labeled 97-120 located next to the CPU slot of the IX-CMM. Either the IX-ROMP32-1 or IX-ROMP32-1S (ACD) system software daughterboard is also required when this CPU is utilized. Nickel-cadmium batteries are provided with the IX-CPU32M card to retain the stored contents of the RAM for 14 days.

Important: The IX-CPU32M card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPU32M card when turning off the system power or removing the card from the common module.

Card Location Install the IX-CPU32M card in the slot labeled 97-120 located next to the CPU slot. Install the IX-HWCL card in the CPU slot as illustrated below:

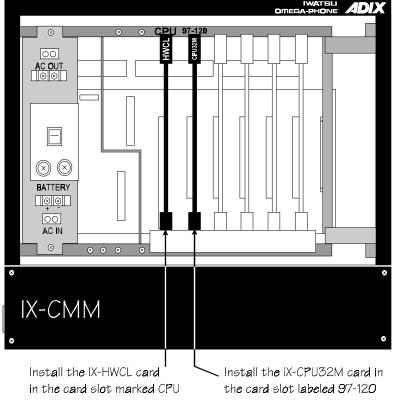
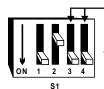


FIGURE 4.4-6 LOCATION OF THE IX-CPU32-1 CPU CARD IN THE IX-CMM

System Size Setting Use the switch S1, positions 3 and 4 to register the system size. The table below lists the function of each S1 switch position.

S1 on the IX-CPU32M						
System Size	Start Up Mode	·				
Up to 448 Ports				On	On	
	Default	Off	Off			
	Protected	On	Off			



Use positions 3 and 4 to set the system size.

Model: IX-CPU32M Part No.: 101150

Location: IX-CMM card slot labeled 97-120

Clock: 25 MHz EPROM: None

RAM: 6 Mbytes (4 MB System,

2 MB Database)

On-Board S1 Default Condition and System Functions: Size. S2 System Reset

Add-Ons: Software Package

IX-ROMP32-1, IX-ROMP32-1S(ACD)

Indicators: D1, flashing=memory clear, off=normal

run

D2, flashing=system active,

solid=system idle

Connectors:

LDCON Alarm Panel Connector (Not Used with ADIX-M)

PFCON Back-up Battery Power Failure Monitor

CN5 Motherboard

CNROM1/CNROM2 IX-ROMP32-1, IX-ROMP32S-1(ACD)

CN1/BATT Nickel-Cadmium Batteries

ALCON External Alarm Indicator (Not Used)

CN4 (Not Used)

Memory Nickel-Cadmium Batteries, minimum 14 days.

Size: 9.7"H x 9.5"W x 1"D

Weight: 0.7 lbs.

To default the system database using the IX-CPU32M card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch S1 on the IX-CPU32M card to the **OFF** position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to ON.

- 3. Press the red reset button (S2).
- 4. When LED D1 on the IX-CPU32M card begins to flash, return position 1 of switch S1 on the IX-CPU32M card to the **ON** position.

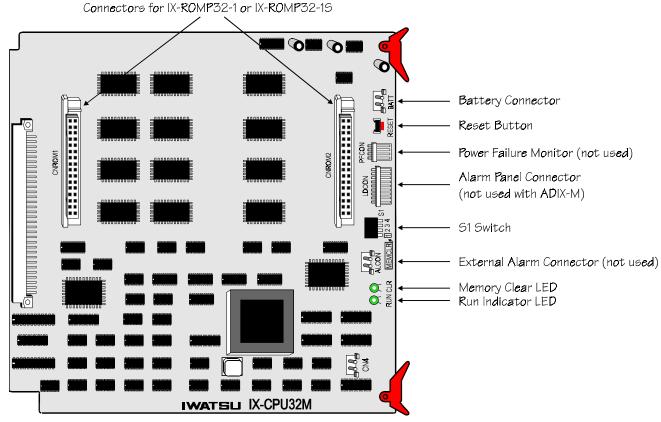


FIGURE 4.4-7 IX-CPU32M CPU CARD

IX-ROMP32-1 System Software Daughterboard

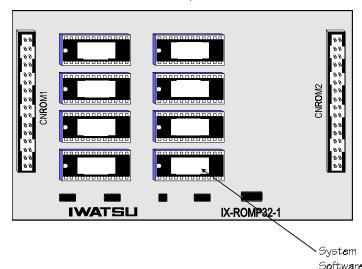
The IX-ROMP32-1 card is a daughterboard used only with the IX-CPU32-1 or IX-CPU32M. This card contains the (PBX) system software for the ADIX. This card will not support ADIX ACD software.

Model: IX-ROMP32-1 EPROM: 4 MB

Part No.: 101170 **Size:** 7.25"H x 4.75"W x .6"D

Location: IX-CPU32-1 Weight: 0.3 lbs.

Connectors: CNROM1/CNROM2 - IX-CPU32-1, IX-CPU32M



Software FIGURE 4.4-8 IX-ROMP32-1 DAUGHTERBOARD FOR IX-CPU32-1 AND IX-CPU32M CPU CARDS

IX-ROMP32-1S (ACD) System Software Daughterboard

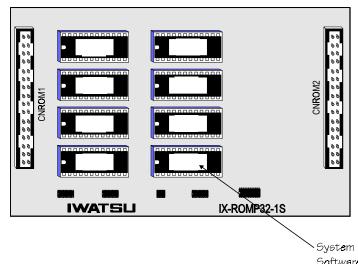
The IX-ROMP32-1S card is a daughterboard used only with the IX-CPU32-1 or IX-CPU32M. This card contains the software that is required to provide ACD features on systems utilizing an IX-CPU32-1 or IX-CPU32M.

Model: IX-ROMP32-1S EPROM: 4 MB

Part No.: 101180 **Size:** 7.25"H x 4.75"W x .6"D

Location: IX-CPU32-1 Weight: 0.3 lbs.

Connectors: CNROM1/CNROM2 - IX-CPU32-1, IX-CPU32M



Software
FIGURE 4.4-9 IX-ROMP32-1S (ACD) DAUGHTERBOARD FOR IX-CPU32-1 AND IX-CPU32M CPU CARDS

IX-CPU32 CPU Card (Discontinued)

The 32-bit IX-CPU32 central processing unit used in ADIX systems larger than 224 ports. This card was replaced by the IX-CPU32-1. Add-ons for this card are the IX-ROMP32 and IX-ROMP32S(ACD) daughterboards which contain the system software. Nickel-cadmium batteries are provided with the IX-CPU32 card to retain the stored contents of the RAM for 14 days.

Important: The IX-CPU32 card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPU32 card when turning off the system power or removing the card from the common module.

System Size Setting Use the switch S1, positions 3 and 4 to register the system size. The table below lists the function of each S1 switch position.

S1 on the IX-CPU32						
System Size	Start Up	Start Up Position 1 Position 2 Position 3 Position 4				
	Mode					
Up to 448 Ports				On	On	
	Default	Off	Off			
	Protected	On	Off			



Use positions 3 and 4 to set the system size.

Model: **Connectors:** IX-CPU32 Part No.: 101070

Location: **CPU Slot** Clock: 25 MHz **EPROM:** None

RAM: 2 Mbytes (1 MB System,

1MB Database)

S1 Default Condition and System **On-Board**

Size. S2 System Reset **Functions:** Software Package Add-Ons:

IX-ROMP32S, IX-ROMP32S(ACD)

ACONN Motherboard

CN1/CN2 IX-ROMP32, IX-ROMP32S(ACD) CN3 Nickel-Cadmium Batteries CN4 Alarm Panel Connector Memory Nickel-Cadmium Batteries,

Retention: minimum 14 days. 9.7"H x 9.5"W x 1"D Size:

1.4 lbs. Weight:

To default the system database using the IX-CPU32 card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch S1 on the IX-CPU32 card to the **OFF** position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to ON (up to 448 ports).

- 3. Press the red reset button (S2).
- 4. When the green LED on the IX-CPU32 card begins to flash, return position 1 of switch S1 on the IX-CPU32 card to the **ON** position.
- 5. When LED 0 on the alarm panel lights, it indicates that the system has been initialized in the default mode.

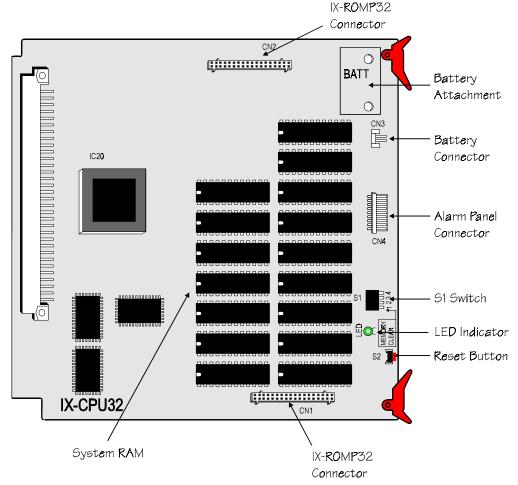


FIGURE 4.4-10 IX-CPU32 CPU CARD

IX-ROMP32 Daughterboard

The IX-ROMP32 daughterboard is a piggyback module for the IX-CPU32 card. It contains the system operating system and applications software for the ADIX. This board must be replaced each time the system software is upgraded.

Model: IX-ROMP32 EPROM: 2MB

Part No.: 101130 **Size:** 8"H x 4.5"W x .6"D

Location: IX-CPU32 **Weight:** 0.3 lbs.

Connectors: CN1/CN2 - IX-CPU32

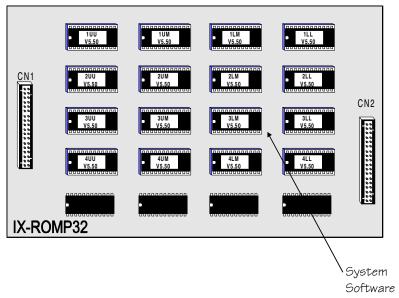


FIGURE 4.4-11 IX-ROMP32 DAUGHTERBOARD

Note: The system software version number is printed on the label of each EPROM chip.

IX-ROMP32S(ACD) Daughterboard

The IX-ROMP32S(ACD) daughterboard is a piggyback module for the IX-CPU32 card. It contains the system operating system and applications software for the ADIX ACD system. This board must be replaced each time the ACD system software is upgraded.

Note: If you are installing ADIX ACD software on a system that is currently operating with an IX-CPU32 card/IX-ROMP32 daughterboard configuration, the ACD EPROM chips are not compatible with the IX-ROMP32 daughterboard. The entire board must be replaced with an IX-ROMP32S(ACD) daughterboard.

Model: IX-ROMP32S(ACD) EPROM: 2MB

Part No.: 101135 **Size:** 8"H x 4.5"W x .6"D

Location: IX-CPU32 Weight: 0.3 lbs.

Connectors: CN1/CN2 - IX-CPU32

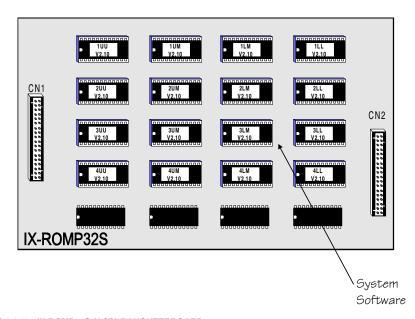


FIGURE 4.4-12 IX-ROMP32S (ACD) DAUGHTERBOARD

Note: The system software version number is printed on the label of each EPROM chip.

IX-CPU16M CPU Card

The IX-CPU16M card may be used in ADIX-S, ADIX-M and ADIX systems up to 160 ports. It contains a 16-bit microprocessor that controls all system functions. In addition, this card performs highway controller card functions and synchronizes digital trunk clock timing and system highway timing (IX-PLLU). An IX-ROMP16M daughterboard is required. This daughterboard is mounted on board and contains the system software. This CPU cannot be used in ADIX systems larger than 224 ports.

Card Location The motherboard slot that the IX-CPU16M card is connected to differs depending on the common module model. On the IX-CMM common module use the slot marked CPU. On the IX-CM common module use the slot marked HWC.

Important: The IX-CPU16M card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPU16M card when turning off the system power or removing the card from the common module.

System Size Setting The table below lists the function of each CPUSW switch position. Switch CPUSW, positions 3 and 4 must be set to 224 ports.

CPUSW on the IX-CPU16M						
System Size	Start Up Mode	· ·				
	IVIOGE					
224 Ports				On	Off	
	Default	Off	Off			
	Protected	On	Off			



Size:

Weight:

Use positions 3 and 4 to set the system size.

9.7"H x 9.5"W x 1"D

1.4 lbs.

Model:	IX-CPU16M	Connectors:	
Part No.:	101081	CN1	Motherboard
Location:	CPU Slot (IX-CMM); HWC Slot (IX-CM)	BTCN	Nickel-Cadmium Batteries
Clock:	12.5 MHz	LDCON	Alarm Panel (ADIX only)
EPROM:	None	ALCON	not used
RAM:	2 Mbytes (1 MB System,	ROMCN1/	
	1MB Database)	ROMCN2	IX-ROMP16M
On-Board	CPUSW - Default Condition/System Size	ECONN	IX-DPHM (supplies doorphone chime)
Functions:	RESSW - System Reset	EXCN	External MOH/BGM source connection
	MDYSW - MOH source selection	RCN	External MOH source control
	VR1,VR2 - BGM, MOH volume control	PFCONN	Power failure monitor cable
Add-Ons:	Software Package IX-ROMP16M	Memory	Nickel-Cadmium Batteries,

Retention:

minimum 14 days.

To default the system database using the IX-CPU16M card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch CPUSW on the IX-CPU16M card to the **OFF** position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to 224 ports.

- 3. Press the red reset button (RESSW).
- 4. When LED 2 on the IX-CPU16M card begins to flash, return position 1 of switch CPUSW on the IX-CPU16M card to the **ON** position.
- 5. When LED 3 on the IX-CPU16M card lights, it indicates the system has been initialized in the default mode.

Internal Music-On-Hold Source Selection The table below lists the on-board CPU settings for the MDYSW switch on the IX-CPU16M card. This switch is used to select an internal music-on-hold melody.

MDYSW SWITCH SETTINGS				
Internal MOH Melody	Pos.	Pos.	Pos.	
	1	2	3	
Etude #20 (Chopin)	OFF	OFF	OFF	
Minuet (Boccherini)	OFF	OFF	ON	
Symphony No. 40 (Mozart)	OFF	ON	OFF	
For Elise (Beethoven)	OFF	ON	ON	
The Entertainer	ON	OFF	OFF	
Mary Had A Little Lamb	ON	OFF	ON	
Chime No.1 (Slow)	ON	ON	OFF	
Chime No.2 (Fast)	ON	ON	ON	

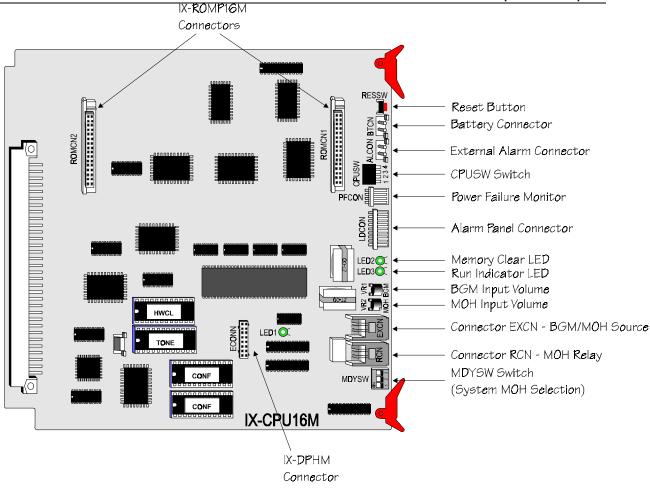


FIGURE 4.4-13 IX-CPU16M CARD

IX-ROMP16M Daughterboard

The IX-ROMP16M daughterboard is a piggyback module for the IX-CPU16M card. It contains the system operating system and applications software for the ADIX and ADIX-M. This board must be replaced each time the system software is upgraded.

Model: IX-ROMP16M EPROM: 2 MB

Part No.: 101141 **Size:** 6.25"H x 3.75"W x 0.6"D

Location: IX-CPU16 Weight: 0.3 lbs.

Connectors: ROMCN1/ROMCN2 - IX-CPU16M

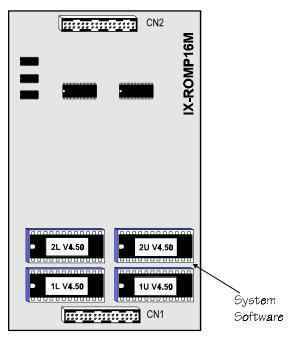


FIGURE 4.4-14 IX-ROMP16M CARD

Note: The system software version number is printed on the label of each EPROM chip.

IX-CPU16 CPU Card (Discontinued)

The 16-bit IX-CPU16 central processing unit can be used in ADIX systems up to 224 ports. The add-on IX-ROMP16 daughterboard contains the system software. Nickel-cadmium batteries are used with the IX-CPU16 to retain the stored contents of the RAM for 14 days. This card cannot be used in systems larger than 224 ports.

Important: The IX-CPU16 card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPU16 card when turning off the system power or removing the card from the common module.

System Size Setting The table below lists the function of each S2 switch position. Switch S2, positions 3 and 4 must be set to 224 ports.

S2 on the IX-CPU16						
System Size	Start Up Mode Position 1 Position 2 Position 3 Position 4					
224 Ports				On	Off	
	Default	Off	Off			
	Protected	On	Off			



Use positions 3 and 4 to set the system size.

Model: IX-CPU16 Connectors:

Part No.:101080ACONNMotherboardLocation:CPU SlotCN3/CN5IX-ROMP16

Clock:12.5 MHzCN4Nickel-Cadmium BatteriesEPROM:NoneCN1Alarm Panel ConnectorRAM:2 Mbytes (1 MB System,MemoryNickel-Cadmium Batteries,

1MB Database) Retention: minimum 14 days.

On-BoardS2 Default Condition and SystemSize:9.7"H x 9.5"W x 1"DFunctions:Size. S1 System ResetWeight:0.8 lbs.

Add-Ons: Software Package IX-ROMP16

To default the system database using the IX-CPU16 card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch S2 on the IX-CPU16 card to the **OFF** position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to 224 ports.

- 3. Press the red reset button (S1).
- 4. When the green LED on the IX-CPU16 card begins to flash, return position 1 of switch S2 on the IX-CPU16 card to the **ON** position.
- 5. When LED 0 on the alarm panel lights, it indicates the system has been initialized in the default mode.

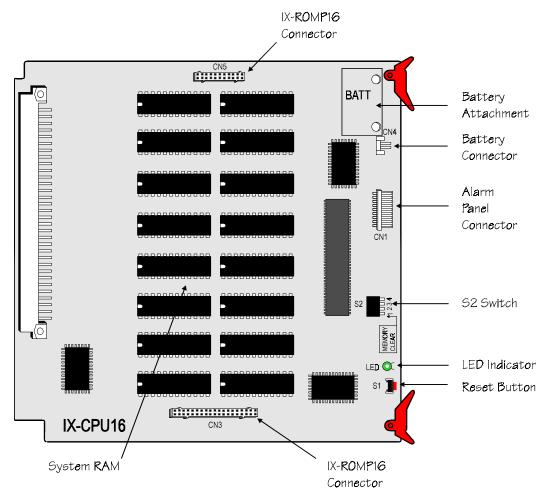


FIGURE 4.4-15 IX-CPU16 CPU CARD

IX-ROMP16 Daughterboard (Discontinued)

The IX-ROMP16 daughterboard is a piggyback module for the IX-CPU16 card. It contains the system operating system and applications software for the ADIX.

Model: IX-ROMP16 EPROM: 2MB

Part No.: 101140 **Size:** 8"H x 4"W x 0.6"D

Location: IX-CPU16 Weight: 0.3 lbs.

Connectors: CN1/CN1 - IX-CPU16

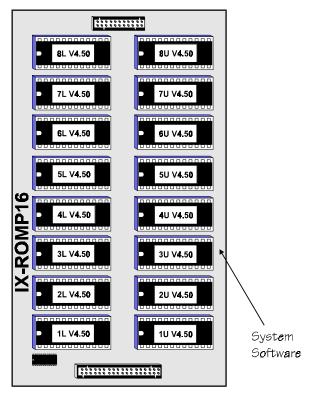


FIGURE 4.4-16 IX-ROMP16 DAUGHTERBOARD

Note: The system software version number is printed on the label of each EPROM chip.

IX-CPUL-1 CPU Card (Discontinued)

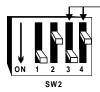
The 16-bit IX-CPUL-1 central processing unit can be used in ADIX systems up to 224 ports. If the system is larger than 56 ports or operating with software versions 4.00 to 4.30, an IX-EMEM-1 daughterboard must be mounted on board. Unlike the newer CPU cards, the system software is mounted on board. Nickel-cadmium batteries are used with the IX-CPUL-1 to retain the stored contents of the RAM for 14 days. This card cannot be used in systems larger than 224 ports.

Note: The IX-CPUL-1 card is not compatible with system software versions higher than 4.30.

Important: The IX-CPUL-1 card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPUL-1 card when turning off the system power or removing the card from the common module.

System Size Setting The table below lists the function of each SW2 switch position. Switch SW2, positions 3 and 4 must be set to 224 ports.

SW2 on the IX-CPUL-1					
System Size	Start Up Mode	Position 1	Position 2	Position 3	Position 4
224 Ports				On	Off
	Default	Off	Off		
	Protected	On	Off		



Use positions 3 and 4 to set the system size.

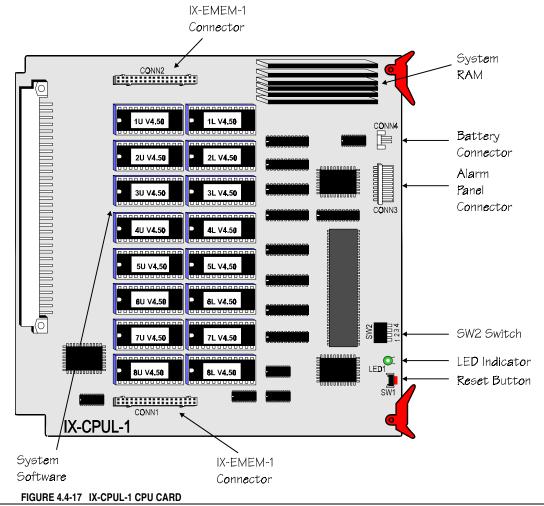
Model:	IX-CPUL-1	Connectors:	
Part No.:	101011	ACONN	Motherboard
Location:	CPU Slot	CONN1/	
Clock:	12.5 MHz	CONN2	IX-EMEM-1
EPROM:	None	CONN3	Alarm Panel Connector
RAM:	768 Kbytes (384 Kbytes System,	CONN4	Nickel-Cadmium Batteries
	384 Kbytes Database)	Memory	Nickel-Cadmium Batteries,
On-Board	SW2 Default Condition and System	Retention:	Minimum 14 days
Functions:	Size. SW1 System Reset	Size:	9.7"H x 9.5"W x 1"D
Add-Ons:	IX-EMEM-1 Memory Expansion Module	Weight:	1.4 lbs.

To default the system database using the IX-CPUL-1 card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch SW2 on the IX-CPUL-1 card to the **OFF** position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to 224 ports.

- 3. Press the red reset button (SW1).
- 4. When the green LED on the IX-CPUL-1 card begins to flash, return position 1 of switch SW2 on the IX-CPUL-1 card to the **ON** position.
- 5. When LED 0 on the alarm panel lights, it indicates the system has been initialized in the default mode.



Note: The system software version number is printed on the label of each EPROM chip.

IX-EMEM-1 Memory Expansion Module (Discontinued)

The IX-EMEM-1 enhanced memory expansion module daughterboard is a piggyback memory module for the IX-CPUL-1 CPU card. It expands the system RAM and provides additional storage capacity for the system database and programming. The IX-EMEM-1 is required in all systems operating with an IX-CPUL-1 CPU card that are larger than 56 ports or running software versions 4.00 to 4.30.

Model: IX-EMEM-1 RAM: 1.2MB (640 Kbytes system memory,

Part No.: 101111 640 Kbytes database storage)

Location:IX-CPUL-1MemorySuper Capacitor,Connectors:CONN1/CONN2 - IX-CPUL-1Retention:up to 30 minutes

Size: 6.3"H x 4.5"W x 0.8"D

Weight: 0.3 lbs.

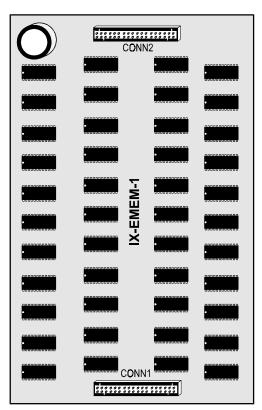


FIGURE 4.4-18 IX-EMEM-1 DAUGHTERBOARD

IX-CPUL CPU Card (Discontinued)

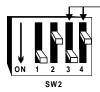
The 16-bit IX-CPUL central processing unit can be used in ADIX systems up to 224 ports. If the system is larger than 56 ports an IX-EMEM daughterboard must be mounted on board. Unlike the newer CPU cards, the system software is mounted on board. Nickel-cadmium batteries are used with the IX-CPUL to retain the stored contents of the RAM for 14 days. This card cannot be used in systems larger than 224 ports.

Note: The IX-CPUL card is not compatible with system software versions higher than 3.03.

Important: The IX-CPUL card contains all of the on-board RAM for the system database. Make sure that a battery is connected to the IX-CPUL card when turning off the system power or removing the card from the common module.

System Size Setting The table below lists the function of each SW2 switch position. Switch SW2, positions 3 and 4 must be set to 224 ports.

SW2 on the IX-CPUL					
System Size	Start Up Mode	Position 1	Position 2	Position 3	Position 4
224 Ports				On	Off
	Default	Off	Off		
	Protected	On	Off		



Use positions 3 and 4 to set the system size.

Model:	IX-CPUL	Connectors:
Dart No :	101010 (discontinued)	ACONN

Part No.: 101010 (discontinued) ACONN Motherboard

Location:CPU SlotCONN1/Clock:12.5 MHzCONN2IX-EMEM

EPROM: None CONN3 Alarm Panel Connector RAM: 512 Kbytes (256 Kbytes System, CONN4 Nickel-Cadmium Batteries

256 Kbytes Database) Memory Nickel-Cadmium Batteries,
On-Board SW2 Default Condition and System Retention: Minimum 14 days

Functions: Size. SW1 System Reset Size: 9.7"H x 9.5"W x 1"D

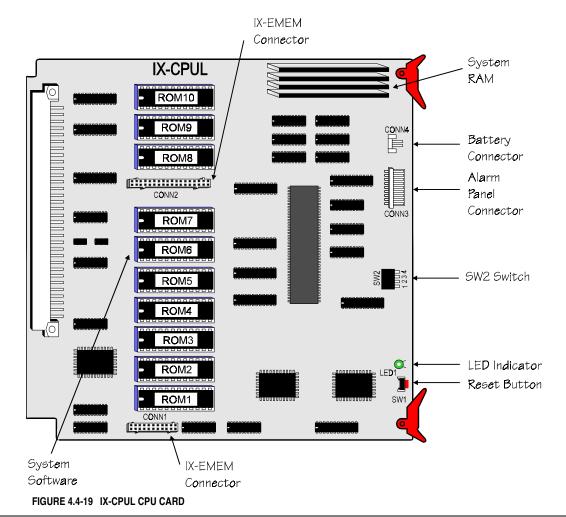
Add-Ons: IX-EMEM Memory Expansion Module Weight: 1.3 lbs.

To default the system database using the IX-CPUL card:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch SW2 on the IX-CPUL card to the OFF position.

Note: Position 2 must be OFF and positions 3 and 4 must be set to 224 ports.

- 3. Press the red reset button (SW1).
- 4. When the green LED on the IX-CPUL card begins to flash, return position 1 of SW2 on the IX-CPUL card to the **ON** position.
- 5. When LED 0 on the alarm panel lights, it indicates the system has been initialized in the default mode.



Note: The system software version number is printed on the label of each EPROM chip.

IX-EMEM Memory Expansion Module (Discontinued)

The IX-EMEM enhanced memory expansion module daughterboard is a piggyback memory module for the IX-CPUL CPU card. It expands the system RAM and provides additional storage capacity for the system database and programming. The IX-EMEM is required in all systems operating with an IX-CPUL CPU card that are larger than 56 ports.

Model: IX-EMEM RAM: 768 KB (384 KB system memory,

Part No.: 101110 384 KB database storage)

Location:IX-CPULMemorySuper Capacitor,Connectors:CONN1/CONN2 - IX-CPULRetention:up to 30 minutes

Size: 6.3"H x 4.5"W x 0.8"D

Weight: 0.2 lbs.

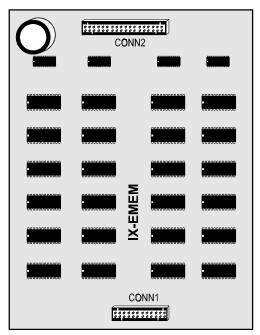


FIGURE 4.4-20 IX-EMEM DAUGHTERBOARD

Highway Controller Cards

A highway controller card is required in all ADIX systems operating with the following CPU cards:

■ IX-CPU32-1 ■ IX-CPU16 ■ IX-CPU32M ■ IX-CPUL-1 ■ IX-CPU32 ■ IX-CPUL

A highway controller card is not required in ADIX or ADIX-M systems utilizing the IX-CPU16M card.

IX-HWCE Card

The IX-HWCE card is required in all systems larger than 224 ports. It contains 14 two-way highways and one one-way highway. The two-way highway channels provide voice and data communication through the system ports. A 16-bit local microprocessor controls the PCM highways with the aid of a slave processor that directly communicates with the CPU. The one-way highway carries system signals (i.e., incoming ringing tones, call progress tones, DTMF signals, MOH source, BGM source, and door chimes). The IX-HWCE card also provides eight four-party conference circuits and optional add-on board space for mounting the IX-DPHM, IX-8ENCF, IX-16ENCF, and IX-PLLU daughterboards. The IX-HWCE card is mounted in the HWC card slot on the IX-CM common module.

Model: **IX-HWCE** Connectors: **ACONN** Part No.: Motherboard 101220 DCONN1/2 IX-PLLU Location: **HWC Slot ECONN** IX-DPHM Channels: 480 channels FCONN1/2 IX-8ECNF, IX-16ECNF Highways: 14 two-way, 1 one-way, 2.04 MHz PCM time division multiplexed with Technology: On-Board 480 time slots **Functions:** SW1-Reset button (IX-HWCE only) MOH, BGM MSSW - MOH source Phono Jacks: BCONN - MOH source control Terminals: MOH-VR - MOH adjustment Inputs: MOH, BGM BGM-VR - BGM adjustment 9.7"H x 9.5"W x 0.75"D Add-Ons: IX-PLLU, IX-8ECNF, IX-16ECNF, IX-DPHM Size: LED 1 = Busy 0.8 lbs. Indicators: Weight:

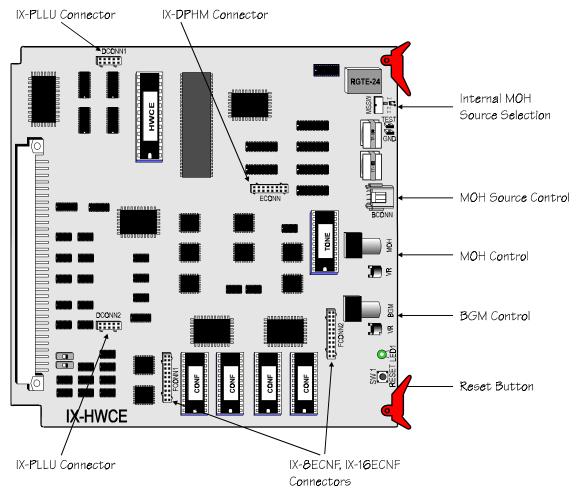


FIGURE 4.4-21 IX-HWCE CARD

IX-HWCL Card

The IX-HWCL card is used in ADIX systems up to 224 ports and in ADIX-M systems utilizing the IX-CPU32M. It contains seven two-way highways and one one-way highway. The two-way highway channels provide voice and data communication through the system ports. An 8-bit microprocessor controls the PCM highways with the aid of a slave processor that directly communicates with the CPU. The one-way highway carries system signals (i.e., incoming ringing tones, call progress tones, DTMF signals, MOH source, BGM source, and door chimes). The IX-HWCL card also provides eight four-party conference circuits and optional add-on board space for mounting the IX-DPHM, IX-8ENCF, IX-16ENCF, and IX-PLLU daughterboards. The IX-HWCL card is mounted in the HWC card slot on the IX-CM common module. This card is interchangeable with the IX-HWCE in a single-tower system.

Model:	IX-HWCL	Connectors:	
Part No.:	101210	ACONN	Motherboard
Location:	HWC Slot	DCONN1/2	IX-PLLU
Channels:	256 channels	ECONN	IX-DPHM
Highways:	7 two-way, 1 one-way, 2.04 MHz	FCONN1/2	IX-8ECNF, IX-16ECNF
Technology:	PCM time division multiplexed with	On-Board	
	256 time slots	Functions:	RESET-Reset button (IX-HWCL only)
Phono Jacks:	MOH, BGM		MSSW - MOH source
Terminals:	MTC/MTM - MOH source control		MOH-VR - MOH adjustment
Inputs:	MOH, BGM		BGM-VR - BGM adjustment
Add-Ons:	IX-PLLU, IX-8ECNF, IX-16ECNF, IX-DPHM	Size:	9.5"H x 9.4"W x 0.75"D
Indicators:	LED = Busy	Weight:	0.8 lbs.

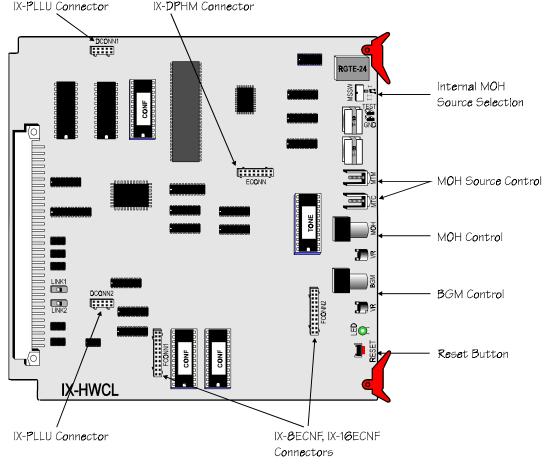


FIGURE 4.4-22 IX-HWCL CARD

IX-8ECNF Eight-Conference Expansion Daughterboard

The IX-8ECNF daughterboard is an add-on to the IX-HWCE and IX-HWCL cards. It adds eight four-party conference circuits for a system total of 16 four-party conferences. The IX-8ECNF is connected to FCONN1 and FCONN2 on the highway card.

Model: IX-8ECNF **Size**: 4.6"H x 3.6"W x 0.75"D

Part No.: 101230 **Weight:** 0.1 lbs.

Location: IX-HWCE; IX-HWCL (FCONN1/2)

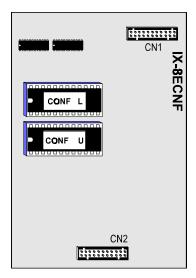


FIGURE 4.4-23 IX-8ECNF EIGHT-CONFERENCE EXPANSION BOARD

IX-16ECNF Sixteen-Conference Expansion Daughterboard

The IX-16ECNF daughterboard is an add-on to the IX-HWCE and IX-HWCL cards. It adds 16 four-party conference circuits for a system total of 24 four-party conferences. The IX-16ECNF is connected to FCONN1 and FCONN2 on the highway card.

Model: IX-8ECNF **Size:** 4.6"H x 3.6"W x 0.75"D

Part No.: 101240 **Weight:** 0.2 lbs.

Location: IX-HWCE; IX-HWCL (FCONN1/2)

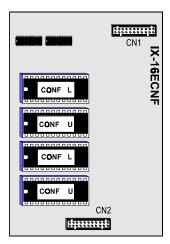


FIGURE 4.4-24 IX-16ECNF SIXTEEN-CONFERENCE EXPANSION BOARD

IX-DPHM Doorphone Melody Unit

The IX-DPHM daughterboard is an add-on to the IX-HWCE and IX-HWCL cards. It provides two different chime tones for optional digital doorphones. The IX-DPHM is connected to ECONN on the highway card.

Model: IX-DPHM **Size:** 2.75"H x 3.75"W x 0.75"D

Part No.: 101260 **Weight:** 0.1 lbs.

Location: IX-HWCE; IX-HWCL (ECONN)

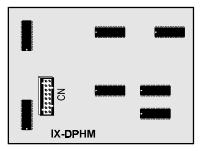


FIGURE 4.4-25 IX-DPHM DOORPHONE MELODY UNIT

IX-PLLU Clock Card

The IX-PLLU (Phased Locked Loop) clock card is an add-on to the IX-HWCE and IX-HWCL cards. This card is required when one or more T1 spans are terminated at the ADIX. It interfaces the synchronization between the T1 pipe and the ADIX system highway. The IX-PLLU is connected to DCONN1 and DCONN2 on the highway card.

Model: IX-DPHM **Size:** 6.5"H x 2.5"W x 0.75"D

Part No.: 101260 **Weight:** 0.1 lbs.

Location: IX-HWCE; IX-HWCL (DCONN1/2)

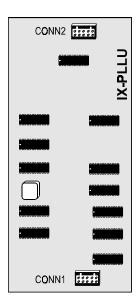


FIGURE 4.4-26 IX-PLLU CLOCK CARD



Station cards, which can be identified by their green tabs, interface the ADIX universal ports to the individual station terminals.

IX-8PSUB-1 Digital Station Card

The IX-8PSUB-1 card interfaces ADIX digital station terminals to the ADIX modules. Each circuit of the IX-8PSUB-1 card is star connected to an ADIX digital telephone, DSS unit, or attendant console using #22/24 AWG one-pair twisted cable. If a busy bypass unit or data module is used with an ADIX digital telephone, #22/24 AWG two-pair twisted cable is required. Single-pair cable allows for bidirectional data transmission or *ping-pong* transmission. The loop limit of ADIX digital station terminals is 1000 feet. The loop limit can be extended using star repeaters.

Note: The main physical difference between the IX-8PSUB-1 and IX-8PSUB card is the location of the CCONN amphenol connector. The location of the connector is approximately one inch higher on the IX-8PSUB-1 card. This should be taken into consideration when running cable and installing the card in an ADIX cabinet.

Model: IX-8PSUB-1 Part No.: 101441

Location: Any universal card slot

Ports: 8 per card Loop Limit: 1000 feet

1500 feet with one star repeater 8000 feet with two star repeaters

Circuit

Protection: Possitor/Thermistors PTH101-PTH801

Additional Power Requirements:

None

Compatible Station Terminals:

IX-ATT (requires 2 ports), IX-BLF, IX-DSSA/DSSB, IX-BPAD, IX-12KTS/KTD-2, IX-24KTS/KTD, IX-VT, IX-8KTS/KTD, IX-COMLINK, IX-DDPH, IX-MSGU

Non- Compatible Station Terminals:

IX-DMS

Note: The IX-DMS is only supported by the IX-8PSUB

Connectors: ACONN - Motherboard

CCONN - Station Terminals

On-Board Functions:

MBSW - Make Busy

Indicators: MBLED = Make Busy Size: 9.7"H x 9.5"W x .75"D

Weight: 0.75 lbs.

	Amphenol	MDF	СМ	RJ11	Jack
8PSUB	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
FG	27	3	W-O	4	Υ
FG	2	4	O-W	1	BK
2PT	28	5	W-GN	3	GN
2PR	3	6	GN-W	2	R
FG	29	7	W-BR	4	Υ
FG	4	8	BR-W	1	BK
3PT	30	9	W-SL	3	GN
3PR	5	10	SL-W	2	R
FG	31	11	R-BL	4	Υ
FG	6	12	BL-R	1	BK
4PT	32	13	R-O	3	GN
4PR	7	14	O-R	2	R
FG	33	15	R-GN	4	Y
FG	8	16	GN-R	1	BK
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
FG	35	19	R-SL	4	Y
FG	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
FG	37	23	BK-O	4	Y
FG	12	24	O-BK	1	BK
7PT	38	25	BK-GN	3	GN
7PR	13	26	GN-BK	2	R
FG	39	27	BK-BR	4	Y
FG	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
FG	41	31	Y-BL	4	Υ
FG	16	32	BL-Y	1	BK
	42	33	Y-0	3	GN
N/C	17	34	0-Y	2	R
\downarrow	\downarrow	↓	\downarrow	↓	↓
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

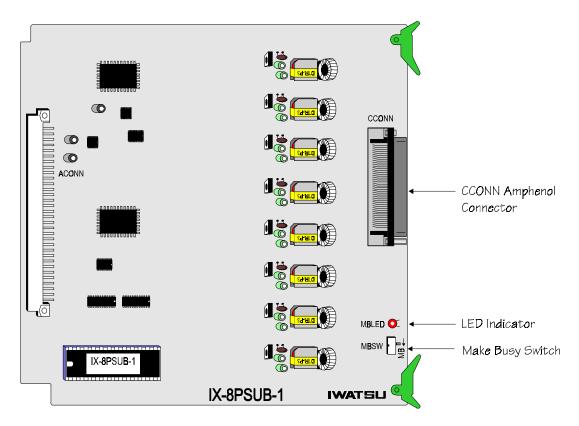


FIGURE 4.5-1 IX-8PSUB-1 CARD

IX-16PSUB Digital Station Interface Card

The 16-circuit IX-16PSUB card was designed to fully utilize the 16-circuit card slots in the new ADIX APS system.

The IX-16PSUB card interfaces 16 ADIX digital station terminals to the ADIX APS. Each circuit of the IX-16PSUB card is star connected to an ADIX digital telephone, IX-COMLINK, DSS unit, or IX-ATT attendant console using #22/24 AWG one-pair twisted cable. If an IX-BPAD busy bypass unit is used with an ADIX digital telephone, #22/24 AWG two-pair twisted cable is required. Single-pair cable allows for bi-directional data transmission or *ping-pong* transmission. The loop limit of ADIX digital station terminals is 1000 feet. The loop limit can be extended using IX-4SLREPU star repeaters.

Note: The CCONN amphenol connector on the IX-16PSUB is located at the same height as the CCONN connector on the IX-8PSUB-1, which is one inch higher than the CCONN connector on the IX-8PUB. This should be taken into consideration when running cable and installing the card in an ADIX, ADIX-M or ADIX-S cabinet.

Model: IX-16PSUB Part No.: 040360

Location: Any universal card slot in IX-CMM, IX-

CML, or IX-EXPMLn

Ports: 16 per card Loop Limit: 1000 feet

1500 feet with one star repeater 8000 feet with two star repeaters

Circuit

Protection: Possitor/Thermistors PTH101-PTH801

Additional Power Requirements:

None

Compatible Station Terminals:

IX-ATT (requires 2 ports), IX-BLF, IX-DSS-A-2, IX-BPAD, IX-12KTS/KTD-2, IX-24KTS/KTD, IX-VT,

IX-8KTS/KTD, IX-COMLINK, IX-DDPH, IX-MSGU

Connectors: ACONN - Motherboard

CCONN - Station Terminals

On-Board Functions:

MBSW - Make Busy

SW1/SW2 - Highway Mode Selectors

Indicators: MBLED1 = Make Busy Circuits 1-8

MBLED2 = Make Busy Circuits 9-16

Size: 9.7"H x 9.5"W x .75"D

Weight: 1 lb.

The IX-16PSUB card is illustrated below.

Note: SW1 and SW2 should always have the same setting.

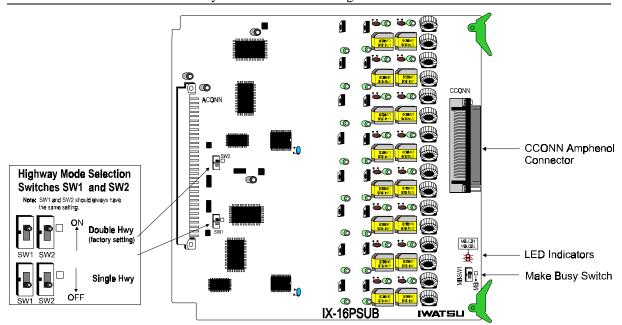


FIGURE 4.5-2. IX-16PSUB DIGITAL STATION INTERFACE CARD

IX-16PSUB Capacity Per Shelf

Cabinet	Power Supply	Max Digital Station Ports per Shelf	Max IX-16PSUB per Shelf
IX-CML	IX-PWSL Power Supply (ADIX APS)	72	4
IX-EXPL	IX-PWSL Power Supply (ADIX APS)	72	4
IX-CMM	IX-PWSS Power Supply (ADIX-S)	24	1
IX-CMM	IX-PWSM Power Supply (ADIX-M)	40	2
IX-EXPMM	IX-PWSM Power Supply (ADIX-M)	40	2

IX-16PSUB On-Board Switch Settings

Note 1: The IX-16PSUB may not be installed in card slot 2 of the IX-EXPML1 or IX-EXPML2.

Note 2: SW1 and SW2 must always have the same setting.

Note 3: IX-EXPMM or IX-EXPM expansion modules are not compatible in an ADIX APS system.

Cabinet	Card Position	SW1	SW2	Card Slots Required	Notes
IX-CML	Slot 1	OFF	OFF	1	Single Highway Mode
IX-CML	Slot 2-5	ON	ON	1	Double Highway Mode
IX-EXPML	1st Slot	OFF	OFF	1	Single Highway Mode
IX-EXPML	2 nd Slot	Not Supported	Not Supported	Not Supported	Not Supported
IX-EXPML	3 rd - 6 th Slot	ON	ON	1	Double Highway Mode
IX-CMM	Slot 1	OFF	OFF	1	Single Highway Mode
IX-CMM	Slot 2-5	ON	ON	1	Double Highway Mode
IX-EXPMM	Slot 1	OFF	OFF	1	Single Highway Mode
IX-EXPMM	Slot 3, 5	OFF	OFF	2	Takes another slot to the right.
IX-EXPMM	2 nd , 4 th , 6 th Slot	Not Supported	Not Supported	Not Supported	Not Supported
IX-CM	Slot 1, 3	OFF	OFF	2	Takes another slot to the right.
IX-CM	Slot 2, 4	Not Supported	Not Supported	Not Supported	Not Supported
IX-EXPM	1st, 3rd, 5th Slot	OFF	OFF	2	Takes another slot to the right.
IX-EXPM	2 nd , 4 th , 6 th , & 8 th Slot	Not Supported	Not Supported	Not Supported	Not Supported

IX-16PSUB Amphenol and MDF Wiring Assignment

IX-	Amphenol	MDF	CM	RJ11	Jack
16PSUB	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
2PT	27	3	W-O	3	GN
2PR	2	4	O-W	2	R
3PT	28	5	W-GN	3	GN
3PR	3	6	GN-W	2	R
4PT	29	7	W-BR	3	GN
4PR	4	8	BR-W	2	R
5PT	30	9	W-SL	3	GN
5PR	5	10	SL-W	2	R
6PT	31	11	R-BL	3	GR
6PR	6	12	BL-R	2	R
7PT	32	13	R-O	3	GN
7PR	7	14	O-R	2	R
8PT	33	15	R-GN	3	GN
8PR	8	16	GN-R	2	R
9PT	34	17	R-BR	3	GN
9PR	9	18	BR-R	2	R
10PT	35	19	R-SL	3	GN
10PR	10	20	SL-R	2	R
11PT	36	21	BK-BL	3	GN
11PR	11	22	BL-BK	2	R
12PT	37	23	BK-O	3	GN
12PR	12	24	O-BK	2	R
13PT	38	25	BK-GN	3	GN
13PR	13	26	GN-BK	2	R
14PT	39	27	BK-BR	3	GN
14PR	14	28	BR-BK	2	R
15PT	40	29	BK-SL	3	GN
15PR	15	30	SL-BK	2	R
16PT	41	31	Y-BL	3	GN
16PR	16	32	BL-Y	2	R
	42	33	Y-O	3	GN
N/C	17	34	0-Y	2	R
↓	↓	\downarrow	\downarrow	↓	↓
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

IX-4LSREPU Card

The IX-4LSREPU card is a four-port star repeater unit. It is used to extend the maximum distance from the ADIX system to the ADIX digital key telephone. Each IX-4LSREPU card may be used to extend the loop limit of four digital telephones. One IX-4LSREPU card port will extend the maximum station distance up to 2000 feet from the ADIX system. A second IX-4LSREPU card port will extend the station distance to a maximum of 8500 feet from the ADIX system. Depending on the configuration of the IX-4LSREPU, a 24 VDC local power source may be required.

The IX-4LSREPU card may be used in any ADIX APS, ADIX, ADIX-M, or ADIX-S system. At a remote location, it may be placed in an IX-CM or IX-CMM/L common module and operates without a CPU card. Additionally, the IX-4LSREPU offers several advantages over the IX-SREP Star Repeater:

- Uses the system power supply (Dependent on configuration IX-PWSL, IX-PWSS, IX-PWSM, IX-PWS100, IX-PWS200) instead of requiring a individual power supply.
- Each card supports up to four digital station ports.

Component Description

Model: IX-4LSREPU
Part No.: 101565

Location: Any universal card slot of an ADIX

Common Module or Expansion Module.

Circuits: 4 per card

Loop Limit: 2000 feet with one IX-4LSREPU circuit

8500 feet with two IX-4LSREPU circuits

Power Requirements:

Dependent on configuration - IX-PWSS,

IX-PWSM, IX-PWS100, IX-PWS200.

Compatible Station Terminals:

IX-12KTS/KTD-2, IX-24/8KTS/KTD, IX-BPAD,

IX-VT, IX-DSSA-2/B, IX-DCKT900

IX-DDPH, IX-DCKT900

Connectors: ACONN - Motherboard

CCONN - Amphenol Connector BCONN - Station IN/OUT Connectors

On-Board Switches:

IESW Power Source Selection (Always IN24)

SWX01 Synchronization Method

SWX02, SWX03 - Local Power Enable/Disable

Indicators: LED D117-D417 = Synchronization

Indication for circuits 1-4 respectively

Software Settings:

None

Size: 9.7"H x 9.5"W x .75"D

Weight: 0.75 lbs.

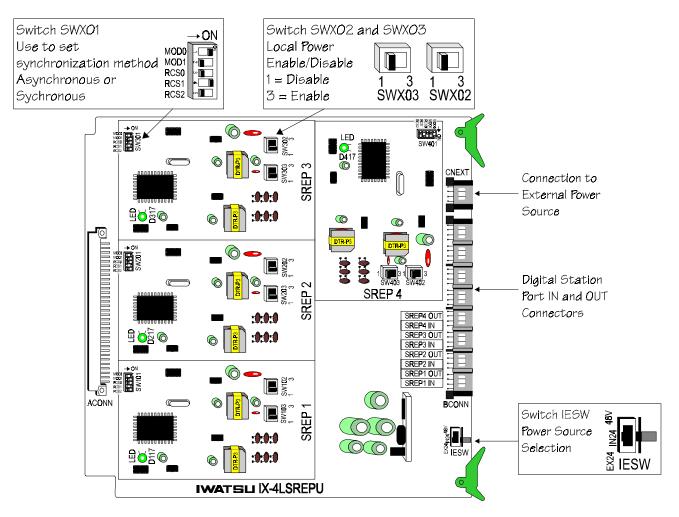


FIGURE 4.5-3 IX-4LSREPU CARD

IX-4LSREPU BCONN Connector Pin Assignment

Pin Number	Function	Description
32	Ground	
31	Ground	
30	SREP4 OUT-2	Circuit 4, Wire 2, Out to Digital Telephone or 2 nd IX-4LSREPU
29	SREP4 OUT-1	Circuit 4, Wire 1, Out to Digital Telephone or 2 nd IX-4LSREPU
28	Ground	
27	Ground	
26	SREP4 IN-2	Circuit 4, Wire 2, From PSUB port or 1st IX-4LSREPU
25	SREP4 IN-1	Circuit 4, Wire 1, From PSUB port or 1st IX-4LSREPU
24	Ground	
23	Ground	
22	SREP3 OUT-2	Circuit 3, Wire 2, Out to Digital Telephone or 2nd IX-4LSREPU
21	SREP3 OUT-1	Circuit 3, Wire 1, Out to Digital Telephone or 2 nd IX-4LSREPU
20	Ground	
19	Ground	
18	SREP3 IN-2	Circuit 3, Wire 2, From PSUB port or 1st IX-4LSREPU
17	SREP3 IN-1	Circuit 3, Wire 1, From PSUB port or 1st IX-4LSREPU
16	Ground	
15	Ground	
14	SREP2 OUT-2	Circuit 2, Wire 2, Out to Digital Telephone or 2 nd IX-4LSREPU
13	SREP2 OUT-1	Circuit 2, Wire 1, Out to Digital Telephone or 2nd IX-4LSREPU
12	Ground	
11	Ground	
10	SREP2 IN-2	Circuit 2, Wire 2, From PSUB port or 1st IX-4LSREPU
9	SREP2 IN-1	Circuit 2, Wire 1, From PSUB port or 1st IX-4LSREPU
8	Ground	
7	Ground	
6	SREP1 OUT-2	Circuit 1, Wire 2, Out to Digital Telephone or 2 nd IX-4LSREPU
5	SREP1 OUT-1	Circuit 1, Wire 1, Out to Digital Telephone or 2 nd IX-4LSREPU
4	Ground	
3	Ground	
2	SREP1 IN-2	Circuit 1, Wire 2, From PSUB port or 1st IX-4LSREPU
1	SREP1 IN-1	Circuit 1, Wire 1, From PSUB port or 1st IX-4LSREPU

IX-408 Digital Station/Caller ID Trunk Card

The IX-408 card consists of eight digital station (PSUB-1) ports and four Caller ID trunk (CITK) ports. This card may be inserted in any IX-CMM/L Common Module card slot. This card was designed to be utilized in the IX-CMM/L Common Module to take advantage of the unique additional highway structure of the IX-CMM/L. If the IX-408 card is installed in any IX-EXPMM/L, IX-CM, or IX-EXPM card slot, it requires two consecutive card slots on the same shelf to operate.

Digital Station (PSUB-1) Ports. The eight PSUB-1 ports are terminated on ports 1-8 of the card slot (physical ports 97-104 of card slot 1). They interface ADIX digital station terminals to the IX-CMM Common Module.

Each PSUB-1 circuit of the IX-408 card is connected to an ADIX digital telephone or DSS unit using #22/24 AWG one-pair twisted cable. If a busy bypass unit is used with an ADIX digital telephone, #22/24 AWG two-pair twisted cable is required. The loop limit of ADIX digital station terminals is 1000 feet. The loop limit can be extended using star repeaters.

Caller ID Trunk (CITK) Ports. The four CITK ports are terminated on ports 9-12 of the card slot (physical ports 105-108 of card slot 1). They interface central office/PBX circuits that provide caller ID service to the IX-CMM Common Module.

Physical Port Mapping Table

Card Installed	Digital Station	Caller ID Ports
In IX-CMM Slot	Ports	
1	097-104	105-108
2	1-8	129-132
3	9-16	137-140
4	17-24	145-148
5	25-32	153-156

Model: IX-408 Part No.: 040330

Location: Any IX-CMM card slot

Ports: 12 per card Loop Limit: 1000 feet

1500 feet with one star repeater 8000 feet with two star repeaters

Additional Power Requirements:

None

Compatible Station Terminals:

IX-12KTS/KTD-2, IX-24/8KTS/KTD, IX-BPAD,

IX-VT, IX-DSSA-2/B, IX-DCKT900

IX-DDPH, IX-MSGU

Trunk Impedance:

Fixed at 600 Ohms

Connectors: ACONN - Motherboard

CCONN - Amphenol Connector

On-Board Switches:

MBSW1 Make Busy

SW1/SW2 Card Slot Assignment

SW121-SW421 - Trunk Attenuation Selection SW122-SW422 - Trunk Hybrid Balance

Indicators: MBLED1 = PSUB-1 Busy Indication

MBLED2 = CITK Busy Indication

Software Settings:

Class 01.03 Port Definition; Class 01.04 Configuration

Size: 9.7"H x 9.5"W x .75"D

Weight: 1.05 lbs.

Configuring the IX-408 Card

SW1 and SW2 are used to identify the IX-CMM/L Common Module card slot in which the IX-408 card is installed. If the IX-408 card is installed in card slots 2-5, set **both** SW1 and SW2 to the SLOT 2-5 position (factory setting). If the IX-408 card is installed in card slot 1, set **both** SW1 and SW2 to the SLOT 1 position. If the IX-408 card is installed in an IX-EXPMM/L Expansion Module (ADIX APS/ADIX-M), IX-CM Common Module (full-size ADIX), or IX-EXPM Expansion Module (full-size ADIX) both SW1 and SW2 must be set to the SLOT 1 position.

Important: Both SW1 and SW2 must be set to the same position. For example, if SW1 is set to SLOT1, SW2 must also be set to SLOT1. The card will not function properly if these two switches are not in the same position.

Card Position	SW1	SW2
IX-CMM Slot 1	SLOT 1	SLOT 1
IX-CMM Slot 2-5	SLOT 2-5	SLOT 2-5
Any other cabinet (IX-EXPMM/L,	SLOT 1	SLOT 1
IX-CM, IX-EXPM)		

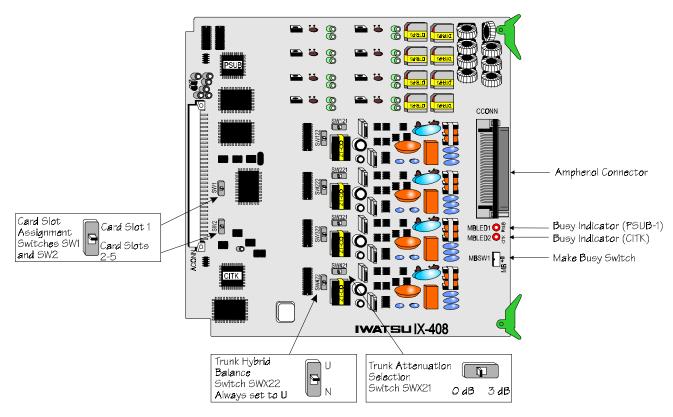


FIGURE 4.5-4 IX-408 CARD

IX-408 Pin Assignment

The table below lists the pin-out of the connector CCONN on IX-408 card.

Digital	Amphenol	MDF "66"	25-Pair	RJ11	Jack
Station Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
FG	27	3	W-O	4	Υ
FG	2	4	O-W	1	BK
2PT	28	5	W-GN	3	GN
2PR	3	6	GN-W	2	R
FG	29	7	W-BR	4	Y
FG	4	8	BR-W	1	BK
3PT	30	9	W-SL	3	GN
3PR	5	10	SL-W	2	R
FG FG	31 6	11	R-BL	4 1	Y BK
FG 4PT		12	BL-R	·	
4P1 4PR	32 7	13 14	R-O O-R	3 2	GN R
FG	33	15	R-GN	4	Ϋ́
FG FG	8	16	GN-R	1	BK
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R R
FG	35	19	R-SL	4	Ϋ́
FG	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
FG	37	23	BK-O	4	Ϋ́
FG	12	24	O-BK	1	BK
7PT	38	25	BK-GN	3	GN
7PR	13	26	GN-BK	2	R
FG	39	27	BK-BR	4	Υ
FG	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
FG	41	31	Y-BL	4	Υ
FG	16	32	BL-Y	1	BK
Caller ID	Amphenol	MDF "66"	25-Pair		Jack
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1T	42	33	Y-O	2	GN
1R	17	34	O-Y	1	R
2T	43	35	Y-GN	2	GN
2R	18	36	GN-Y	1	R
3T	44	37	Y-BR	2	GN
3R	19	38	BR-Y	1	R
4T	45	39	Y-SL	2	GN
4R	20	40	SL-Y	1	R

IX-044 SLT Station/Digital Station Card

The IX-044 card consists of four single-line (SUBS-2) ports and four digital station (PSUB-1) ports. Four caller ID trunk (CITK) ports may be added to the IX-044 with the addition of an IX-400 daughterboard.

Important! When configured **without** an IX-400 caller ID trunk daughterboard, the IX-044 card may be installed in any IX-CMM/L Common Module card slot. However, when the IX-400 caller ID trunk daughterboard is utilized, the IX-044 card **must** be installed in IX-CMM/L Common Module card slot 1. This card was designed to be utilized in the IX-CMM/L Common Module to take advantage of the unique additional highway structure of the IX-CMM/L. If the IX-044 card is installed in any IX-EXPMM/L, IX-CM, or IX-EXPM card slot, it requires two consecutive card slots on the same shelf to operate **without** the IX-400 and three consecutive card slots on the same shelf to operate **with** the IX-400.

Single-Line Station (SUBS-2) Ports. The four SUBS-2 ports are terminated on ports 1-4 of the card slot (physical ports 97-100 of card slot 1). They interface analog station terminal devices to the IX-CMM/L Common Module.

This card supports standard 2500-type single-line telephones and 500-type single-line telephones. Each SUBS-2 port has a built-in DTMF receiver. Single-line devices must be connected to an IX-044 SUBS-2 port using #24 AWG one-pair (twisted or quad) wire. The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance). An IX-RNGUM additional power supply is required to provide 90 VAC for SLT ringing.

Digital Station (PSUB-1) Ports. The four PSUB-1 ports are terminated on ports 9-12 of the card slot (physical ports 105-108 of card slot 1). They interface ADIX digital station terminals to the IX-CMM Common Module.

Each PSUB-1 circuit on the IX-044 card is connected to an ADIX digital telephone or DSS unit using #22/24 AWG one-pair twisted cable. If a busy bypass unit is used with an ADIX digital telephone, #22/24 AWG two-pair twisted cable is required. The loop limit of ADIX digital station terminals is 1000 feet. The loop limit can be extended using star repeaters.

Physical Port Mapping Table

Card Installed In IX-CMM/L Slot	SLT Ports	Digital Station Ports	Caller ID Ports
1	097-100	105-108	113-116
2	001-004	129-132	N/A
3	009-012	137-140	N/A
4	017-020	145-148	N/A
5	025-028	153-156	N/A

Model: IX-044
Part No.: 040350

Location: Without IX-400 - Any IX-CMM card slot

With IX-400 - IX-CMM Card Slot 1

Ports: 8 per card (12 with IX-400)

Loop Limit: Single-Line ports

600 Ohms (including SLT resistance)

Digital Station Ports

1000 feet

1500 feet with one star repeater 8000 feet with two star repeaters

Additional Power Requirements:

IX-RNGUM for SLT ringing

Compatible Station Terminals:

Single Line: 2500 SLTs, 500 SLTs

Digital: IX-12KTS/KTD-2, IX-24/8KTS/KTD,

IX-VT, IX-DSSA-2/B, IX-DCKT900 IX-BPAD, IX-DDPH, IX-MSGU **Connectors:** ACONN - Motherboard

CCONN - Amphenol Connector CN1 and CN2 - IX-400 Daughterboard

On-Board Switches:

MBSW1 - Make Busy

SW1 and SW2 - Card Slot Assignment

SW501-SW801 - SLT Hybrid Balance (Always set to **U**)

Indicators: MBLED1 = SUBS-2 Busy Indication

MBLED2 = PSUB-1 Busy Indication
MBLED2 = CITK Busy Indication

Software Settings:

Class 01.03 Port Definition; Class 01.04 Configuration

Size: 9.7"H x 9.5"W x .75"D

Weight: .80 lbs.

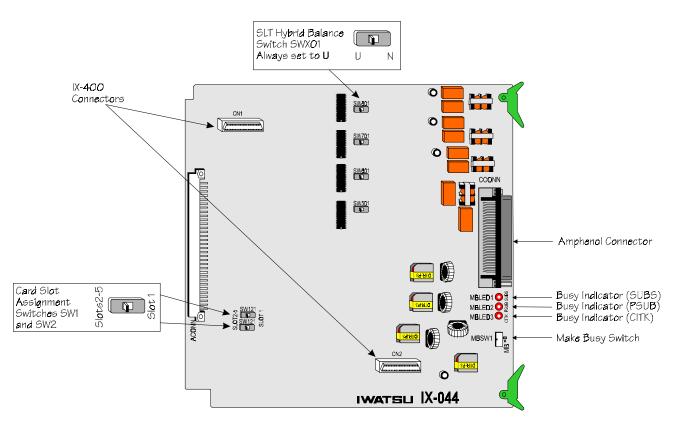


FIGURE 4.5-5 IX-044 CARD

Configuring the IX-044 Card

SW1 and SW2 are used to identify the IX-CMM/L Common Module card slot in which the IX-044 card is installed. If the IX-044 card is installed in card slots 2-5, set **both** SW1 and SW2 to the SLOT 2-5 position (factory setting). If the IX-044 card is installed in card slot 1, set **both** SW1 and SW2 to the SLOT 1 position. If the IX-040 caller ID trunk daughterboard is utilized, the IX-044 card **must** be installed in card slot 1. If the IX-044 card is installed in an IX-EXPMM/L Expansion Module (ADIX-M, ADIX APS), IX-CM Common Module (full-size ADIX), or IX-EXPM Expansion Module (full-size ADIX) both SW1 and SW2 must be set to the SLOT 1 position.

Important: SW1 and SW2 must both be set to the same position. For example, if SW1 is set to SLOT1, SW2 must also be set to SLOT1. The card will not function properly if these two switches are not in the same position.

Card Position	SW1	SW2
IX-CMM/L Slot 1	SLOT 1	SLOT 1
IX-CMM/L Slot 2-5	SLOT 2-5	SLOT 2-5
Any other cabinet (IX-EXPMM/L, IX-CM, IX-EXPM)	SLOT 1	SLOT 1

IX-044 Card and IX-400 Daughterboard Pin Assignment

The table below lists the pin-out of the connector CCONN on IX-044 card.

Single Line	Amphenol	MDF "66"	25-pair	RJ11	Jack
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
FG	27	3	W-O	4	Υ
FG	2	4	O-W	1	BK
2T	28	5	W-GN	3	GN
2R	3	6	GN-W	2	R
FG	29	7	W-BR	4	Y
FG 3T	4	8	BR-W W-SL	1	BK GN
31 3R	30 5	9 10	W-SL SL-W	3 2	GN R
FG	31	11	SL-W R-BL	4	Ϋ́
FG FG	6	12	BL-R	1	BK
4T	32	13	R-O	3	GN
4R	7	14	O-R	2	R
FG	33	15	R-GN	4	Y
FG	8	16	GN-R	1	BK
Digital	Amphenol	MDF	CM	RJ11	Jack
Station	7		· · · · · ·		-
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
FG	35	19	R-SL	4	Υ
FG	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
FG	37	23	BK-O	4	Y
FG	12	24	O-BK	1	BK
7PT 7PR	38	25	BK-GN	3	GN
FG	13 39	26 27	GN-BK BK-BR	2 4	R Y
FG	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
FG	41	31	Y-BL	4	Ϋ́
FG	16	32	BL-Y	1	BK
CITK	Amphenol	MDF "66"	25-pair	RJ11	Jack
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1CT	42	33	Y-O	2	GN
1CR	17	34	0-Y	1	R
2CT	43	35	Y-GN	2	GN
2CR	18	36	GN-Y	1	R
3CT	44	37	Y-BR	2	GN
3CR	19	38	BR-Y	1	R
4CT	45	39	Y-SL	2	GN
4CR	20	40	SL-Y	1	R

IX-8DSUB Card for ZT-D and ZT-S Telephone Connection

The IX-8DSUB card interfaces up to eight ZT-D and ZT-S analog station terminals to the ADIX and ADIX-M common module or expansion modules. Each port is star connected to a ZT-D or ZT-S station terminal using #22/24 three-pair twisted cable. The loop limit of ZT-D and ZT-S telephones is fixed at 1000 feet.

Note: The off-hook voice announce feature does not operate at ZT-D telephones connected to an IX-8DSUB card with a PPU version before Rev. 6.

Model: IX-8DSUB Compatible Station Terminals:

Part No.: 101460 ZT24D/K, ZT-12D/K, ZT-8K/D,

Location: Any universal card slot ZT-6D/K, ZS-6KTD/S

Ports: 8 per card On-Board Functions:

Loop Limit: 1000 feet SW1 - Make Busy

Circuit Indicators: LED = Busy

None Size: 9.7"H x 9.5"W x 1.0"D

Weight: 0.9 lbs.

	Amphenol	MDF	СМ	RJ11	Jack
IX-8DSUB	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
1DT	27	3	W-O	4	Y
1DR	2	4	O-W	1	BK
2PT	28	5	W-GN	3	GN
2PR	3	6	GN-W	2	R
2DT	29	7	W-BR	4	Υ
2DR	4	8	BR-W	1	BK
3PT	30	9	W-SL	3	GN
3PR	5	10	SL-W	2	R
3DT	31	11	R-BL	4	Y
3DR	6	12	BL-R	1	BK
4PT	32	13	R-O	3	GN
4PR	7	14	O-R	2	R
4DT	33	15	R-GN	4	Υ
4DR	8	16	GN-R	1	BK
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
5DT	35	19	R-SL	4	Υ
5DR	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
6DT	37	23	BK-O	4	Υ
6DR	12	24	O-BK	1	BK
7PT	38	25	BK-GN	3	GN
7PR	13	26	GN-BK	2	R
7DT	39	27	BK-BR	4	Y
7DR	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
8DT	41	31	Y-BL	4	Y
8DR	16	32	BL-Y	1	BK
	42	33	Y-0	3	GN
N/C	17	34	0-Y	2	R
↓	\downarrow	\downarrow	U	↓	\downarrow
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

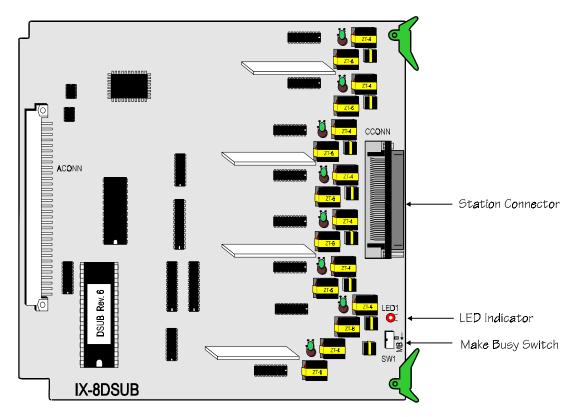


FIGURE 4.5-6 IX-8DSUB CARD

IX-8SUBS-3 Card for Single-Line Telephones

The IX-8SUBS-3 card interfaces station ports to up to eight on-premises single-line telephones. The IX-8SUBS-3 has loop open capabilities. This eight-circuit card replaces the IX-8SUBS-2 card. The IX-8SUBS-3 provides no support for message lamps.

Eight ports may be added to the IX-8SUBS-3 with the addition of an IX-8ESUBS card for a total of 16 ports. Combined, the IX-8SUBS-3 and the IX-8ESUBS fully utilize the 16-circuit card slots in the ADIX APS system. This combination may also be used in existing IX-CM, IX-CMM/L, IX-EXPM and IX-EXPMM/L modules. However, when this combination is installed in an IX-CM, IX-EXPM, or IX-EXPMM/L module, two card slots are required.

The IX-8SUBS-3 includes eight DTMF receivers on board. SLTs must be star connected to an IX-8SUBS-3 port using #24 AWG one-pair (twisted or quad) wire. The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance). An IX-RNGU (ADIX) or IX-RNGUM (ADIX APS) power supply is required to provide 90 VAC for SLT ringing.

Model: IX-8SUBS-3 Compatible Station Terminals:

Part No.: 101477 500-type (dial pulse) SLTs

Location: Any universal card slot 2500-type (touchtone) SLTs

Ports: 8 per card **Indicators:** D1 = Busy

Loop Resistance: Connectors: ACONN - Motherboard

600 Ohms (including SLT resistance)

CCONN - Station terminals

CN1 and CN2 - IX-8ESUBS

Circuit

Protection: Metal Oxide Varistors

Additional Power Requirements: Size: 9"H x 9"W x 0.75"D

IX-RNGU (ADIX), Weight: 0.9 lbs.

IX-RNGUM (ADIX APS)

On-Board Functions:

MBSW - Make Busy Circuits 1-16

SW1 - Must be set to **U**

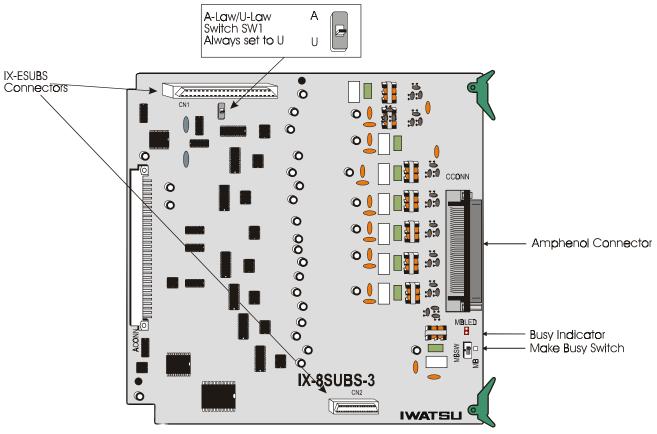


FIGURE 4.5-7 IX-8DSUBS-3 CARD

IX-8SUBS-3 Amphenol Pin Assignment

	Amphenol	MDF	СМ	RJ11	Jack
IX-8SUBS-3	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
2T	27	3	W-O	4	Υ
2R	2	4	O-W	1	BK
3T	28	5	W-GN	3	GN
3R	3	6	GN-W	2	R
4T	29	7	W-BR	4	Υ
4R	4	8	BR-W	1	BK
5T	30	9	W-SL	3	GN
5R	5	10	SL-W	2	R
6T	31	11	R-BL	4	Y
6R	6	12	BL-R	1	BK
7T	32	13	R-O	3	GN
7R	7	14	O-R	2	R
8T	33	15	R-GN	4	Y
8R	8	16	GN-R	1	BK

IX-8ESUBS Card for Single-Line Telephones

The IX-8ESUBS card provides eight additional station ports when connected to the IX-8SUBS-3 card. The IX-8SUBS card is connected to the CN1 and CN2 on either the IX-8SUBS-3 card or the IX-8SUBM-3 card.

The 8ESUBS includes eight DTMF receivers on board. SLTs must be star connected to an 8ESUBS port using #24 AWG one-pair (twisted or quad) wire. The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance).

Important: An **8ESUBS** label is included with the IX-8ESUBS packaging. Apply this label to the top ejector tab of the IX-8SUBS-3 card when installing the IX-8ESUBM card.

NOTE: It is possible to add an IX-8ESUBS card to the IX-8SUBM-3 card. However, if you add an IX-8ESUBS card to an IX-8SUBM-3 card, at system default the ADIX defines all 16 ports as message waiting single line ports. The upper 8 ports (IX-8ESUBS) must be reconfigured as standard single line ports (Class 01 Item 03 change from 0-2-1 to 0-2-0 definition). The message key programming should also be changed (*Class 10.45* to **0** = no message key) for the IX-8ESUBS ports. This disables the message key, and the system will not send a confirmation tone to a station that tries to turn the message lamp on at the IX-8ESUBS single line telephones.

Model: IX-8ESUBS Compatible Station Terminals:

Part No.:101478500-type (dial pulse) SLTsLocation:IX-8SUBS-3 or IX-8SUBM-32500-type (touchtone) SLTs

CN1 and CN2 8 per card

Loop Resistance: Connectors: CN1 and CN2 -

600 Ohms (including SLT resistance) IX-8SUBS-3 or IX-8SUBM-3

Circuit

Ports:

Protection: Metal Oxide Varistors **Additional Power Requirements:**

 wer Requirements:
 Size:
 8.5"H x 6.5"W x 9"D

 IX-RNGU (ADIX),
 Weight:
 0.75 lbs.

IX-RNGUM (ADIX APS)

On-Board Functions:

SW2 - Highway Mode Selections, see

illustration on next page

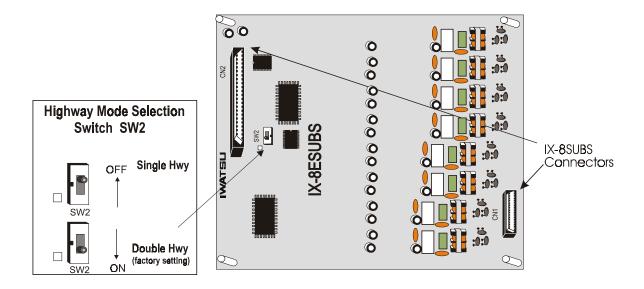


FIGURE 4.5-8 IX-8ESUBS CARD

IX-8SUBS-3 + IX-8ESUBS On-Board Switch Settings

Cabinet	Card Position	SW2	Card Slots Required
IX-CML	Slot 1	OFF	1
IX-CML	Slot 2-5	ON	1
IX-EXPML	Slot 1	OFF	1
IX-EXPML	Slot 2	Not	Not
		Supported	Supported
IX-EXPML	Slot 3-6	ON	1
IX-CMM	Slot 1	OFF	1
IX-CMM	Slot 2-5	ON	1
IX-EXPMM	Slot 3, 5	OFF	2
IX-EXPMM	Slot 2, 4, 6	Not	Not
		Supported	Supported
IX-CM (Shelf 1)	Slot 1, 3	OFF	2
IX-CM (Shelf 1)	Slot 2, 4	Not	Not
		Supported	Supported
IX-CM (Shelf 2)	Slot 1, 3, 5, 7	OFF	2
IX-CM (Shelf 2)	Slot 2, 4, 6, 8	Not	Not
		Supported	Supported
IX-EXPM	Slot 1, 3, 5, 7	OFF	2
IX-EXPM	Slot 2, 4, 6, 8	Not	Not
		Supported	Supported

IX-8ESUBS Amphenol Pin Assignment

	Amphenol	MDF	СМ	RJ11	Jack
IX-ESUBS-	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1T	34	17	R-BR	3	GN
1R	9	18	BR-R	2	R
2T	35	19	R-SL	4	Υ
2R	10	20	SL-R	1	BK
3T	36	21	BK-BL	3	GN
3R	11	22	BL-BK	2	R
4T	37	23	BK-O	4	Υ
4R	12	24	O-BK	1	BK
5T	38	25	BK-GN	3	GN
5R	13	26	GN-BK	2	R
6T	39	27	BK-BR	4	Υ
6R	14	28	BR-BK	1	BK
7T	40	29	BK-SL	3	GN
7R	15	30	SL-BK	2	R
8T	41	31	Y-BL	4	Υ
8R	16	32	BL-Y	1	BK
1	. ↓	↓	1	↓	↓
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

IX-8SUBS-2 Card for Single-Line Telephones

The IX-8SUBS-2 card interfaces station ports to up to eight on-premises single-line telephones. This card was preceded by the IX-8SUBS card and the IX-8SUBS-1 card. Unlike previous versions of this card, the IX-8SUBS-2 includes eight DTMF receivers on board. With the IX-8SUBS and IX-8SUBS-1 cards, if 2500-type SLTs are used, one or two IX-4RCVS DTMF receiver daughterboards must be mounted on board. Each IX-4RCVS daughterboard can support four 2500-type SLTs. SLTs must be star connected to an IX-8SUBS-2 port using #24 AWG one-pair (twisted or quad) wire. The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance). An IX-RNGU (ADIX) or IX-RNGUM (ADIX-M) additional power supply is required to provide 90 VAC for SLT ringing.

Note: When connecting an IX-4RCVS receiver board to an IX-8SUBS or IX-8SUBS-1 card, use DCONN1 and ECONN1 for the first four physical ports and DCONN2 and ECONN2 for the last four physical ports.

Model: IX-8SUBS-2 Compatible Station Terminals:

Part No.: 101476 500-type (dial pulse) SLTs

Location: Any universal card slot 2500-type (touchtone) SLTs

Ports: 8 per card **Indicators:** D1 = Busy

Loop Resistance: Connectors: ACONN - Motherboard

600 Ohms (including SLT resistance) CCONN - Station terminals

CircuitDCONN1/ECONN1 - IX-RCVS (1)Protection:Metal Oxide VaristorsDCONN2/ECONN2 - IX-RCVS (2)

Additional Power Requirements: Size: 9.7"H x 9.5"W x 0.75"D

IX-RNGU (ADIX), IX-RNGUM (ADIX-M) Weight: 0.75 lbs.

On-Board Functions:

MBSW - Make Busy

SW101-SW801 - Must be set to U

	Amphenol	MDF	СМ	RJ11 Jack	
IX-8SUBS-2	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
	27	3	W-O	4	Y
	2	4	O-W	1	BK
2T	28	5	W-GN	3	GN
2R	3	6	GN-W	2	R
	29	7	W-BR	4	Υ
	4	8	BR-W	1	BK
3T	30	9	W-SL	3	GN
3R	5	10	SL-W	2	R
	31	11	R-BL	4	Υ
	6	12	BL-R	1	BK
4T	32	13	R-O	3	GN
4R	7	14	O-R	2	R
	33	15	R-GN	4	Υ
	8	16	GN-R	1	BK
5T	34	17	R-BR	3	GN
5R	9	18	BR-R	2	R
	35	19	R-SL	4	Y
	10	20	SL-R	1	BK
6T	36	21	BK-BL	3	GN
6R	11	22	BL-BK	2	R
	37	23	BK-O	4	Y
	12	24	O-BK	1	BK
7T	38	25	BK-GN	3	GN
7R	13	26	GN-BK	2	R
	39	27	BK-BR	4	Y
	14	28	BR-BK	1	BK
8T	40	29	BK-SL	3	GN
8R	15	30	SL-BK	2	R
	41	31	Y-BL	4	Y
	16	32	BL-Y	1	BK
↓	↓	\downarrow	\downarrow	↓	↓
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

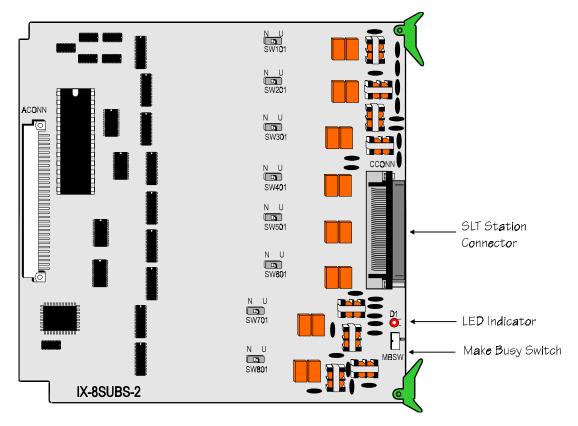


FIGURE 4.5-9 IX-8SUBS-2 CARD

IX-8SUBM-2 Card for Single-Line Telephones with Message Lamps

The IX-8SUBM-2 interface card provides connection of up to eight single-line telephones (SLT) with message lamps. This eight-circuit card replaces the IX-8SUBM-1 card. An optional IX-PMMSG 90V Message Lamp Power Supply may be connected to the IX-8SUBM-2 card to provide on-board power to light SLT message lamps. Utilizing these two components, the ADIX-M can support single-line telephones with message lamps. The IX-8SUBM-2 and IX-PMMSG may also be used in the full-size ADIX.

Model: IX-8SUBM-2 Additional Power Requirements:

Part No.:101482IX-DCDCA, IX-MSGPW orLocation:Any universal card slotIX-PMMSG, IX-RNGU

Ports: 8 per card Compatible Station Terminals:

Loop Resistance: 500-type (dial pulse) SLTs

600 Ohms (including SLT resistance) 2500-type (touchtone) SLTs

Circuit Connectors: ACONN - Motherboard

Protection:Metal Oxide VaristorCCONN - Station terminalsIndicators:MBLED = BusyMCONN - IX-PMMSG connector

On-Board Functions: Size: 9.7"H x 9.5"W x 0.75"D

MBSW - Make Busy Weight: 0.9 lbs.

SW101-SW801 - Not Used - set to **U**SW102-SW802 - 2-Wire/4-Wire Selection

MCONN - Power Supply Type SW1 and SW2 - Power Supply Type

Overview of the IX-8SUBM-2

The IX-8SUBM-2 card is illustrated on the next page. The IX-8SUBM-2 card has the exact same functionality as the IX-8SUBM-1 card plus it has been engineered to accommodate the IX-PMMSG. It contains eight switches (SW102-SW802) that are used to select two-wire or four-wire connection for each circuit. Switches SW1 and SW2 are used to select the 90 VDC power source for lighting SLT message lamps – either SYSTEM (IX-DCDCA/IX-MSGPW) or ON-BOARD (IX-PMMSG). Switches SW101-SW801 are not used. They should remain in the "U" position (factory setting).

IX-8SUBM-2 On-Board Switches

SW102-SW802. Used to select the telephone wiring method – two-wire connection or four-wire connection – for each circuit.

No.	Function	2W (factory setting)	4W
SW102	SLT Wiring Type for circuit No.1	Two-wire	Four-wire
SW202	SLT Wiring Type for circuit No.2	Two-wire	Four-wire
SW302	SLT Wiring Type for circuit No.3	Two-wire	Four-wire
SW402	SLT Wiring Type for circuit No.4	Two-wire	Four-wire
SW502	SLT Wiring Type for circuit No.5	Two-wire	Four-wire
SW602	SLT Wiring Type for circuit No.6	Two-wire	Four-wire
SW702	SLT Wiring Type for circuit No.7	Two-wire	Four-wire
SW802	SLT Wiring Type for circuit No.8	Two-wire	Four-wire

PLSSW. Used to select the 90 VDC message lamp power source used with the IX-8SUBM-2 card – SYSTEM (IX-DCDCA / IX-MSGPW installed on the same shelf as the card) or ON-BOARD (IX-PMMSG connected to the MCONN connector of the IX-8SUBM-2 card).

Note: In order for this card to operate properly, both SW1 and SW2 must be set exactly the same.

No.	Function	BOD	SYS (factory setting)
SW1 and	Power Supply	IX-PMMSG Connected to MCONN	IX-DCDCA/IX-MSGPW
SW2	Type	connector	

SW101-SW801 (Not Used)

Switch	Position	Function
SW101 - 801	U	Not Used (factory setting)
	N	Not Used

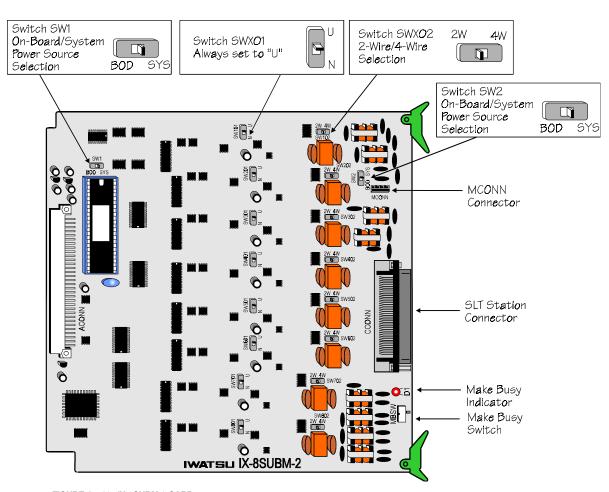


FIGURE 4.5-10 IX-8SUBM-2 CARD

Recommended IX-8SUBM-2 Switch Settings

When replacing an IX-8SUBM card with an IX-8SUBM-2 card:

The IX-8SUBM card required an IX-DCDCA or IX-MSGPW power supply installed on the same shelf and four-wire connection. Therefore, set the IX-8SUBM-2 card as follows:

- Set SW102 through SW802 to **4W**.
- Set SW1 and SW2 to SYS.

When replacing an IX-8SUBM-1 card with an IX-8SUBM-2 card:

The IX-8SUBM card required an IX-DCDCA or IX-MSGPW power supply installed on the same shelf and either two-wire or four-wire connection. Therefore, set the IX-8SUBM-2 card as follows:

- Set SW102 through SW802 to either **2W** or **4W** depending on how the IX-8SUBM-1 was set.
- Set SW1 and SW2 to SYS.

When adding an IX-8SUBM-2 to the ADIX-M:

Use the switch settings listed below when installing an IX-8SUBM-2 card for use with two-wire or four-wire SLTs on the ADIX-M system:

- Set SW102 through SW802 to either **2W** or **4W** depending on the type of SLT connected to each circuit.
- Set SW1 and SW2 to **BOD. Note:** If the IX-8SUBM-2 is not equipped with an IX-PMMSG 90V power supply, SLT message lamps will not function on ADIX-M.

IX-8-SUBM-2 Wiring

	Four-Wire Connection					
				RJ11	Jack	
8SUBM-1	Amph Pin No.	MDF Pin No.	CM Wire Color	Pin No.	Wire Color	
1T	26	1	W-BL	3	GN	
1R	1	2	BL-W	2	R	
1L	27	3	W-O	4	Y	
1G	2	4	O-W	1	BK	
2T	28	5	W-GN GN-W	3	GN	
2R 2L	3 29	6 7	W-BR	2 4	R Y	
2L 2G	4	8	BR-W	1	BK	
3T	30	9	W-SL	3	GN	
3R	5	10	SL-W	2	R	
3L	31	11	R-BL	4	Y	
3G	6	12	BL-R	1	BK	
4T	32	13	R-O	3	GN	
4R	7	14	O-R	2	R	
4L	33	15	R-GN	4	Y	
4G	8	16	GN-R	1	BK	
5T	34	17	R-BR	3	GN	
5R	9	18	BR-R	2	R	
5L	35	19	R-SL	4	Υ	
5G	10	20	SL-R	1	BK	
6T	36	21	BK-BL	3	GN	
6R	11	22	BL-BL	2	R	
6L	37	23	BK-O	4	Υ	
6G	12	24	O-BK	1	BK	
7T	38	25	BK-GN	3	GN	
7R	13	26	GN-BK	2	R Y	
7L 7G	39 14	27 28	BK-BR	4 1	Y BK	
8T	40	28	BR-BK BK-SL	3	GN	
81 8R	40 15	30	SL-SL	2	GN R	
8L	41	31	Y-BL	4	Y	
8G	16	32	BL-Y	1	BK	
- 30	42	33	Y-0	N/C	:	
N/C	16	34	0-Y	:	:	
	:	:	:	:	:	
	:	:	:	:	:	
	50	49	V-SL	:	:	
	25	50	SL-V	:	:	

	Two-Wire Connection					
				RJ11	Jack	
8SUBM-1	Amph Pin No.	MDF Pin No.	CM Wire Color	Pin No.	Wire Color	
1T 1R	26 1 27 2	1 2 3 4	W-BL BL-W W-O O-W	3 2 4 1	GN R Y BK	
2T 2R	28 3 29 4	5 6 7 8	W-GN GN-W W-BR BR-W	3 2 4 1	GN R Y BK	
3T 3R	30 5 31 6	9 10 11 12	W-SL SL-W R-BL BL-R	3 2 4 1	GN R Y BK	
4T 4R	32 7 33 8	13 14 15 16	R-O O-R R-GN GN-R	3 2 4 1	GN R Y BK	
5T 5R	34 9 35 10	17 18 19 20	R-BR BR-R R-SL SL-R	3 2 4 1	GN R Y BK	
6T 6R	36 11 37 12	21 22 23 24	BK-BL BL-BL BK-O O-BK	3 2 4 1	GN R Y BK	
7T 7R	38 13 39 14	25 26 27 28	BK-GN GN-BK BK-BR BR-BK	3 2 4 1	GN R Y BK	
8T 8R	40 15 41 16	29 30 31 32	BK-SL SL-BK Y-BL BL-Y	3 2 4 1	GN R Y BK	
N/C	42 16 : : 50 25	33 34 : : 49 50	Y-O O-Y V-SL SL-V	N/C : : :	:	

IX-8SUBM-3 Card for Single-Line Telephones with Message Lamps

The IX-8SUBM-3 interface card provides connection of up to eight single-line telephones (SLT) with message lamps. The IX-8SUBM-3 has loop open and message waiting capabilities. This eight-circuit card replaces the IX-8SUBM-2 card.

Optional IX-PMMSG 90V Message Lamp Power Supplies may be connected to the IX-8SUBM-3 card to provide on-board power to light SLT message lamps. Utilizing these two components, the ADIX and ADIX APS can support single-line telephones with message lamps.

Eight ports may be added to the IX-8SUBM-3 with the addition of an IX-8ESUBM card for a total of 16 ports. Combined, the IX-8SUBS-3 and the IX-8ESUBM fully utilize the 16-circuit card slots in the ADIX APS system. This combination may also be used in existing IX-CM, IX-CMM/L, IX-EXPM and IX-EXPMM/L modules. However, when this 16-circuit combination is installed in an IX-CM, IX-EXPM, or IX-EXPMM/L module, two card slots are required.

The IX-8SUBM-3 includes eight DTMF receivers on board. SLTs must be star connected to an IX-8SUBM-3 port using #24 AWG one-pair (twisted or quad) wire. The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance). An IX-RNGU (ADIX) or IX-RNGUM (ADIX APS) additional power supply is required to provide 90 VAC for SLT ringing.

The card requires one IX-PMMSG for each 8 ports. For instance, only one IX-PMMSG power supply is required for the IX-8SUBM-3, but two IX-PMMSG power supplies are required if you add the IX-8ESUBM card. The IX-8SUBM-3 and IX-8ESUBM support only 2-wire message lamp telephones.

NOTE: It is possible to add an IX-8ESUBS card to the IX-8SUBM-3 card. However, if you add an IX-8ESUBS card to an IX-8SUBM-3 card, at system default the ADIX defines all 16 ports as message waiting single line ports. The upper 8 ports (IX-8ESUBS) must be reconfigured as standard single line ports (Class 01 Item 03 change from 0-2-1 to 0-2-0 definition). The message key programming should also be changed (*Class 10.45* to **0** = no message key) for the IX-8ESUBS ports. This disables the message key, and the system will not send a confirmation tone to a station that tries to turn the message lamp on at the IX-8ESUBS single line telephones.

Model: IX-8SUBM-3 Part No.: 101484

Location: Any universal card slot

Ports: 8 per card

Loop Resistance:

600 Ohms (including SLT resistance)

Circuit

Protection: Metal Oxide Varistor

Indicators: MBLED = Make Busy Circuits 1-16

On-Board Functions:

MBSW - Make Busy (for all 16 ports)

SW1 - Not Used - set to U

Additional Power Requirements:

IX-PMMSG, IX-RNGU or

IX-RNGUM

Compatible Station Terminals:

500-type (dial pulse) SLTs 2500-type (touchtone) SLTs

Connectors: ACONN - Motherboard

CCONN - Station terminals
CN1 and CN2 - IX-8ESUBM/S
MCONN1 - IX-PMMSG for lines 1-8
MCONN2 - IX-PMMSG for lines 9-16

Size: 9."H x 9."W x 0.75"D

Weight: 0.9 lbs.

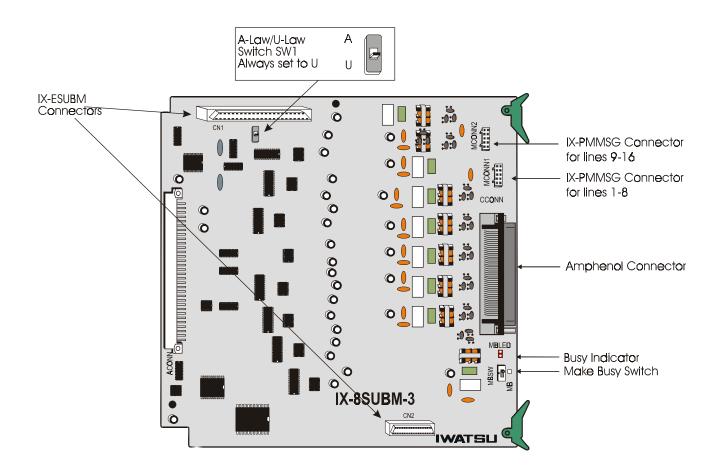


FIGURE 4.5-11 IX-8SUBM-3 CARD

IX-8SUBM-3 Amphenol Pin Assignment

	Amphenol	MDF	СМ	RJ11 Jack	
IX-8SUBM-3	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
2T	27	3	W-O	4	Υ
2R	2	4	O-W	1	BK
3T	28	5	W-GN	3	GN
3R	3	6	GN-W	2	R
4T	29	7	W-BR	4	Υ
4R	4	8	BR-W	1	BK
5T	30	9	W-SL	3	GN
5R	5	10	SL-W	2	R
6T	31	11	R-BL	4	Υ
6R	6	12	BL-R	1	BK
7T	32	13	R-O	3	GN
7R	7	14	O-R	2	R
8T	33	15	R-GN	4	Y
8R	8	16	GN-R	1	BK

Model:

Loop Resistance:

IX-8ESUBM Card for Single-Line Telephones with Message Lamps

The IX-8ESUBM card provides connection of up to eight single-line telephones (SLT) with message lamps when connected to the IX-8SUBM-3 card. The IX-8SUBM card is connected to the CN1 and CN2 on the IX-8SUBM-3 card. An optional IX-PMMSG 90V Message Lamp Power Supply may be connected to the IX-8SUBM-3 card to provide on-board power to light SLT message lamps.

The 8ESUBM includes eight DTMF receivers on board. SLTs must be star connected to an 8ESUBM port using #24 AWG one-pair (twisted or quad) wire. The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance).

The IX-8ESUBM only supports 2 wire message waiting single line telephones. This new card also requires an IX-PMMSG (connected to MCONN2 on the IX-8SUBM-3 card) for message lamp operation.

Important: An **8ESUBM** label is included with the IX-8ESUBM packaging. Apply this label to the top ejector tab of the IX-8SUBM-3 card when installing the IX-8ESUBM card.

Additional Power Requirements: IX-8ESUBM

Part No.: IX-PMMSG, IX-RNGU or IX-RNGUM 101486

Location: IX-8SUBM-3 CN1 and CN2 **Compatible Station Terminals:**

Ports: 8 per card

500-type (dial pulse) SLTs 2500-type (touchtone) SLTs 600 Ohms (including SLT resistance) CN1 and CN2 – IX-8SUBM-3

Circuit **Connectors:** Protection: Metal Oxide Varistor

On-Board Functions: Size: 8.5"H x 6.5"W x 0.75"D

> SW2 - Highway Mode Selections, see 0.75 lbs. Weight:

illustration.

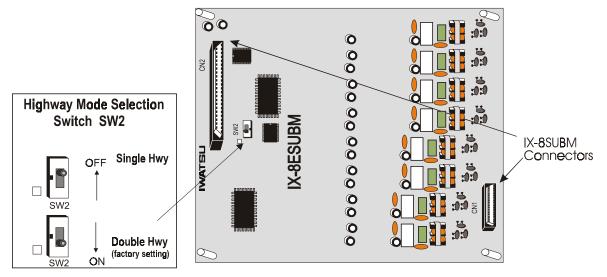


FIGURE 4.5-12 IX-8ESUBM CARD

IX-8SUBM-3 + IX-8ESUBM On-Board Switch Settings

Cabinet	Card Position	SW2	Card Slots Required
IX-CML	Slot 1	OFF	1
IX-CML	Slot 2-5	ON	1
IX-EXPML	Slot 1	OFF	1
IX-EXPML	Slot 2	Not	Not
		Supported	Supported
IX-EXPML	Slot 3-6	ON	1
IX-CMM	Slot 1	OFF	1
IX-CMM	Slot 2-5	ON	1
IX-EXPMM	Slot 3, 5	OFF	2
IX-EXPMM	Slot 2, 4, 6	Not	Not
		Supported	Supported
IX-CM (Shelf 1)	Slot 1, 3	OFF	2
IX-CM (Shelf 1)	Slot 2, 4	Not	Not
		Supported	Supported
IX-CM (Shelf 2)	Slot 1, 3, 5, 7	OFF	2
IX-CM (Shelf 2)	Slot 2, 4, 6, 8	Not	Not
		Supported	Supported
IX-EXPM	Slot 1, 3, 5, 7	OFF	2
IX-EXPM	Slot 2, 4, 6, 8	Not	Not
		Supported	Supported

IX-8ESUBM Amphenol Pin Assignment

	Amphenol	MDF	СМ	RJ11	Jack
IX-ESUBM-	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1T	34	17	R-BR	3	GN
1R	9	18	BR-R	2	R
2T	35	19	R-SL	4	Y
2R	10	20	SL-R	1	BK
3T	36	21	BK-BL	3	GN
3R	11	22	BL-BK	2	R
4T	37	23	BK-O	4	Υ
4R	12	24	O-BK	1	BK
5T	38	25	BK-GN	3	GN
5R	13	26	GN-BK	2	R
6T	39	27	BK-BR	4	Υ
6R	14	28	BR-BK	1	BK
7T	40	29	BK-SL	3	GN
7R	15	30	SL-BK	2	R
8T	41	31	Y-BL	4	Υ
8R	16	32	BL-Y	1	BK
1	1		↓	↓	↓
N/C	50	49	V-SL	3	GN
	25	50	SI -W	2	R

IX-4SUBL Card

Model:

Part No.:

SW1

SW101-SW401

101490

Make Busy

Distance Set

The IX-4SUBL card interfaces station ports to up to four off-premises single-line telephones. If 2500-type SLTs are used, an IX-4RCVS DTMF receiver must be mounted on board. An IX-DCDCA (ADIX), IX-DCDCB (ADIX), or IX-DCDCM (ADIX-M) additional power supply must be installed in the system when the IX-4SUBL card is used. An IX-RNGU (ADIX) or IX-RNGUM (ADIX-M) additional power supply is required to provide 90 VAC for SLT ringing. If the lines for the off-premises SLTs are supplied by the CO, OL13C circuiting can be used. If the lines for the off-premises SLTs are not supplied by the CO, SW101 - SW104 must be set to indicate the distance from the ADIX.

IX-4SUBL Facility Interface Code:

OL13C

Location: Any universal card slot **Additional Power Requirements:**

Ports: 4 per card ADIX IX-DCDCA or IX-DCDCB, IX-RNGU

Circuit ADIX-M IX-DCDCM, IX-RNGUM

Protection: Metal Oxide Varistors Compatible Station Terminals:

Indicators:LED1 = Busy500-type (dial pulse) SLTsResistance:1200 Ohms2500-type (touchtone) SLTs

On-Board Functions: Connectors: ACONN - Motherboard

CCONN - Station terminals DCONN / ECONN - IX-RCVS

L = Long (9,843 ft. or greater) Size: 9.7"H x 9.5"W x 0.75"D

N = Near (1,640 ft. - 9,842 ft.) **Weight:** 0.9 lbs.

S = Short (less than 1,640 ft.)

	Amphenol	MDF	CM	RJ11 Jack	
IX-4SUBL	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
	27	3	W-O	4	Y
	2	4	O-W	1	BK
2T	28	5	W-GN	3	GN
2R	3	6 7	GN-W	2	R
	29	7	W-BR	4	Υ
	4	8	BR-W	1	BK
3T	30	9	W-SL	3	GN
3R	5	10	SL-W	2	R
	31	11	R-BL	4	Υ
	6	12	BL-R	1	BK
4T	32	13	R-O	3	GN
4R	7	14	O-R	2	R
	33	15	R-GN	4	Υ
	8	16	GN-R	1	BK
↓	1		1	↓	\downarrow
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

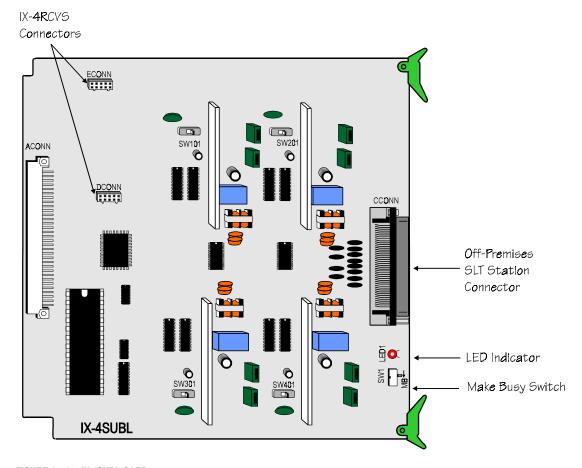


FIGURE 4.5-13 IX-4SUBL CARD

Omega-Voice VMI IX-4VML Voice Mail Card

Omega-Voice VMI was designed specifically for the Omega-Phone ADIX telecommunications system. Omega-Voice VMI consists of the IX-4VML circuit board that resides inside the ADIX system. The IX-4VML may be expanded from 4 to 8 ports with the addition of a four-port IX-4EVML expansion card.

Model: IX-4VML Off = Port Idle **Port Status LEDS:**

D6-D9 Part No.: 500100 50/50 Cycle = Audio Playing

75/25 Cycle = Audio Recording Location: Any universal card slot Steady = Port Active Ports:

4 per card, 8 with IX-4EVML **Additional Power Requirements:** D1 - Not Used

Card Status LEDs

None D2 - Hard Drive Active ACONN - Motherboard D3 - Communications Active Connectors:

P2 - 4-port Expansion Board D4 - Housekeeping Active

J2 - PC/Modem Connector D5 MBLED - Make Busy Indication

On-Board Functions: 9.7"H x 9.5"W x .75"D Size: MBSW - Make Busy IX-4VML: 1 lb. .05 oz.

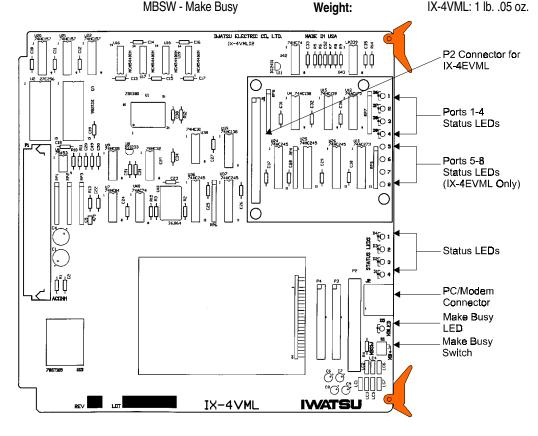


FIGURE 4.5-14 IX-4VML CARD

IX-4EVML Voice Mail Add-on Board for IX-4VML Card

The IX-4EVML is an add-on board for the IX-4VML. It provides four additional voice mail ports.

Model: IX-4EVML Port Status LEDS: Off = Port Idle

Part No.:50011050/50 Cycle = Audio PlayingLocation:IX-4VML Expansion socket75/25 Cycle = Audio Recording

Ports:4 per cardSteady = Port ActiveAdditional Power Requirements:MBLED - Busy

None Size: 3 7/16" x 3 1/2"

Connectors: None **Weight:** .17 lbs.

On-Board Functions:

MBSW - Make Busy

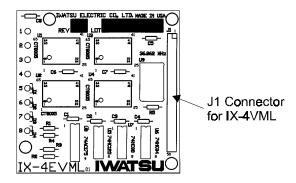


FIGURE 4.5-15 IX-4EVML CARD

IX-4RCVS DTMF Receiver Card for SLTs

The IX-4RCVS card is a daughterboard that must be mounted on the IX-8SUBS, IX-8SUBS-1, IX-8SUBM, or IX-4SUBL cards when 2500-type SLTs are used. This daughterboard also is required on the IX-4DITK when DTMF signal detection is required. Each card contains four DTMF receivers.

Model: IX-4RCVS Ports: None

 Part No.:
 101500
 Circuits:
 4 DTMF receivers per card

 Location:
 IX-8SUBS, IX-8SUBM, IX-4SUBL
 Size:
 3.5"H x 2.75"W x 0.75"D

IX-4DITK Weight: 0.1 lbs.

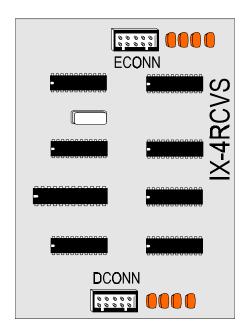


FIGURE 4.5-16 IX-8SUBM CARD

runk Cards

Trunk cards, which can be identified by their blue tabs, interface the ADIX universal ports to the individual outside lines.

IX-8LGTK-2 Loop/Ground Start Trunk Card

The IX-8LGTK-2 card interfaces up to eight universal ports to central office/PBX circuits. On-board selection allows this card to be used with both loop start trunks and ground start trunks. If ground start trunks are used, an optional IX-DCDCA (ADIX), IX-DCDCB (ADIX), or IX-DCDCM (ADIX-M) additional power supply is required. This card was preceded by the IX-8GLTK and IX-8GLTK-1 cards.

Model: IX-8LGTK-2	On-Board Functions:
-------------------	---------------------

Part No.: 101521 **MBSW** Make Busy

Long (0dB)/Short (3dB) distance Location: Any universal card slot SW101-SW801

selection Ports: 8 per card

SW102- SW802 Circuit 600/900 Ohm impedance selection

Metal Oxide Varistors SW103- SW803 Loop/Ground Start selection Protection:

Threshold SW104- SW804 Not Used - Set to U

Voltage: 220 V LED1 = Busy Indicators: **Additional Power Requirements:**

Class 01.04: polarity, disconnect Software None

signal detection Settings:

ACONN - Motherboard 9.7"H x 9.5"W x 0.75"D Connectors: Size:

> **CCONN - Trunks** 1.5 lbs. Weight:

CO/PBX Line Designation							
	Amph. Pin	MDF Pin	CM Wire	RJ11 Jack			
IX-8LGTK-2	No.	No.	Color	Pin No.	Wire Color		
	26	1	W-BL				
NO	1	2	BL-W				
CONNECTION	:	:	:				
	41	31	Y-BL				
	16	32	BL-Y				
1T	42	33	Y-O	2	GN		
1R	17	34	O-Y	1	R		
2T	43	35	Y-GN	2	GN		
2R	18	36	GN-Y	1	R		
3T	44	37	Y-BR	2	GN		
3R	19	38	BR-Y	1	R		
4T	45	39	Y-SL	2	GN		
4R	20	40	SL-Y	1	R		
5T	46	41	V-BL	2	GN		
5R	21	42	BL-V	1	R		
6T	47	43	V-O	2	GN		
6R	22	44	0-V	1	R		
7T	48	45	V-GN	2	GN		
7R	23	46	GN-V	1	R		
8T	49	47	V-BR	2	GN		
8R	24	48	BR-V	1	R		
	:	:	:				
NO	50	49	V-SL				
CONNECTION	25	50	SL-V				

IX-8LGTK-2 Loop/Ground Start Trunk Card (Contd.)

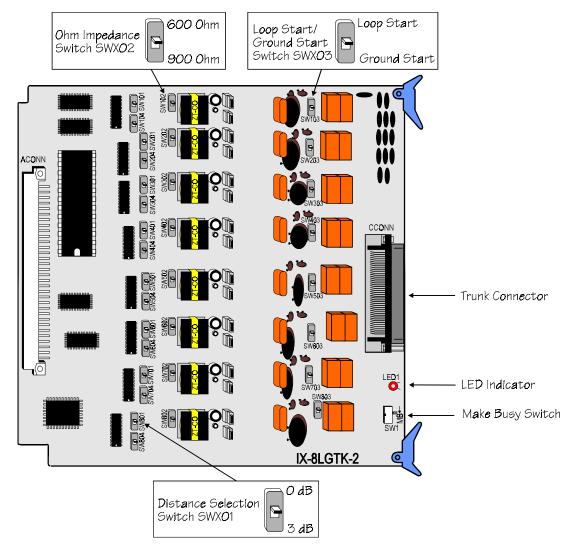


FIGURE 4.6-1 IX-8LGTK-2 CARD

IX-408 Digital Station/Caller ID Trunk Card

See Chapter 5 - Station Cards for information on the IX-408 card.

IX-8CITK Loop Start Trunk Card for Caller ID

The IX-8CITK card interfaces up to eight universal ports to loop start central office/PBX circuits that provide caller ID service. This card is required to use the caller ID feature.

Model: IX-8CITK
Part No.: 101522

Location: Any universal card slot

Ports: 8 per card

Circuit

Protection: Metal Oxide Varistors

Threshold

Voltage: 220 V

Additional Power Requirements:

None

Connectors: ACONN - Motherboard

CCONN - Trunks

On-Board Functions:

MBSW Make Busy

SW101- SW801 Long (0dB)/Short (3dB) distance

selection

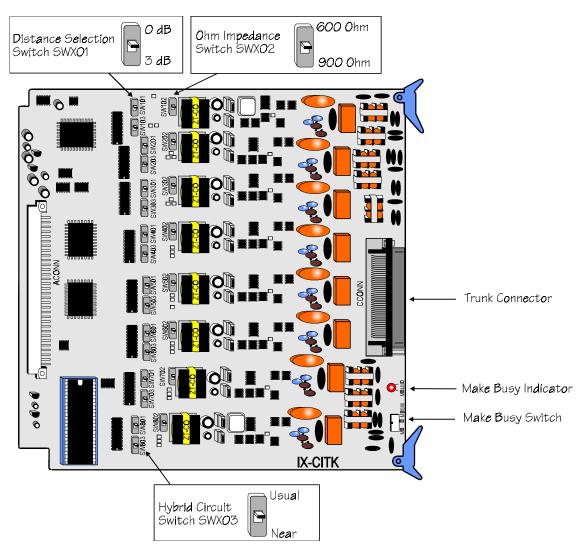
SW102- SW802 600/900 Ohm impedance selection

SW103- SW803 Not Used - Set to **U**Indicators: LED1 = Busy

Software Class 01.04: polarity, disconnect

Settings: signal detection Size: 9.7"H x 9.5"W x 0.75"D

Weight: 1.5 lbs.



IX-400 Caller ID Daughterboard (CITK Caller ID Trunk Ports)

The IX-400 daughterboard interface central office/PBX circuits that provide caller ID service to the IX-CMM/L Common Module. The IX-400 daughterboard will also support central office loop start trunks. The IX-400 Caller ID Trunk daughterboard is connected to CN1 and CN2 on the IX-044 card. When connected to the IX-044 card, the four CITK ports are terminated on ports 113-116 of card slot 1.

Important: When the IX-400 daughterboard is utilized on the IX-044 card, the IX-044 card **must** be installed in IX-CMM/L card slot 1.

Model: IX-400 Part No.: 040340

Location: IX-044 Card CN1 and CN2

Ports: 4 per card
Additional Power Requirements:

None

Trunk Impedance:

Fixed at 600 Ohms

Connectors: CN1 and CN2 - IX-044 Card

On-Board Switches:

SW101-SW401 - Trunk Hybrid Selection SW102-SW402 - Trunk Attenuation Selection

Software Settings:

Class 01.03 Port Definition; Class 01.04 Configuration

Size: 6.0"H x 7.5"W x .75"D

Weight: .52 lbs.

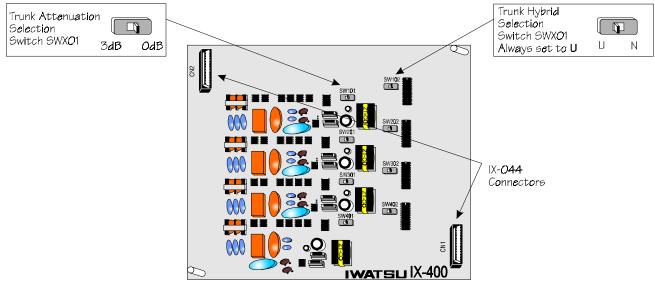


FIGURE 4.6-3 IX-400 CALLER ID DAUGHTERBOARD

Threshold

IX-4EMTK E&M Tie Line Card

The IX-4EMTK card interfaces up to four universal ports to E&M tie line circuits for inter-system networking. E&M Type I and Type II can be selected as required by the customer. Use *Class 01.04* to select the communication mode on the E&M trunks. An IX-DCDCA (ADIX), IX-DCDCB (ADIX), or IX-DCDCM (ADIX-M) additional power supply must be installed in the system when the IX-4EMTK card is installed. The ADIX E&M uses four-wire voice. The FIC is TL31M, TL32M.

Note: When selecting Type I/Type II both SWX01 and SWX02 must have the same setting.

Model: IX-4EMTK On-Board Functions:

Part No.: 101420 MBSW Make Busy

Location:Any universal card slotSW101- SW401Type I / Type II selectionPorts:4 per cardSW102- SW402Type I / Type I selection

Circuit Indicators: MBLED = Busy

Protection: Metal Oxide Varistors Connectors: ACONN - Motherboard

CCONN - Trunks

Voltage: 220 V Software Class 01.04 Attendant, immediate,

Additional Power Requirements: Settings: delay, wink

ADIX IX-DCDCA or IX-DCDCB Size: 9.7"H x 9.5"W x 0.75"D

ADIX-M IX-DCDCM Weight: 1.2 lbs.

IX-4EMTK	Amphenol Pin No.	MDF Pin No	CM Wire Color	1st circuit
1M	26	1	W-BL	
1SB	1	2	BL-W	
1E	27	3	W-O	•
1SG	2	4	O-W	2nd circuit
2M	28	5	W-GN	. Zhoi dhi daib
2SB	3	6	GN-W	← ─
2E	29	7	W-BR	
2SG	4 30	8 9	BR-W	3rd circuit
3M 3SB	30 5	10	W-SL SL-W	Jra circuit
3E	31	11	R-BL	← - -
3SG	6	12	BL-R	
4M	32	13	R-O	4th circuit
4SB	7	14	0-R	l ← — — —
4E	33	15	R-GN	
4SG	8	16	GN-R	
5PT	34	17	R-BR	1
5PR	9	18	BR-R	
	35	19	R-SL	
	10	20	SL-R	
6PT	36	21	BK-BL	
6PR	11	22	BL-BK	
	37	23	BK-O	
	12	24	O-BK	
7PT	38	25	BK-GN	
7PR	13 39	26 27	GN-BK BK-BR	
	14	28	BR-BK	
8PT	40	29	BK-SL	
8PR	15	30	SL-BK	
0111	41	31	Y-BL	
	16	32	BL-Y	
1PT	42	33	Y-0	1
1PR	17	34	O-Y	
1T1	43	35	Y-GN	•
1R1	18	36	GN-Y	
2PT	44	37	Y-BR	
2PR	19	38	BR-Y	
2T1	45	39	Y-SL	
2R1	20	40	SL-Y	
3PT 3PR	46 21	41 42	V-BL BL-V	
3PH 3T1	21 47	42	V-O	
3R1	22	43	0-V	
4PT	48	45	V-GN	1
4PR	23	46	GN-V	│ ←
4T1	49	47	V-BR	
4R1	24	48	BR-V	
N/C	50	49	V-SL	
	25	50	SL-V	

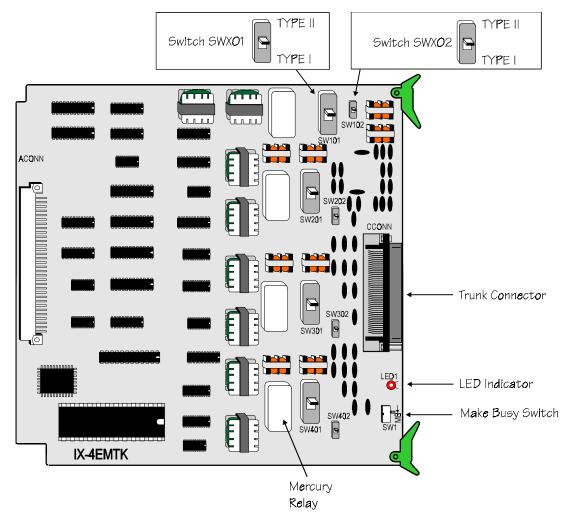


FIGURE 4.6-4 IX-4EMTK CARD

Note: Tap down mercury relays before installing the IX-4EMTK in the system.

IX-4DITK DID Trunk Card

The IX-4DITK card interfaces up to four universal ports to Direct Inward Dial (DID) circuits. Incoming numbers received on these lines can be translated to station numbers using database programming (*Class 9*). Use *Class 01.04* to select the communication mode on the DID trunks. An IX-DCDCA (ADIX), IX-DCDCB (ADIX), or IX-DCDCM (ADIX-M) additional power supply must be installed in the system when the IX-4DITK card is installed. An IX-4RCVS card must be mounted on board if DTMF signal detection is required.

Note: The analog DID is an incoming circuit only.

Model: IX-4DITK On-Board Functions:

Part No.: 101430 SW1 Make Busy
Location: Any universal card slot SW101- SW401 Distance selection

CW100 CW100 Ohm impedance selection

Ports:4 per cardSW102- SW402Ohm impedance selectionCircuitSW103- SW403Not Used - Set to U

Protection: Metal Oxide Varistors Indicators: LED1 = Busy

Threshold Connectors: ACONN - Motherboard

Voltage: 220 V CCONN - Trunks

Additional Power Requirements: -48 VDC
ADIX
IX-DCDCA or IX-DCDCB
Software Setting:
DCONN/ECONN - IX-RCVS
Mode (Class 01.04) Attendant,

ADIX-M IX-DCDCM immediate, delay, wink

Add-Ons: IX-RCVS for DTMF services Size: 9.7"H x 9.5"W x 0.75"D

Weight: 1.2 lbs.

	Amphenol	MDF	CM	RJ11 Jack		
IX-4DITK	Pin No.	Pin No.	Wire Color	Pin No.	Wire Color	
	26	1	W-BL	3	GN	
N/C	1	2	BL-W	2	R	
	↓		↓	↓	1	
N/C	41	31	Y-BL	4	Υ	
	16	32	BL-Y	1	BK	
1T	42	33	Y-0	3	GN	
1R	17	34	O-Y	2	R	
2T	43	35	Y-GN	4	GN	
2R	18	36	GN-Y	1	R	
3T	44	37	Y-BR	3	GN	
3R	19	38	BR-Y	2	R	
4T	45	39	Y-SL	4	GN	
4R	20	40	SL-Y	1	R	
\downarrow	↓	↓	↓	↓	\downarrow	
N/C	50	49	V-SL	3	GN	
	25	50	SL-V	2	R	

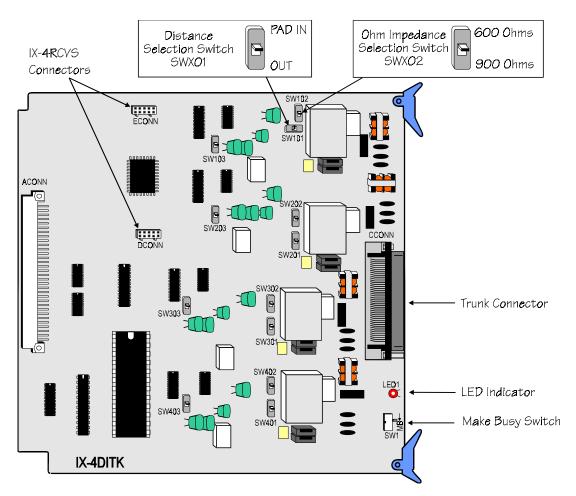


FIGURE 4.6-5 IX-4DITK CARD

IX-T1DTI Digital Trunk Card

The IX-T1DTI card is the most complex card used in the ADIX. It directly connects the T1 (DS1) pipe to the ADIX system ports. The IX-T1DTI card provides a maximum of 24 digital channels that can be individually selected through database programming. Available channel types are: loop start trunk, ground start trunk, ANI trunk, DNIS trunk, E&M trunk, DID trunk, E&M tie line, and OPX channel. Using switch S1, the IX-T1DTI card can be assigned for fractional (partial) use of the T1 pipe. The fractional settings are 8 channels, 16 channels, and 24 channels. In the ADIX, this card can only be installed in IX-CM/IX-EXPM slots 1 and 5. If an IX-T1RCV receiver card is required for DTMF detection, it can only be installed in the slot to the immediate right of the IX-T1DTI card (universal card slots 2, 6). The fractional setting of the IX-T1DTI card affects the availability of the universal card slots following the card. For example, if an IX-T1DTI card is installed in IX-EXPM card slot 1 and the fractional setting is 24, card slot 2 can only contain an IX-T1RCV card and card slot 3 is not available. In the ADIX-M and ADIX APS, this card should be installed in the IX-CMM/L card slot labeled 097-120, or the IX-EXPMM/L card slot labeled 161-184/193-216. Doing so eliminates additional universal card slot loss. The system software must be version 4.1x/5.1x or higher, and an IX-PLLU card must be installed in the system if the IX-T1DTI card is used.

Note: If the system is operating with an IX-CPU16M CPU card, an IX-PLLU card is not required.

The following on-board setup functions and status indicators are used to provide an interface between the system clock and the various T1 carriers:

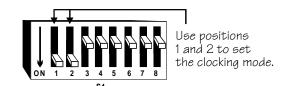
Clocking Mode Setup

Switch S1, positions 1 and 2 are used to configure the clocking mode of an IX-T1DTI card as either *master, slave-primary, slave-backup*, or *slave-private*. Master clocking mode must be selected if your local T1 pipe is a private connection. If slave clocking mode is selected, primary slave mode or backup slave mode must be selected. Slave mode must be selected when connecting to a carrier (i.e., MCI, ATT). If you have only one T1 carrier terminating for trunking, select slave-primary. If multiple T1 carriers are terminated for trunking, assign slave-primary to one T1 pipe and slave-backup for the others. Select slave-backup if your local T1 pipe is a satellite switch. In a network setup, use slave-private if an IX-T1DTI card is directly connected to an IX-T1DTI card configured as master. Use slave-backup for other cards in the network.

System Highway Synchronization The ADIX synchronizes the system clock to the T1 pipe connected to the IX-T1DTI card assigned as slave-primary. If synchronization between the system clock and T1 pipe clock connected to the IX-T1DTI card assigned as slave-primary fails, the system will select a T1 pipe connected to an IX-T1DTI card assigned as slave-backup and synchronize the system highway clock to it. LED D5 will light on the IX-T1DTI card being used for system highway synchronization. If an IX-T1DTI card is configured as master, system clock synchronization is received from the IX-T1DTI card assigned as slave. If no slave cards are present, the master will provide clock synchronization.

S1 Switch Selection

Switch I	Positions	
1	2	Function
OFF	OFF	Slave-Backup
ON	OFF	Slave-Primary
OFF	ON	Slave-Private
ON	ON	Master

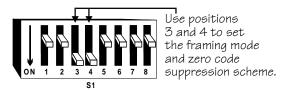


Framing Mode / Zero Code Suppression Scheme

Switch S1, positions 3 and 4 are used to set the *framing mode* and *zero code suppression scheme* used in the T1 pipe connected to the IX-T1DTI card. Framing mode choices are Superframe D4 (SF/D4) and Extended Superframe D5 (ESF). In most cases the zero code suppression scheme is AMI (B7 stuffing) with superframe D4 framing and B8ZS with extended superframe D5 framing.

S1 Switch Selection

Switch Positions		
3	4	Function
OFF	OFF	ESF - B8ZS
ON	OFF	ESF - AMI (B7 stuffing)
OFF	ON	SF/D4 - B8ZS
ON	ON	SF/D4 - AMI (B7
		stuffing)



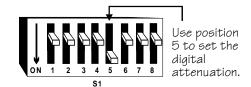
Digital Attenuation

Switch S1, position 5 is used to set the *digital attenuation* to either the digital local office (D/CO), or digital toll office (D/TO) level. Digital attenuation levels are in accordance with EIA standard RS464A.

Note: The digital attenuation of a IX-T1DTI card configured as slave-private must also be configured according to the EIA standard.

S1 Switch Selection

Switch Position 5	Function		
OFF	Digital Toll Office (D/TO)		
ON	Digital Local Office		

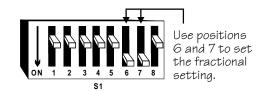


Fractional Setting

Switch S1, positions 6 and 7 are used to set the usage of the IX-T1DTI card for either 8, 16, or 24 channels.

S1 Switch Selection

Switch Positions		
6	7	Function
OFF	OFF	24 channels
ON	OFF	Not Used
OFF	ON	16 channels
ON	ON	8 channels



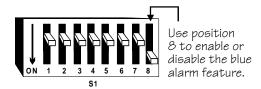
Blue Alarm Enabled/Disabled

Switch S1, position 8 is to enable or disable the blue alarm. This feature is useful when an IX-T1DTI card assigned as the master clock losses the receiving signals from its private T1 pipe. When this condition occurs, LED D1 will flash if S1 position 8 is enabled.

Note: If blue alarm is enabled at a card configured as master, the network circuit goes out of service when the blue alarm is sent on the private T1.

S1 Switch Selection

Switch Position 8	Function		
OFF	Blue Alarm disabled		
ON	Blue Alarm enabled		



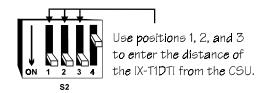
Distance From CSU

Switch S2, positions 1, 2, and 3 are used to enter the length of the data cable that connects the IX-T1DTI card to the CSU. This setting must be registered on each IX-T1DTI card. The maximum distance permitted from the IX-T1DTI card to the CSU is 660 feet.

S2 Switch Selection

Switch Positions		tions	
1	2	3	Function
ON	ON	ON	Up to 110 feet
ON	ON	OFF	111 to 220 feet
ON	OFF	ON	221 to 330 feet
ON	OFF	OFF	331 to 440 feet
OFF	ON	ON	441 to 550 feet
OFF	ON	OFF	551 to 660 feet

Mode (Class 01.04)



Model:	IX-T1DTI	On-Board Functi	ons:
Part No.:	101530	S1	Clock Mode, SF/ESF Framing, Digital
Location:	ADIX - Universal card slots 1 or 5		Attenuation, Fractional Setting, Blue Alarm
	ADIX-M - 24-port card slot	S2	Distance from CSU
Ports:	Fractional settings 8/16/24 channels	S3	Make Busy
Circuit		Indicators:	
Protection:	Metal Oxide Varistors	D1/RRED	Steady = T1 link at red alarm,
Threshold			Flashing = Receiving blue alarm
Voltage:	240 V	D2/ RYEL	Steady = Receiving yellow alarm
Additional Req	uirements:	D3/ ERR	Steady = Bipolar violation error in receiving line
	IX-PLLU installed in the system	D4/M/*S	On = Master Clocking Mode,
Add-Ons:	IX-T1RCV for DTMF services		Off = Slave Clocking Mode
Connectors:	CN1 - T1 line termination	D5/CKM	On - Card is clock source
	CN2 - Motherboard	D6	Busy/Idle Indication
	CN4 - IX-T1RCV	D14/RMFA	Clock Synchronization Indication
Software		Size:	9.7"H x 9.5"W x 0.75"D
Settings:	T1 trunk type (Class 01.03)	Weight:	0.9 lbs.

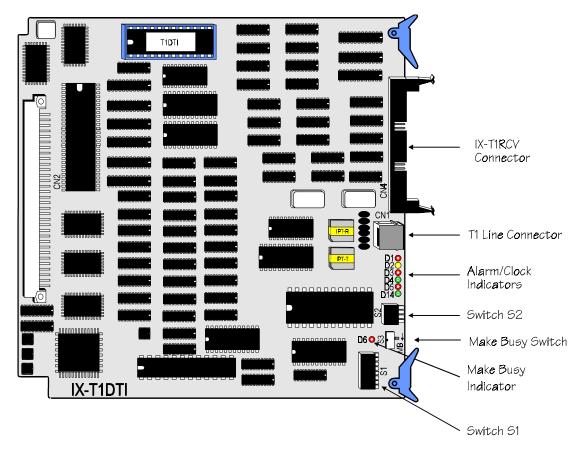


FIGURE 4.6-6 IX-T1DTI CARD

IX-T1RCV DTMF Receiver Card

The IX-T1RCV card provides emulated DTMF signal receiving capability to the IX-T1DTI card. This card is required if one or more T1 channels are configured as ANI trunks, DID trunks, DNIS trunks, E&M tie lines, or OPX lines using DTMF signaling. Regardless of the fractional setting of the IX-T1DTI card, the IX-T1RCV card must be installed in the card slot to the immediate right of the IX-T1DTI card. Connect the two cards using the flat cable provided. The IX-T1RCV card provides eight dedicated DTMF receiver circuits for the first eight channels of the T1 pipe. Space is provided onboard to connect two IX-8ERCV daughterboards. The first IX-8ERCV daughterboard provides eight DTMF receiver circuits for channels 9 through 16 of the T1 pipe. The second IX-8ERCV daughterboard provides eight DTMF receiver circuits for channels 17 through 24 of the T1 pipe.

 Model:
 IX-T1RCV
 Connectors:
 CN1 - Motherboard

 Part No.:
 101540
 CN2 - IX-T1DTI

Location:Card Slot to immediate right of T1DTICN1A/CN1B - IX-8ERCV 1Ports:8 DTMF receivers per cardCN2A/CN2B - IX-8ERCV 2Add-Ons:2 IX-8ERCV cards. Each card adds 8Size:9.7"H x 9.5"W x 0.75"D

DTMF receivers Weight: 0.7 lbs.

Indicators: D2-D7 = DTMF receiver

busy indication

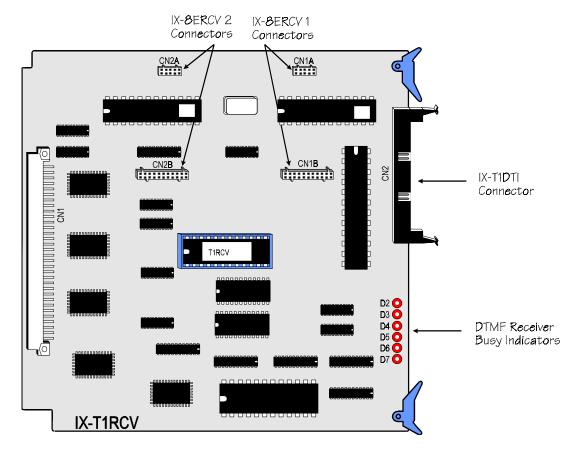


FIGURE 4.6-7 IX-T1RCV DTMF RECEIVER CARD

IX-8ERCV DTMF Receiver Daughterboard

The IX-8ERCV daughterboard must be mounted on the IX-T1RCV card to provide additional DTMF signal detection capability to channels of the T1 pipe. Each IX-8ERCV daughterboard contains eight DTMF receivers. There is space on board the IX-T1RCV card for two IX-8ERCV daughterboards. One daughterboard can be connected to CN1A and CN1B to provide DTMF signal detection capability to channels 9-16. A second daughterboard can be connected to CN2A and CN2B to provide DTMF signal detection capability to channels 17-24.

Model: IX-8ERCV Circuits: 8 DTMF receivers per card CN1/CN2 - IX-T1RCV Part No.: 101550 Connectors: Location: IX-T1RCV Size: 3.5"H x 2.8"W x 0.75"D Ports: 0.1 lbs. None Weight:

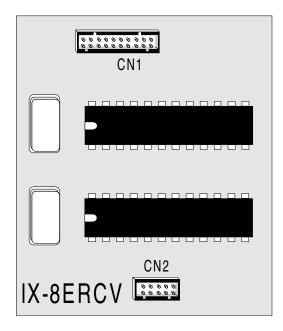


FIGURE 4.6-8 IX-T1RCV DTMF RECEIVER CARD

IX-2ICOTB ISDN BRI Interface Card

The IX-2ICOTB card interfaces two ISDN BRI (Basic Rate Interface) lines to the ADIX. Each ISDN BRI line contains two B channels and one D channel.

Model: IX-2ICOTB
Part No.: 102000

Location: Any universal card slot **Ports:** 6 channels per card

Circuit Protection: Threshold

Voltage: 220 V

Additional Power Requirements:

None

Connectors: MCON1 - 1st BRI Circuit

MCONN2 - 2nd BRI Circuit

On-Board Functions:

MBS Make Busy Switch

Indicators:

CKMK1 Master/Slave Clock mode for 2nd BRI Channel (ON=master, OFF=slave)
CKMK0 Master/Slave Clock mode for 1st BRI Channel (ON=master, OFF=slave)

DOK1 Layer 1 Synchronization Indication for 2nd BRI Channel

(ON = synchronized, OFF = not synchronized)

DOK0 Layer 1 Synchronization Indication for 1st BRI Channel

(ON = synchronized, OFF = not synchronized)

LED1 Busy/Idle Indication

Software Class 01.04: Operation Mode, Settings: Channel Type, Interface Type,

Size: 9.7"H x 9.5"W x 0.75"D

Weight: 0.8 lbs.

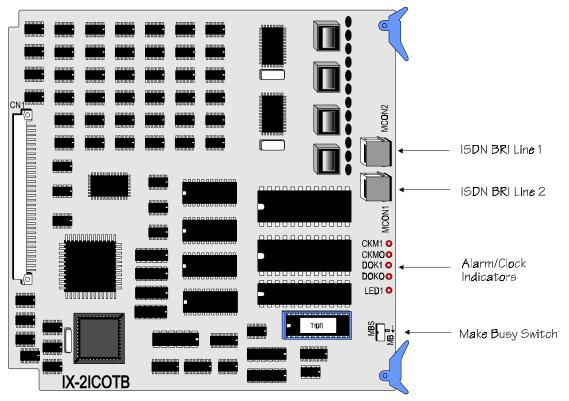


FIGURE 4.6-9 IX-2ICOTB ISDN BRI LINE INTERFACE CARD

IX-ICOTP ISDN PRI Interface Card

The IX-ICOTP card interfaces one ISDN PRI (Prime Rate Interface) line to the ADIX. Each ISDN PRI line contains 23 B channels voice and one D channel reserved for signaling.

The IX-ICOTP card consumes 24 ports. In the ADIX, the IX-ICOTP card may only be installed in IX-CM card slot 1 or IX-EXPM card slots 1 and 5. If the IX-ICOTP is installed in IX-CM/IX-EXPM card slot 1, card slot 2 and card slot 3 may not be used. If the IX-ICOTP is installed in IX-EXPM card slot 5, card slot 6 and card slot 7 may not be used. In the IX-CMM/L (ADIX-S, ADIX-M, ADIX APS) this card should be installed in the card slot labeled 097-120. In the IX-EXPMM/L (ADIX-M, ADIX APS) install the IX-ICOTP in the card slot labeled 161-184 or 193-216.

Model: IX-ICOTP Indicators:

Part No.: 102100 ALM (D2) Alarm Indication

Location: ADIX - Card slots 1 or 5 ERR (D3) Error Indication (e.g., CRC Error, Framing Error, etc.)

ADIX-S/M - 24-port card slot CKM (D6) Master/Slave Clock Mode (ON=master, OFF=slave)

Ports: DOK (D5) Layer 1 Synchronization Indication (ON = synchronized,

Additional Power Requirements: OFF = not synchronized)

None BUSY Busy/Idle Indication

(D4)

Connectors: CN2 - PRI Circuit Connector **On-Board Functions:**Size: 9.7"H x 9.5"W x 0.75"D S1 Make Busy Switch

Weight: 0.8 lbs. S3 Distance from CSU, Telephone Company Switch

Additional Hardware Requirements: Software

IX-PLLU (not required with Settings: Channel Type, Interface Type,

IX-CPU16M) Class 01.04: Operation Mode, External CSU (customer provided)

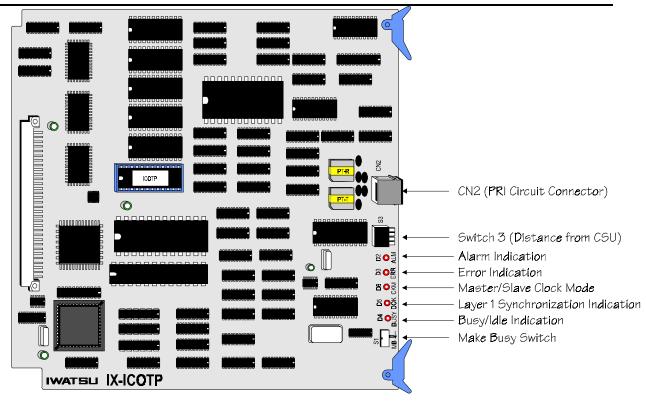


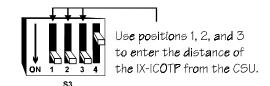
FIGURE 4.6-10 IX-ICOTP ISDN PRI LINE INTERFACE CARD

On-Board Functions

Distance From CSU. Switch S3, positions 1, 2, and 3 are used to enter the length of the data cable that connects the IX-ICOTP card to the CSU. This setting must be registered on each IX-ICOTP card. The maximum distance permitted from the IX-ICOTP card to the CSU is 660 feet.

S3 Switch Selection

Switch Positions			
1	1 2 3		Function
ON	ON	ON	Up to 110 feet
ON	ON	OFF	111 to 220 feet
ON	OFF	ON	221 to 330 feet
ON	OFF	OFF	331 to 440 feet
OFF	ON	ON	441 to 550 feet
OFF	ON	OFF	551 to 660 feet





Shared resource cards, which can be identified by their orange tabs, add features to the system that can be shared by the universal ports.

IX-SCIF Card

The IX-SCIF card provides two RS232C serial communication ports. In a system up to 224 ports the serial port numbers are fixed at 225 and 226. In a system larger than 224 ports the serial port numbers are fixed at 481 and 482. The IX-SCIF card has two connectors. Connector ECONN is used to connect a printer for the purpose of SMDR reporting. Connector DCONN is used to connect a PC or modem for use as the system programming PC. (See Section 5, Chapter 13 – Remote ADIX Programming with an External Modem, for more information on modem connection.) In the IX-CM Common Module this card is installed in the SIF slot. If this card is used in the IX-CMM/L Common Module, install it in any universal card slot. However, in the IX-CMM/L it is recommended that you use the IX-EDVIF card instead.

Model: IX-SCIF Connectors: ECONN - SMDR Printer

Part No.: 101710 DCONN – PC or modem connection

Location: IX-CM — SIF slot; **On-Board Functions:**

IX-CMM/L — Any universal port SW1 - Make Busy

Ports: 2 serial ports SW2 – (see table) **Data Speed:** SMDR Printer – 300/1200 bps **Indicators:** LED = Busy

PC – 1200/4800 bps Size: 9.7"H x 9.5"W x 1.0"D

Additional Power Requirements: Weight: 0.5 lbs.

None

IX-SCIF Switch Settings and Pin Locations The following tables list the on-board settings and pin locations for the serial ports.

Switch S	Switch SW2 Settings for the SMDR (PRN) and RPC (PC) Ports						
Position (Port)	On	OFF					
1 (PRN)	Activate Printer Initialize *	Disable Printer Initialize					
2 (PRN)	Flow Control On DTR/DTR (x-on/x-off)	Flow Control Off DTR Only					
3 (PRN)	Test Mode**	Normal Mode					
4 (PRN)	8-Bit Data, No Parity Check	7-Bit Data, Even Parity Check					
5 (PRN)	300 bps Data	1200 bps Data					
6 (PC)	PC Programming Activation	Not used (disables PC programming)					
7 (PC)	8-Bit Data, No Parity Check	7-Bit Data, Even Parity Check					
8 (PC)	1200 bps Data	4800 bps Data					

^{* -} Only required for IBM printers. (Sends ASCII codes "ESC" + "@". The decimal equivalent is 27 and 64.).

TEST START 0123456789

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

TEST END

^{** -} The following printer test pattern is output when the printer is connected and this switch is on:

PC/Printer Pinout							
E/DCONN	25 Pin	9 Pin		IX-SCIF		PC/PRN	
Pin	Cable	Cable		Function		Function	
1	2	3	RxD	Receive Data	TxD	Transmit Data	
2	3	2	TxD	Transmit Data	RxD	Receive Data	
3	4	8	CTS	Clear To Send	RTS	Request To Send	
5	5	7	RTS Request To Send		CTS	Clear To Send	
7	6	6	DTR	Data Terminal Ready	DSR	Data Set Ready	
12	7	5	SG	Signal Ground	SG	Signal Ground	
10	20	4	DSR	Data Set Ready	DTR	Data Terminal Ready	
9	8	1	CD	Carrier Detect	CD	Carrier Detect	

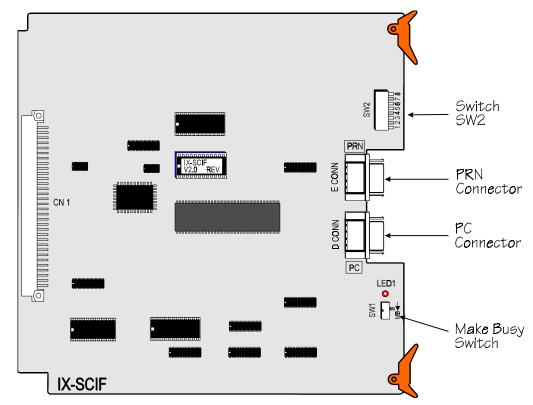


FIGURE 4.7-1 IX-SCIF CARD

IX-EDVIF Card

The IX-EDVIF card provides the combined function of the IX-SCIF, IX-EDCTU and IX-MISC cards. This card was specifically designed to save card slots in the ADIX-S, ADIX-M and ADIX APS systems, but it can also be used with other ADIX models. The PC and printer ports on the IX-EDVIF card are fixed to physical port numbers 225 and 226. Only one IX-EDVIF card can be installed in the system. However, the system can be configured with an IX-EDVIF card and an IX-SCIF card and IX-MISC card.

Note 1: Do not install the IX-EDVIF in an ADIX IX-CM Common Module or IX-EXPM Expansion Module SIF slot. Instead, install it in any of the universal card slots.

Note 2: The IX-EDIF card contains a PC programming port that can be used for modem connection. See Section 5, Chapter 11 – Remote ADIX Programming with an External Modem, for more information on modem connection.

Due to physical space limitations, the IX-EDVIF card does not have the exact capacities of the IX-MISC card. In addition to the two serial ports, the IX-EDVIF card provides the following miscellaneous features:

- Two-wire or four-wire paging output.
- BGM input for system and paging.
- BGM output for page zone BGM.
- Paging relay contact.
- Select BGM by zone.
- A maximum of four paging zones.
- Four general purpose programmable relays.
- Two sensor input relays used for night service.

Physical Port Layout In addition to the two serial ports, the IX-EDVIF card has eight physical ports for miscellaneous functions. The table below lists the physical port layout.

Port	Function
1	Zone 1
2	BGM Source
3	Undefined
4	Relays 1-4
5	Sensor 1-2
6	Zone 2
7	Zone 3
8	Zone 4

Relays:

Relay Contacts The relay contacts of the general purpose relays provide a dry contact (switch) closure only. They are designed to provide control of external slave relays for any auxiliary device operation. **The relays are designed to operate with DC voltage only.** Do not connect any AC devices to the relay contacts. Doing so will result in erratic operation of both the relay and the IX-EDVIF card.

Model: IX-EDVIF Connectors: CN10 - MDF Interface

Part No.:101745CN11 - Motherboard ConnectionLocation:Any universal card slotCN12(PRN) - SMDR PrinterPorts:8 + 2 serial portsCN13(PC) - PC Programmer

Data Speed: SMDR Printer – 300/1200 bps **On-Board Functions:**

PC – 1200/4800 bps SW1 - Make Busy
Contact Rating: 30 Vdc, @ 1A SW2 – (see table)
Power Rating: 30 watts CN1 - CN9 - (see table)

Additional Power Requirements: VR1 - BGM volume control

None **Size:** 9.7"H x 9.5"W x 1.0"D

Indicators: LED1 = Busy Weight: 0.5 lbs.

LED2 = Busy

Switch Settings and Pin Locations The following tables list the on-board settings for serial ports and pin locations for the IX-EDVIF card.

Switch S	Switch SW2 Settings for the SMDR (PRN) and RPC (PC) Ports				
Position (Port)	On	OFF			
1 (PRN)	Activate Printer Initialize *	Disable Printer Initialize			
2 (PRN)	Flow Control On DTR/DTR (x-on/x-off)	Flow Control Off DTR Only			
3 (PRN)	Test Mode**	Normal Mode			
4 (PRN)	8-Bit Data, No Parity Check	7-Bit Data, Even Parity Check			
5 (PRN)	300 bps Data	1200 bps Data			
6 (PC)	PC Programming Activation	Not used (disables PC programming)			
7 (PC)	8-Bit Data, No Parity Check	7-Bit Data, Even Parity Check			
8 (PC)	1200 bps Data	4800 bps Data			

^{* -} Only required for IBM printers. (Sends ASCII codes "ESC" + "@". The decimal equivalent is 27 and 64.).

TEST START

0123456789

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

TEST END

^{** -} The following printer test pattern is output when the printer is connected and this switch is on:

PC/PRN Connector Function				
Modular Jack Pin No.	Jack Pin Converter Function			
1	1	Carrier Detect	CD	→
2	2	Receive Data	RxD	→
3	3	Transmit Data	TxD	+
4	4	Data Terminal Ready	DTR	+
5	5	Signal Ground	SG	
6	6	Data Set Ready	DSR	→
7	7	Request To Send	+	
8	8	Clear To Send	CTS	→

Strapping Options The following strapping jacks are located on the IX-EDVIF card. The table below lists the function of each:

Strap	Designation	Function
CN1	Page Amp, 2/4 Wire	Select Two-Wire or Four-Wire Paging Audio
CN2	Zone1	Enable/Disable BGM to Zone 1
CN3	Zone2	Enable/Disable BGM to Zone 2
CN4	Zone3	Enable/Disable BGM to Zone 3
CN5	Zone4	Enable/Disable BGM to Zone 4
CN6	Day/Night	Not used
CN7	400-0	Not used
CN8	BGM Amp	Select if Zone BGM is supplied by the system input or an external source
CN9	Nights	Not used

IX-EDVIF Pin Assignment The table below lists the pin-out of the connector CN10 on IX-EDVIF card.

Function	CN10 PIN No.	MDF PIN No.
Page In (-)	26	1
Page In (+)	1	2
Page Out (-)	27	3
Page Out (+)	2	4
No Connection	28	5
No Connection	3	6
BGM In (-)	29	7
BGM In (+)	4	8
BGM In (-)	30	9
BGM Out (+)	5	10
No Connection	31	11
No Connection	6	12
Page Control (-)/ (M)	32	13
Page Control (+) (S)	7	14
Tage Control (+) (5)	33	15
Page Control (-)/ (B)	8	16
Zone/BGM In (-)	34	17
Zone/BGM In (+)	9	18
Zone 1 (-)	35	19
Zone 1 (+)	10	20
Zone 2 (-)	36	21
Zone 2 (+)	11	22
Zone 3 (-)	37	23
Zone 3 (+)	12	24
Zone 4 (-)	38	25
Zone 4 (+)	13	26
Zone Page/BGM In (-)	39	27
Zone Page/BGM In (+)	14	28
No Connection	40	29
No Connection	15	30
Relay Contact 1 (-)/ (M)	41	31
Relay Contact 1 (+)/(S)	16	32
() ()	42	33
Relay Contact 1 (-)/ (B)	17	34
Relay Contact 2 (-)/ (M)	43	35
Relay Contact 2 (+)/(S)	18	36
	44	37
Relay Contact 2 (-)/ (B)	19	38
Relay Contact 3 (-)/ (M)	45	39
Relay Contact 3 (+)/(S)	20	40
	46	41
Relay Contact 3 (-)/ (B)	21	42
Relay Contact 4 (-)/ (M)	47	43
Relay Contact 4 (+)/ (S)	22	44
	48	45
Relay Contact 4 (-)/ (B)	23	46
Sensor 1 (-)	49	47
Sensor 1 (+)	24	48
Sensor 2 (-)	50	49
Sensor 2 (+)	25	50

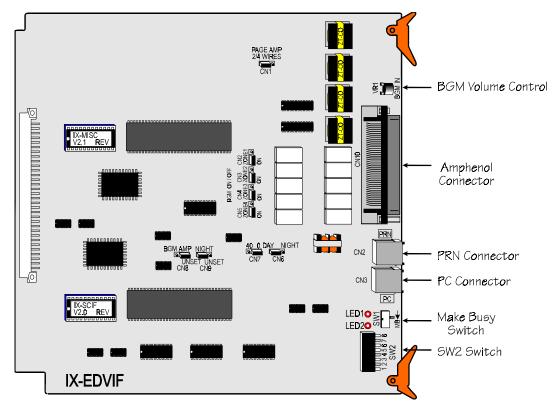


FIGURE 4.7-2 IX-EDVIF CARD

IX-HCIF Card

The IX-HCIF card has two serial ports that can be used to provide interface circuits for PC Programming, ACD LINK Reporting Terminal, Hotel/Motel Property Management System Interface, and IX-LANLINK. In systems up to 224 ports the serial port numbers are fixed at 225 and 226. In systems larger than 224 ports the serial port numbers are fixed at 481 and 482. This card is required when using the ACD LINK Reporting Package, Hotel/Motel Property Management System Interface, and IX-LANLINK. The IX-BUFM may be added to the board to increase the data buffer.

Note: The IX-HCIF card contains a PC programming port that can be used for modem connection. See **Section 5, Chapter 13 – Remote ADIX Programming with an External Modem**, for more information on modem connection.

Output Buffer:

Without IX-BUFM: 14,336 events.
With one IX-BUFM: 30,720 events.
With two IX-BUFMs: 47,104 events.

Cabling:

■ Maximum of 450 feet.

On-Board Settings:

Switch	Description
SW1:	Make Busy. Set to BUSY during power-on maintenance.
SW2:	Data Speed Setting for the Printer Port.
	Pos. $1 = \text{not used}$
	Pos. $2 = 1200 \text{ bps}$
	Pos. $3 = 2400 \text{ bps}$
	Pos. $4 = 4800 \text{ bps}$
	Pos. $5 = 9600 \text{ bps}$
SW 3:	Data Speed Setting for the PC Port (LINK Systems/IX-LANLINK Only)

Data Speed	Switch Position			
	1	2	3	4
1200 bps	ON	OFF	OFF	OFF
2400 bps	OFF	ON	OFF	OFF
4800 bps	OFF	OFF	ON	OFF
9600 bps	OFF	OFF	OFF	ON

Data Speed Setting for the PC Port (Hotel/Motel PMS Interface Only)

Position	ON	OFF
1 *	Ignore O as Extension Leading Digit	0 valid as Extension Leading Digit
2	Maximum Data Storage 200 Items	Full Capacity Data Storage
3	PMS Connection Mode	PC Programming Mode
4	Buffer Memory – Initialize	Buffer Memory – Protect

^{* –} When this switch is ON 000010 = 10. When this switch is OFF 000010 = 000010.

Communication Parameters for Connection to LINK Systems/IX-LANLINK. SW4:

SW4 Settings				
Position	On	OFF		
1	8-Bit Data, Non-Parity Check	7-Bit Data, Even Parity Check		
2	No Output - Data Buffering	Through - Normal		
3	Flow Control ON (x-on/x-off)	Flow Control OFF		
4	DTR Monitored	DTR Disregarded		
5	Event Codes Added	Event Codes Not Added		
6	Not Used	Not Used		
7	Not Used	Not Used		
8	Buffer Memory - Initialize	Buffer Memory Protect		

SW4: Communication Parameters for Connection to Hotel/Motel PMS

SW4 Settings					
Position	On	OFF			
1	1200 bps Data	300 bps Data			
2	DTR Disregarded	DTR Monitored			
3	7-Bit Data, Even Parity Check	8-Bit Data, No Parity Check			
4	Activate Printer Initialize	Disable Printer Initialize			
5	Flow Control ON (x-on/x-off)	Flow Control OFF – DTR Only			
6	Test Mode *	Normal Mode			
7	Not Used (Always OFF)	Not Used (Always OFF)			
8	Not Used (Always OFF)	Not Used (Always OFF)			

^{* –} The following printer test pattern is output when the printer is connected and this switch is on:

TEST START
0123456789

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz TEST END

On-Board Indicators:

Indication		Buffering		
LED	LED	LED	LED	Level
2	3	4	5	
OFF	OFF	OFF	OFF	0% occupied
ON	OFF	OFF	OFF	Less than 50% occupied
ON	ON	OFF	OFF	50 to 75% occupied
ON	ON	ON	OFF	75 to 100% occupied
ON	ON	ON	ON	Overflow (over 100%)

IX-HCIF Model: **Connectors:** Order No.: 101850

CN2/CN4 IX-BUFM (1st) Location: SIF or Universal Slot CN3/CN5 IX-BUFM (2nd) Ports: CN7 Nickel-cadmium batteries.

Two RS232C ports IX-BUFM (maximum of 2) CN8 (PRN) Add-Ons: Printer port

LINK ROM Set, LANLINK CN9 (PC) PC port/Novell® NetWare Server®

ROM Set, PMS ROM Set On-Board Functions:

Memory Retention:

10 days 9.7"H x 9.4"W x 0.75"D 0.78 lbs. Size: Weight:

S1 S2 S3 S4 Make Busy Data Speed for Printer Port Data Speed for PC Port **Communication Parameters**

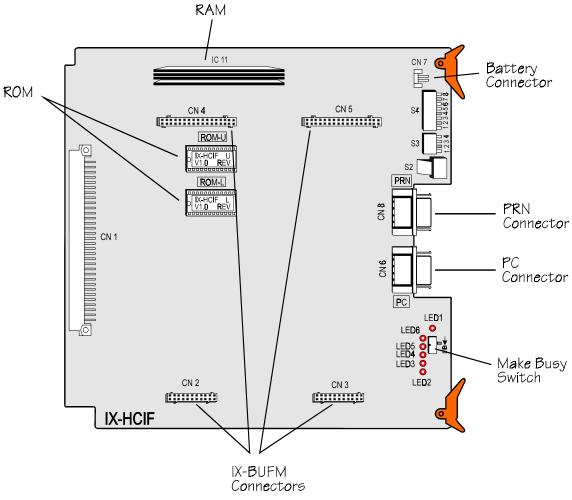


FIGURE 4.7-3 IX-HCIF CARD

IX-BUFM Card

This is a piggyback card to the IX-HCIF that provides an additional 16,384 event buffer. Two IX-BUFM cards may be added on the IX-HCIF.

Model: IX-BUFM
Order No.: 101860
Location: IX-HCIF
Ports: None

Capacity: 16,384 Event Buffer Size: 7"H x 3.25"W x 0.75"D

Memory Retention: Connectors: CONN1/CONN2 Add-Ons: Weight: approximately 10 minutes IX-HCIF

IX-HCIF None 0.16 lbs.

RAM

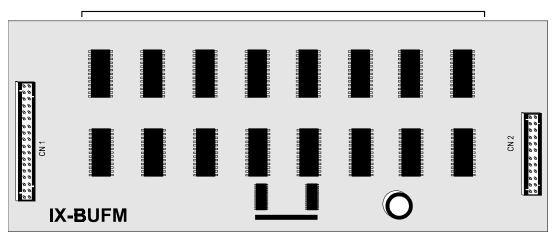


FIGURE 4.7-4 IX-BUFM DAUGHTERBOARD

IX-RMPU Remote Maintenance and Programming Interface Card

The IX-RMPU card is required when the ADIX is maintained at a remote service center. This card includes a modem that allows for programming and diagnostics of the ADIX system through the PSTN (Public Switched Telephone Network). If programmed for diagnostics callout, the IX-RMPU will automatically place an outgoing call to the service center when system failure is detected. This card also contains four DTMF receiver circuits for use with DISA. The modem data speed is programmable using an on board switch for either 2400 bps, 1200 bps, or 300 bps. A maximum of one card can be installed in the ADIX.

Model: IX-RMPU Indicators:

Part No.: 101750 D1 = Modem Status (on = busy)

Any universal card slot SD = Send Data Location: 1 modem port (circuits 1-4, 1st RD = Receive Data Ports:

logical port), 4 DTMF receivers (circuits 5-8, 2nd-5th logical port) DATA =

DTR = Data Terminals Ready **Communication:** 2400 bps / 1200 bps / 300 bps CTS = Clear to Send

RLDS = Received Line Signal Detect Conditions: One card per system.

On Board Functions: DSR = Data Set Ready

SW1 Make Busy Size: 9.7"H x 9.5"W x 1.0"D

> SW2 Modem Baud Rate (see table) Weight: 0.16 lbs.

	SW2 Settings *				
Switch Position		ition	Modem	Data	
1	2	3	Туре	Speed	
ON	ON	ON	V22bis / V22B	2400 bps	
ON	ON	OFF	V21	300 bps	
ON	OFF	ON	V22bis / V22B	1200 bps	
ON	OFF	OFF	V22bis / V22B	2400 bps	
OFF	ON	ON	V22bis / V22B	2400 bps	
OFF	ON	OFF	Bell 212A / 103	300 bps	
OFF	OFF	ON	Bell 212A / 103	1200 bps	
OFF	OFF	OFF	Bell 2400 / 212A / 103	2400 bps	

^{*} SW2, Position 4 is not used.

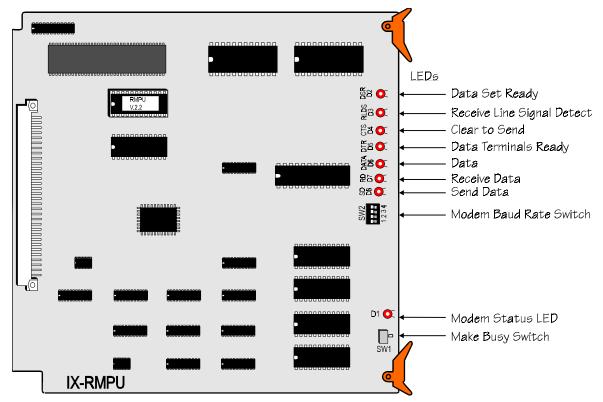


FIGURE 4.7-5 IX-RMPU CARD

IX-RCVPM Receiver / Pooled Modem Card

The IX-RCVPM is a motherboard that contains space to mount one IX-4RCVC card (four DTMF receivers for DISA) or up to two IX-12PMD/24PMD cards (pooled modems for external data communication using an IX-DMS). Without the add on cards this board has no function.

Model: IX-RCVPM Connectors:

Part No.: 101760 ACONN - Motherboard

Location: Any universal card slot CONNA, CONN-B - daughterboards

 Ports:
 8 per card
 Indicators:
 LED1 = Make Busy

 Add-ons:
 IX-4RCVC, IX-12PMD, IX-24PMD
 Size:
 9.7"H x 9.5"W x .75"D

Communication: 2400 bps / 1200 bps / 300 bps **Weight:** 0.4 lbs.

Connectors for First

On Board Functions:

SW1 Make Busy

IX-12/24PMD Daughterboard

or IX-4RCVC Daughterboard

Was Buey LED

Make Buey Switch

IX-RCVPM

Connectors for Second IX-12/24PMD Daughterboard or IX-4RCVC Daughterboard

FIGURE 4.7-6 IX-RCVPM CARD

IX-4RCVC DTMF Receiver Daughterboard for DISA

The IX-4RCVC daughterboard is mounted on the IX-RCVPM Receiver/Pooled Modem card when DISA service is required. This card contains four DTMF receivers.

Model: IX-4RCVC
Part No.: 101770

Part No.: 101770 Location: IX-RCVPM Ports: None **Circuits:** 4 DTMF receivers

On Board Functions:

Size:

SW1 Make Busy 6.2"H x 4.2"W x .8"D

Weight: 0.2 lbs.

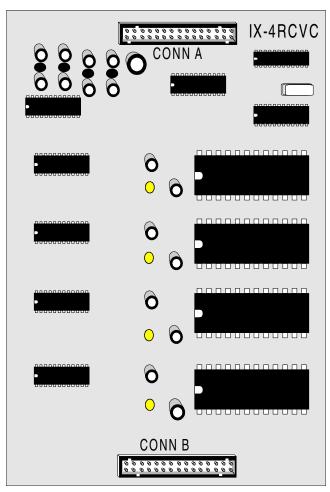


FIGURE 4.7-7 IX-4RCVC DAUGHTERBOARD

IX-12PMD Pooled Modem Daughterboard

The IX-12PMD daughterboard is a pooled modem that is mounted on the IX-RCVPM Receiver / Pooled Modem card This pooled modem has a data transfer rate of 1200 bps. It is used exclusively with the IX-DMS data module to access remote terminals through PSTN lines or tie lines.

Model: IX-12PMD Data Speed: 1200 bps

Part No.: 101780 **Compatibility:** Bell-103J/212A, CCITT-V.22/V.22bis

Location: IX-RCVPM Size: 6.0"H x 4.2"W x .8"D

Ports: None Weight: 0.2 lbs.

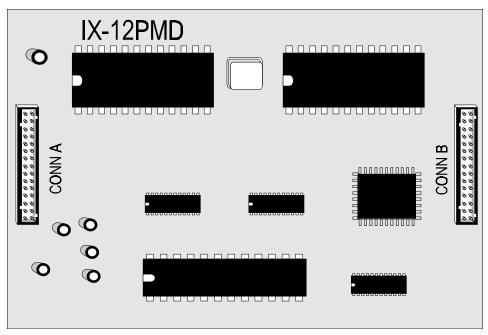


FIGURE 4.7-8 IX-12PMD DAUGHTERBOARD

IX-24PMD Pooled Modem Daughterboard

The IX-24PMD daughterboard is a pooled modem that is mounted on the IX-RCVPM Receiver/Pooled Modem card This pooled modem has a data transfer rate of 2400 bps. It is used exclusively with the IX-DMS data module to access remote terminals through PSTN lines or tie lines.

Model: IX-24PMD Data Speed: 2400 bps

Part No.: 101790 Compatibility: Bell-103J/212A, CCITT-V.22/V.22bis

Location: IX-RCVPM Size: 6.0"H x 4.2"W x .8"D

Ports: None Weight: 0.2 lbs.

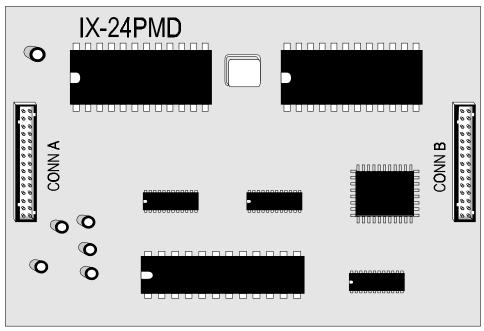


FIGURE 4.7-9 IX-24PMD DAUGHTERBOARD

IX-CNFBOX-1 Conference Card

The IX-CNFBOX-1 card supports a conference call with up to eight-parties. Up to five IX-CNFBOX-1 cards may be installed in the system. When connected together, five IX-CNFBOX-1 cards will support a conference call that includes a maximum of five outside parties connected via analog trunk lines and a maximum combined total of 40 parties.

The IX-CNFBOX-1 card may be installed in any ADIX, ADIX-M, ADIX APS or ADIX-S universal card slot. When more than one IX-CNFBOX-1 card is utilized in an ADIX system, it is recommended to install the IX-CNFBOX-1 cards in consecutive slots in the same shelf. In a full-size ADIX system all IX-CNFBOX-1 cards must be installed in the same tower.

In addition to connecting five IX-CNFBOX-1 cards connected in serial, multiple cards may be installed to operate independently. Five independent IX-CNFBOX-1 cards may be programmed to operate in five trunk groups.

Depending on the type of line, the IX-4TRAN card may be required to connect an outside party to the IX-CNFBOX-1. Each IX-4TRAN card supports a maximum of four outside parties joined in a conference call. Internal stations joining the IX-CNFBOX-1 do not require the IX-4TRAN card.

Component Description

The IX-CNFBOX-1 card is configured as a loop start trunk card in the system database. One card supports a conference call of up to eight parties. Up to five IX-CNFBOX-1 cards may be installed in serial to support a conference call of up to 40 parties. The IX-CNFBOX-1 card may be installed in any available ADIX, ADIX-M, ADIX APS or ADIX-S universal card slot. When more than one IX-CNFBOX-1 card is utilized in an ADIX system, it is recommended to install the IX-CNFBOX-1 cards in consecutive slots in the same shelf. In the full-size ADIX System, all IX-CNFBOX-1 cards must be installed in the same tower.

IX-CNFBOX-1 Model:

Part No.: 101200

Location: Any universal card slot

Ports: 8 per card

Software Settings:

Class 01.03 Port Definition; Class 01.04 Configuration

Additional Power Requirements:

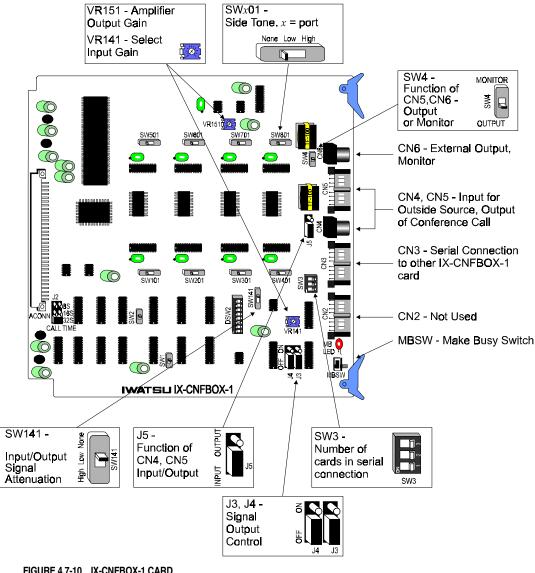
None

Additional Hardware Requirements:

IX-4TRAN card for external party conference call.

9.7"H x 9.5"W x .75"D Size:

Weight: 1.05 lbs.



IX-4TRAN Requirements

Depending on the type of line, the IX-4TRAN card may be required to connect an outside party to the IX-CNFBOX-1. Each IX-4TRAN card supports a maximum of four outside parties joined in a conference call. Internal stations joining the IX-CNFBOX-1 do not require the IX-4TRAN card. The table below lists the trunk types that require an IX-4TRAN card.

CO Line Type	Related ADIX Hardware	IX-4TRAN Required
Analog Loop Start, Ground Start	IX-8LGTK	YES
Analog Caller ID Lines	IX-8CITK, IX-408, IX-400	YES
Analog E&M Tie Lines	IX-4EMTK	NO
Analog DID	IX-4DITK	YES
Digital T1 E&M Trunk	IX-T1DTI	NO
Digital T1 E&M Tie Trunk	IX-T1DTI	NO
Digital T1 DID Trunk	IX-T1DTI	NO
Digital T1 Two-Way DID	IX-T1DTI	YES
Digital T1 ANI/DNIS	IX-T1DTI	YES
ISDN BRI Line	IX-2ICOTB	YES
ISDN PRI Line	IX-ICOTP	YES

On-Board Functions

Number	Function	Number	Function
SW1	Conference mode	MBSW	Make busy
SW2	Answer to conference	CN2	NOT USED
SW3	Number of cards connected in series	CN3	Connection for series connection of multiple cards
SW4	External Output /Monitor for CN4 and CN5	CN4	External Input/External Output
SW101	Side tone level for port1	CN5	External Input, External Output / Monitor
SW201	Side tone level for port2	CN6	External Output / Monitor
SW301	Side tone level for port3	VR141	Select input gain
SW401	Side tone level for port4	VR142 (op)	Signal attenuation
SW501	Side tone level for port5	VR151	Amplifier output gain
SW601	Side tone level for port6	J2	NOT USED
SW701	Side tone level for port7	J3	EXO output control
SW801	Side tone level for port8	J4	EXO output control
SW141	Signal attenuation	J5	EXI / EXO Setting for CN5 and CN6
DSW2	NOT USED	J51	Relay contact mode

Connectors

Connector CN3 is used for the connection of multiple IX-CNFBOX-1 cards. Connectors CN4, CN5 and CN6 may be used to connect external devices to the IX-CNFBOX-1 card. A detailed description of each of these connectors is provided below. SW4 and Strapping Jack J5 are used to control the output of CN4, CN5, and CN6.

Note: The input and output signals of each connector are electrically isolated by a signal transformer.

Chapter 7 Shared Resource Cards

CN3 (coupling)

Connector CN3 is used to connect multiple IX-CNFBOX-1 cards. Up to five cards may be connected in series to provide a conference call that includes a maximum of five outside parties and a maximum combined total of 40 parties.

Note 1: Iwatsu recommends that IX-CNFBOX-1 cards connected in series are located in consecutive card slots.

Note 2: In a double-tower ADIX (ADIX 450), it is required that cards connected in series must be located in the same tower.

Illustrated below is a wiring diagram for the connection of five IX-CNFBOX-1 cards using the CN3 connector. Industry standard 24 AWG Twisted Pair cable must be used for the CN3 connections.

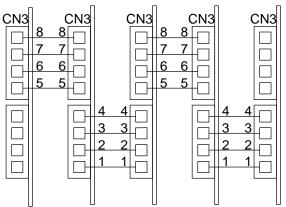


FIGURE 4.7-11 IX-CNFBOX-1 WIRING DIAGRAM

CN₄

Connector CN4 is a RCA (Phono) Jack that may be used for the signal source input (EXI), or for conference voice output (EXO). Strapping jack J5 is used to define the function of Connector CN4. The tables below further illustrate the relationship of the CN4 terminals and typical input and output signal level.

Terminal	Signal	
Inside [+]	Input from sound source or voice output	
Outside [-]	Input from sound source or voice output	

Signal	Typical Level	Impedance	Note	
Input signal	-6 dBm	600 Ω	Default value- J5	
Output signal	-25 dBm	600 Ω		

CN5 Pins 1-2 and 3-4 (EXI / EXO)

Connector CN5 Pins 1, 2, 3, and 4 provide the same function as CN4. The table below lists the relationships between the pins and the signals of CN5 Pins 1, 2, 3, and 4 and the typical input and output signal levels.

CN5 pins 1 and 3 correspond to CN4 [+] terminal. CN5 pins 2 and 4 correspond to CN4 [-] terminal.

Pin	Signal	
Pins 1, 3 [+]	Input from sound source or voice output	
Pins 2, 4 []	Input from sound source or voice output	

CN6 (EXO / Monitor Out)

Connector CN6 provides conference voice output. Use Switch SW4 to select the function of CN6 as either Amplifier output or Monitor output.

The relationship of the terminals and the signals as well as typical input and output signal levels are illustrated in the tables below.

Terminal	Signal
Inside [+]	Voice output
Outside [-]	Voice output

Signal	Typical Level	Impedanc e	Note
Amplifier output	-25 dBm	600 Ω	Default output
Monitor output	about 70 mW	8Ω	

CN5 Pins 5-6 and 7-8 (EXO / Monitor Out)

Connector CN5 Pins 5, 6, 7, and 8 provide the same function as the CN6. The table below lists the relationships between the pins and the signals of CN5 Pins 5, 6, 7, and 8 and the typical input and output signal levels.

CN5 pins 5 and 7 correspond to CN6 [+] terminal. CN6 pins 6 and 8 correspond to CN4 [-] terminal.

Pins	Signal	
Pins 5, 7	Input from sound source or voice output	
Pins 6, 8	Input from sound source or voice output	

Chapter 7 Shared Resource Cards

Switches

MBSW

This is the Make Busy Switch. When this switch is in the ON position, the MBLED will flash. Default position of the MBSW is OFF.

SWx01

If acoustic feedback occurs during an eight party conference call, use Switches SWx01 (x=port 1-8) to adjust the side tone for each individual IX-CNFBOX-1 port as desired. The side tone level may be selected from one of three levels; "NONE - no side tone," "LOW - low side tone," and "HIGH - high side tone." The table below describes each setting:

Position	Side tone loss level	Note
None	Disable send side tone	Default
Low	Enable side tone (-20 dB)	
High	Enable side tone (-12 dB)	

Switch SW3

Switch SW3 defines the number of the cards connected in series using Connector CN3. Up to five IX-CNFBOX-1 cards may be connected together. The table below lists the function of each SW3 setting.

Number of	SW3		Number	
Card(s)	Pos.	Pos.	Pos.	of Parties
	1	2	3	
1	OFF	OFF	OFF	1 - 8 (Default)
2	ON	OFF	OFF	1 - 16
3	OFF	ON	OFF	1 - 24
4	ON	ON	OFF	1 - 32
5	OFF	OFF	ON	1 - 40

Switch SW4

Switch SW4 selects the output of Connectors CN6 and CN5(Pins 5-6/Pins 7-8). The table below lists the function of each setting.

Position	CN6, CN5(Pins 5-6/Pins 7-8)	Note
EXO	amplifier output	Default
MONITOR	monitor output	

SW141

Switch SW141 defines the attenuation level of the IX-CNFBOX-1 signal output. The table below describes the relationship of each SW141 position and the side tone attenuation.

Position	Attenuation Level	Note
Non	0	Default
Low	-20 dB	
High	-12 dB	

Strapping Jacks

J3

Strapping jack J3 determines if the seizure of the 7th port controls the signal output of the card. By default, output is automatic.

Note: The J3 setting is valid if J5 is set to EXO.

Strap Position	Function	
OFF - C	No control, automatic output (default)	
C – ON	If 7th port is seized, output is stopped at CN4 and CN5.	

J4

Strapping jack J4 determines if the seizure of the 8th port controls the signal output of the card. By default, output is automatic.

Strap Position	Function	
OFF - C	No control, automatic output (default)	
C – ON	If 8th port is seized, output is stopped at CN4 and CN5.	

J5

Strapping jack J5 defines the function CN4 and CN5 pins 1-2, 3-4 as either INPUT (EXI) or OUTPUT (EXO).

Strap Position	Function		
C-I	Input (EXI) (default)		
0 – C	Output (EXO)		

Potentiometers

VR141

Potentiometer VR141 changes the gain for input signal continuously. The adjustable range is about 25 dB. The table below illustrates the potentiometer position in relation to the gain.

Position	Gain	Note
left limit	0 dB	Default
right limit	about 25 dB	

VR151

Potentiometer VR151 is used to adjust the gain level of signal output. The adjustable range is about 25 dB. The table below illustrates the potentiometer position in relation to the gain.

Position	Gain	Note
left limit	0 dB	Default
right limit	about 25 dB	

Chapter 7 Shared Resource Cards

Eight-Party Conference Call

The *Eight-Party Conference* feature is available to any system extension when the IX-CNFBOX-1 card is utilized. In order to join a conference call, a station must dial the trunk group access code assigned for the IX-CNFBOX-1 ports in Class 07.03 or press a Float key for the trunk group.

Attending an Eight-Party Conference Call. System extensions may join an eight-party conference call by dialing the trunk group access code designated to access the IX-CNFBOX-1 ports or by pressing a Float key for the trunk group.

Joining an Outside Party in an Eight-Party Conference Call. If the ADIX is equipped with an IX-4TRAN card, up to five outside parties may join an IX-CNFBOX-1 eight party conference call. However, the outside party may be added to the eight party conference call only by an attendant position. To add the outside party, the attendant position presses the [TRAN] key, dials the trunk group access code and [CONNECT] or hang-up.

Forty-Party Conference Call

Up to five IX-CNFBOX-1 cards may be installed in the system and connected together to provide a maximum of 40 parties in one conference call. However, the system will support a maximum of five outside parties on an IX-CNFBOX-1 conference call regardless of the number of cards connected together.

Programming:

Follow the instructions below to program the ADIX system database to support an eight-party conference call.

- 4. Define each of the IX-CNFBOX-1 card's eight circuits as a loop start trunk port in Class 01.03 (Class 01.03 data = 1-0-0-logical port number).
- 5. Group each IX-CNFBOX-1 logical port in Class 11.38 as part of an Outgoing Trunk Group.
- 6. In order for the system extensions to access an eight-party conference call, they must dial the trunk access number of the Outgoing Trunk Group. Define the trunk group access number in Class 07.03.

Operation:

- To join an IX-CNFBOX-1 eight-party conference call:
 - 3. From any system extension, go off hook and dial the *IX-CNFBOX-1 trunk access number*.
 - 4. When the party answers press [ADD]
- To add an outside party to an IX-CNFBOX-1 eight-party conference call:
 - 3. While speaking on an outside call from an attendant position press [TRAN] + *IX-CNFBOX-1 trunk group access number*.
 - 4. When the IX-CNFBOX-1 port is seized press [CONNECT] or hang-up.

Conditions:

- 7. The eight IX-CNFBOX-1 circuits must be defined as loop start trunks in Class 01.03.
- 8. The eight IX-CNFBOX-1 ports must be joined in an outgoing trunk group in Class 11.38. That trunk group must then be assigned an access code in Class 07.03.
- 9. Each IX-CNFBOX-1 will support a maximum of eight parties on a conference call. However, the IX-CNFBOX-1 card will support a maximum of five outside parties on an eight-party conference call.
- 10. In order to support outside parties on an eight-party conference call, the IX-4TRAN card is required. Each IX-4TRAN card will support four outside parties on an IX-CNFBOX-1 eight-party conference call.
- 11. Only attendant positions can join outside parties in an IX-CNFBOX-1 eight-party conference call.
- 12. An Intercom Call or E&M Tie Line call may not be transferred to an IX-CNFBOX-1 circuit from a system extension. They must access an IX-CNFBOX-1 circuit directly by dialing the access code programmed in Class 07.03.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 07.03 CO Line Group Access Number; 11.38 Outgoing CO Group.

Hardware Required:

IX-CNFBOX-1; IX-4TRAN to support external parties on conference calls.

Chapter 7 Shared Resource Cards

IX-MISC Miscellaneous Card

The IX-MISC card converts the system ports for input/output functions. Miscellaneous functions include connection of external MOH and BGM sources, paging applications, remote control relays, and sensor input. An IX-EDCTU board is required on the shelf for external connection. For that reason, this card must be installed in the rightmost slot of each shelf. The table below lists the physical port layout.

Port	Function			
1	Page Zone 1			
2	BGM Source			
3	MOH Source			
4	Relay Control			
5	Sensor Input			
6*	Page Zone 2			
7*	Page Zone 3			
8*	Page Zone 4			

^{*} Circuits 5-8 can also be used for sensor input

Paging If the same amplifier is shared by the paging and BGM sources, BGM is suspended at all zones when paging is activated. If SW2 is set as 2-WIRE, the signal is bi-directional if the PAGE IN jack is used and mono-directional if the PAGE IN and PAGE OUT jacks are used.

Model:IX-MISCConnectors:ACONN - MotherboardPart No.:101730DCONN - IX-EDCTU

Location: Rightmost universal card slot of **On-Board Functions:**

nightinost universal card slot of

each shelf (see table) 8 ports Indicators: MBLED = Busy

Requirement: IX-EDCTU for external connection **Size:** 9.7"H x 9.5"W x 1.0"D

Additional Power Requirements: Weight: 0.9 lbs.

None

On-Board Functions:

Ports:

Switch	Description
MBSW	Make Busy. Set to BUSY during power-on maintenance
SW2	Select 2-WIRE or 4-WIRE for paging amplifier connection
SW3	Select USED or UNUSED for BGM amplifier
SW4	Not Used
SW5-SW8	Select RELAY CONTROL OUTPUT or SENSOR INPUT
SW9-SW12	Select BGM ON or BGM OFF for each paging zone (1-4)
SW13	Not Used
VR1	BGM volume adjustment
VR2	MOH volume adjustment

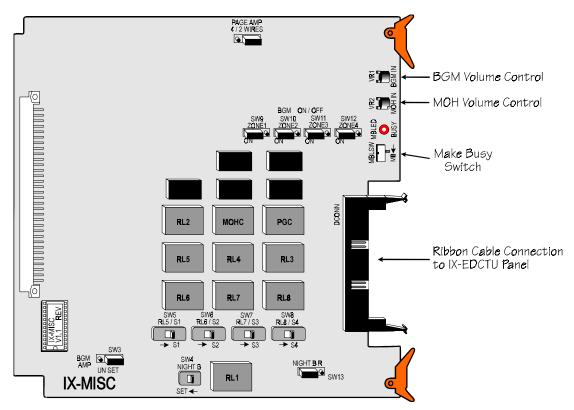


FIGURE 4.7-12 IX-MISC CARD

Chapter 7 Shared Resource Cards

IX-4TRAN Four-Line Transfer Card

4 ports

Ports:

The IX-4TRAN card provides four circuits that can be used for monitoring of trunk-to-trunk conferences, remote CO call forwarding, and making outgoing calls using DISA. This card includes a line tone supervision circuit that is used to monitor the condition of all CO lines engaged in one or more conference calls. Disconnection detection is based on a continuous signal, an interrupted signal, or silence. For example, if a signal such as a busy tone, warning tone, or loop open condition is detected on a line, disconnection will occur. There are a number of database programming options for disconnect detection (other than a loop open condition) that can be used with this card. The IX-4TRAN card also provides automatic amplification of the CO level on each line engaged in the conference. Conferencing is available without the IX-4TRAN card. Features such as disconnect detect and voice amplification, however, are added when the IX-4TRAN is installed.

Model: IX-4TRAN Connectors: ACONN - Motherboard

Part No.: 101720 On-Board Functions:

Location: Any universal card slot MBSW - Make Busy

SW2 - Not Used

Additional Power Requirements: Indicators: LED1 = Busy
None Size: 9.7"H x 9.5"W x 1.0"D

Weight: 0.6 lbs.

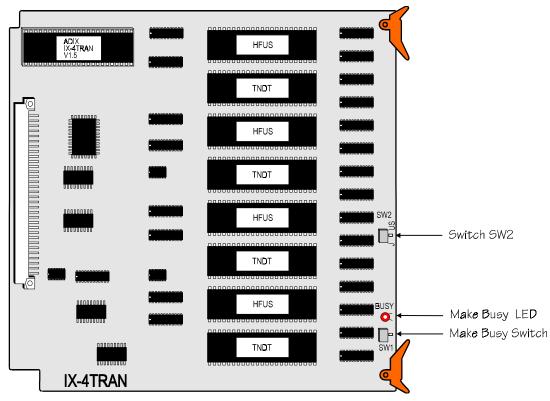


FIGURE 4.7-13 IX-4TRAN CARD

IX-MSGU Message Card

This card provides the announcement recording interface for the ACD and system messages. The IX-MSGU card has two message channels on-board. Two message channels can be added for a total of four by connecting an IX-EMCH daughterboard. Each message channel requires connection to an IX-8PSUB port. If customized messages are required, either an IX-CMSG or IX-CMSG-1 daughterboard must be installed. Eight IX-MSGU cards can be installed in the system. If you are installing an IX-CMSG-1 daughterboard, the IX-MSGU card ROM chip must be V1.5 or higher.

Important: If an IX-MSGU card is added to a system, the RAM must be defaulted using SW1 prior to recording any new messages. **Defaulting the card will erase all previously recorded custom messages.** Card defaulting instructions are provided on the next page.

Model: IX-MSGU Connectors:

Order No.: 101820 CN1, CN2 IX-CMSG, IX-CMSG-1

Location: Any unused card slot CN3, CN4, CN5 IX-EMCH

Ports: 1 IX-8PSUB port for each message CH1, CH2 IX-8PSUB port through MDF

channel Indicators: LED = Busy
120 seconds fixed with IX-CMSG
450 seconds with IX CMSG 1

450 seconds with IX-CMSG-1 IX-CMSG-1
s: IX-EMCH

2 standard, **Size:** 9.7"H x 9.4"W x 0.75"D

expandable to 4 with an IX-EMCH Weight: 0.8 lbs.

On-Board Functions:

Message Channels:

SW1 Erase RAM on message card SW2 Identify MSGU card 1-8

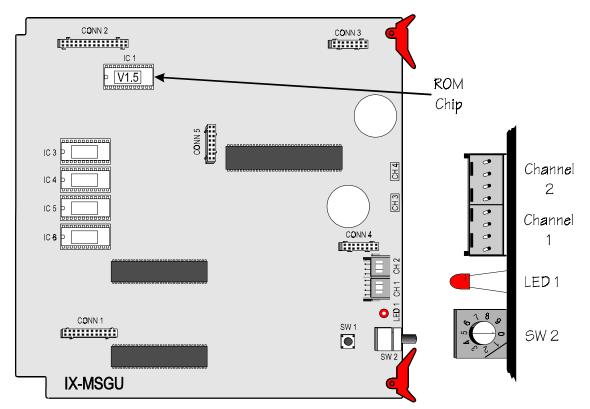


FIGURE 4.7-14 IX-MSGU CARD

Chapter 7 Shared Resource Cards

Station Port Configuration

Port Definition from Class 01.03	Function	Class 01.04 Data Field Entry	Description
0-4-0	Voice Message Unit port connected to an IX-MSGU	000	Channel 0 is Record/Playback; N/A; without the IX-CMSG
	circuit card	001	Channel 0 is Record/Playback; N/A; with the IX-CMSG
		100	Channel 1 is playback only; N/A; N/A
		200	Channel 2 is playback only; N/A; N/A
		300	Channel 3 is playback only; N/A; N/A

Voice Message Channel Configuration Description

Configuration Data Class 01.04	Description
0 0 0 0 0 1 (IX-CMSG) 1 0 0 2 0 0 3 0 0	IX-MSGU Card 1 Rotary SW 2 = 0
0-1-0 0-1-1 (IX-CMSG) 1-1-0 2-1-0 3-1-0	IX-MSGU Card 2 Rotary SW 2 =
0-2-0 0-2-1 (IX-CMSG) 1-2-0 2-2-0 3-2-0	IX-MSGU Card 3 Rotary SW 2 = 2
0-3-0 0-3-1 (IX-CMSG) 1-3-0 2-3-0 3-3-0	IX-MSGU Card 4 Rotary SW 2 = 3

Configuration Data Class 01.04	Description
0-4-0 0-4-1 (IX-CMSG) 1-4-0 2-4-0 3-4-0 4-4-0	IX-MSGU Card 5 Rotary SW 2 = 4
0-5-0 0-5-1 (IX-CMSG) 1-5-0 2-5-0 3-5-0 4-5-0	IX-MSGU Card 6 Rotary SW 2 = 5
0-6-0 0-6-1 (IX-CMSG) 1-6-0 2-6-0 3-6-0	IX-MSGU Card 7 Rotary SW 2 = 6
0-7-0 0-7-1 (IX-CMSG) 1-7-0 2-7-0 3-7-0 4-7-0	IX-MSGU Card 8 Rotary SW 2 = 7

To default the IX-MSGU card:

- 1. Unplug channel 1.
- 2. Push and hold SW 1.
- 3. Plug in channel 1 while holding SW1 until LED 1 lights.
- 4. When LED 1 lights release SW 1.
- 5. The IX-MSGU card is defaulted when LED 1 turns off.

IX-CMSG Custom Message Daughterboard

The IX-CMSG daughterboard is connected to the IX-MSGU card. It stores 120 seconds of customized messages.

Note: The sum of system messages and ACD messages cannot exceed the total capacity of the IX-CMSG daughterboard – 120 seconds. Exceeding this limit will corrupt the message files.

Model: IX-CMSG
Order No.: 101840
Location: IX-MSGU
Ports: None

Capacity: 120 seconds of recording time,

32 system messages

Memory Retention:

Retention: 10 days Connectors:

CONN1/CONN2 IX-MSGU Add-Ons: None

Size: 7"H x 3.5"W x 0.75"D

Weight: 0.2 lbs.

RAM

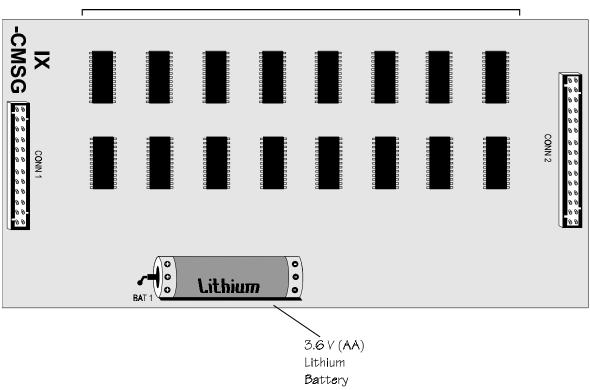


FIGURE 4.7-15 IX-CMSG CARD

Chapter 7 **Shared Resource Cards**

IX-CMSG-1 Custom Message Daughterboard

The IX-CMSG-1 daughterboard is connected to the IX-MSGU card. It stores 450 seconds of customized messages.

Note: The sum of system messages and ACD messages cannot exceed the total capacity of the IX-CMSG-1 daughterboard – 330 seconds. Exceeding this limit will corrupt the message files.

Model: IX-CMSG-1 Order No.: 101845 IX-MSGU Location: Ports: None

330 seconds of recording time, Capacity:

32 system messages

Memory Retention: 10 days Connectors:

CONN1/CONN2 IX-MSGU Add-Ons: None

Size: 7"H x 3.5"W x 0.75"D

Weight: 0.2 lbs

RAM

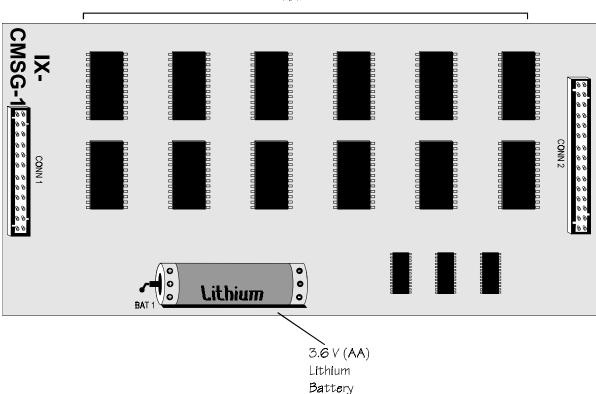


FIGURE 4.7-16 IX-CMSG-1 CARD

IX-EMCH Message Channel Expansion Daughterboard

The IX-EMCH daughterboard is connected to the IX-MSGU card. It provides two additional message channels for systems with heavy message traffic. Each channel of the IX-EMCH daughterboard requires direct connection to an IX-8PSUB port.

Model:IX-EMCHConnectors:CONN3/CONN4/CONN5 - IX-MSGUOrder No.:1018302 connectors for message channels

Location: IX-MSGU Add-Ons: None

Ports: None **Size:** 4.7"H x 5.5"W x 0.75"D

Message Channels: 2 Weight: 0.3 lbs.

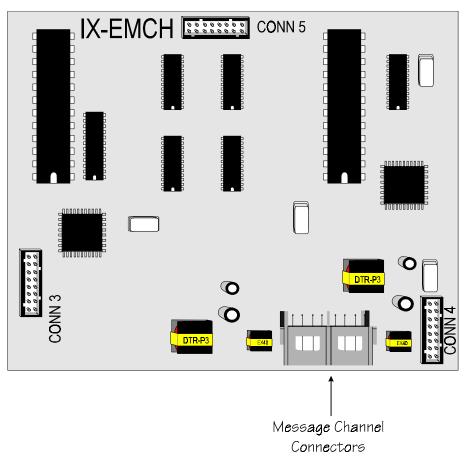


FIGURE 4.7-17 IX-EMCH DAUGHTERBOARD

Station Equipment

Key Telephones and Attendant Consoles

There are three types of digital telephones designed to work with ADIX. Each of these phones have four fixed feature buttons and eight programmable feature buttons. The four fixed feature buttons are permanently labeled as Speaker [SPKR], Transfer [TRAN], Feature [FEAT], and Hold/Do Not Disturb [HOLD/DND]. They can, however, also be reprogrammed.

Digital Telephone Components Figure 4.8-1 points out the components of ADIX digital telephones. The table which follows lists certain components and a brief description of their function.

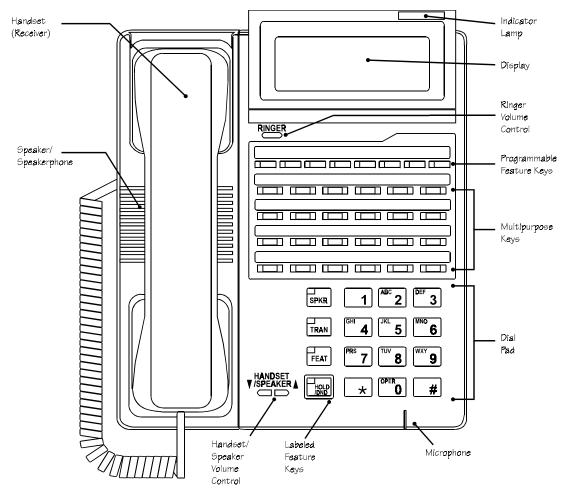


FIGURE 4.8-1 DIGITAL TELEPHONE COMPONENTS

Component	Description		
Multi-Purpose Buttons	Programmable for a specific functions. For example, outside lines, individual extensions,		
	one-touch feature operation.		
Button Lamps (LED)	Light up or flash when someone is using a line or a feature corresponding to that button.		
	Green Lamp - You are using that line.		
	Red Lamp - Someone else is using that line.		
SPKR (Speaker)	Transfer audio output from handset to speaker.		
TRAN (Transfer)	Transfer a call from your phone to another extension.		
FEAT (Feature)	Operate certain special and advanced features available through ADIX.		
HOLD/DND (Hold/Do Not Disturb)	Put a call on hold, or set the do not disturb function to prevent any calls from ringing at your		
	extension.		
Handset/Speaker Volume Control	The left button lowers the handset or speaker volume, the right button raises it.		
Ringer Volume Control	Adjust the ringer volume to one of four levels.		
MIC OFF	When the [MIC OFF] button LED is illuminated the station microphone is inactive. When the		
	[MIC OFF] button LED is extinguished the station microphone is active.		
ICM	Pressing the [ICM] button connects you to an intercom line for conversation with another		
	extension.		

IX-12KTS-2 Digital Multiline Telephone

The IX-12KTS-2 Digital Multiline Telephone has four fixed feature keys and 8 multipurpose keys with red LEDs and 12 multipurpose keys with red and green LEDs. Twelve multipurpose keys may be added to the IX-12KTS-2 with the addition of an IX-ELK key expansion module. This unit is equipped with a built-in speakerphone.

Model	IX-12KTS-2		Optio	loud ringer/external
s: Order No.:	ns: Gray - 104210	115.	speakerphone, autodial unit, busy	
_	Ash - 104212			bypass unit, headset adapter,
Featur	4 fixed feature keys, 8			pedestal, noise canceling handset,
es:	multipurpose keys with red LEDs, 12 multipurpose keys with	Related		amplified handset
	red and green LEDs		Hardw are:	1 IX-8PSUB port
			Size: Weigh	9.0"H x 8.2"W x 4.0"D 2.0 lbs.







IX-12KTD-2 Digital Multiline Telephones

The IX-12KTD-2 Digital Multiline Display Telephone offers all the functionality of the IX-12KTS-2 with the addition of a 2-line, 16 characters per line liquid crystal display and an incoming call indicator lamp. This display is very helpful for using advanced features and for providing status information. The oversized indicator lamp flashes red for incoming calls and green for a programmable feature such as message waiting.

Model	IX-12KTD-2		Optio	loud ringer/external
s: Order No.:	Gray - 104200		ns:	speakerphone, autodial unit, busy
	Ash - 104202			bypass unit, headset adapter,
Featur	4 fixed feature keys, 8			pedestal, noise canceling handset,
es:	multipurpose keys with red LEDs, 12 multipurpose keys with	Related		amplified handset
	red and green LEDs		Hardw are:	1 IX-8PSUB port
			Size: Weigh	9.0"H x 8.2"W x 4.0"D 2.0 lbs.





IX-8KTS and IX-24KTS Digital Multiline Telephones (Discontinued)

The IX-8KTS and IX-24KTS digital multiline telephones have 12 feature buttons and an additional 8 (IX-8KTS) or 24 (IX-24KTS) multi-purpose buttons for feature and outside line appearances. These sets are star connected to an IX-8PSUB port using one-pair twisted wire. If a data module or IX-BPAD is connected to the digital telephone two-pair twisted wire is required.

Model	IX-8KTS and IX-24KTS		Optio	speakerphone, loud
S: Ordor	IV 0VTC 104010		ns:	ringer/external
Order No.:	IX-8KTS - 104010			speakerphone, autodial unit, busy
11011	IX-24KTS - 104050			bypass unit, headset adapter,
Featur	4 fixed feature buttons, 8			pedestal, noise canceling handset,
es:	programmable buttons with			amplified handset
	red			amplined handset
	LEDs, 8 (IX-8KTS) or 24	Related		
	(IX-24KTS)		Handur	1 IV ODOLID worth
	24 multipurpose buttons with dual-		Hardw are:	1 IX-8PSUB port
	color LEDs		Size:	9.0"H x 8.2"W x 4.0"D
			Weigh	2.0 lbs.

IX-8KTD and IX-24KTD Digital Multiline Display Telephones (Discontinued)

The IX-8KTD and IX-24KTD digital multiline telephones have 12 feature buttons and an additional 8 (IX-8KTS) or 24 (IX-24KTS) multi-purpose buttons for feature and outside line appearances. These sets also have a 2-line by 16-character liquid crystal display (LCD). The LCD provides call status information and offers visual assistance when using advance features. These sets are star connected to an IX-8PSUB port using one-pair twisted wire. If a data module or IX-BPAD is connected to the digital telephone two-pair twisted wire is required.

Model	IX-8KTD and IX-24KTD		Optio	speakerphone, loud
s: Order No.:	IX-8KTD - 104020		ns:	ringer/external speakerphone, autodial unit, busy
	IX-24KTD - 104060			bypass unit, headset adapter,
Featur	4 fixed feature buttons, 8			pedestal, noise canceling handset,
es:				
	programmable buttons with red			amplified handset
	LEDs, 8 (IX-8KTS) or 24 (IX-24KTS)	Related		
	24 multipurpose buttons with dual-		Hardw are:	1 IX-8PSUB port
	color LEDs, 2-line x 16- character		Size:	9.0"H x 8.2"W x 4.0"D
	LCD		Weigh	2.2 lbs.

IX-MKT Digital Key Telephone

The IX-MKT Digital Key telephone replaces the ADIX IX-VT Versa-Phone and includes the following features:

Single-Line Port for Modem Connection (Outgoing Calls Only) The new IX-MKT supports a single-line/modem connection through the added modular connector. This allows simultaneous use of a modem while having full access to the ADIX system features.

Important Note: This function is only supported through the added modular connector when star connected to an IX-8SUBx. It supports outgoing calls only.

Incoming Call Indication / Feature Notification Lamp. It includes four feature buttons with printed labels, and an incoming/message lamp.

Red and Green LED Indication on 8 Multi-Purpose Keys. The IX-MKT has eight programmable multipurpose buttons with dual color LEDs (red for incoming indication and green for programmable indication).

Tandem Handset and Speaker Volume Control. It allows the user to control the volume of both the handset and the speaker through easy to use volume control buttons.

Optional IX-SSPU Speakerphone Unit Connection Support. The IX-MKT can connect to the IX-SSPU unit to give the user hands-free conversation capability on outside line calls.

The IX-MKT is available in two colors, ash and gray, and this set is connected to an IX-8PSUB or IX-16PSUB port using one-pair twisted wire. The functionality of the keys can be changed using Class 14.

The IX-MKT is illustrated below:

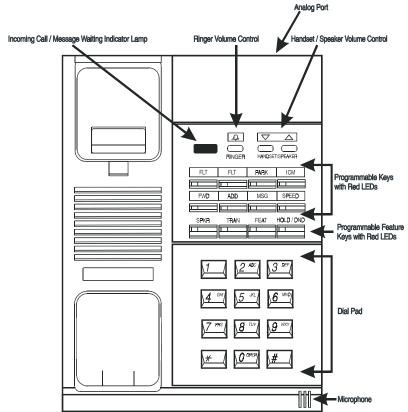


FIGURE 1 ADIX IX-MKT

Model: Order No.: IX-MKT 104074 (Ash)

Features:

104075 (Gray) 4 fixed feature buttons,

8 programmable buttons with red and

green LEDs

Options: pedestal, noise

canceling handset, amplified handset

IX-SSPU Speakerphone.

Related Hardware:

1 IX-8PSUB /IX-16PSUB port

1 IX-8SUBx (for single-line) 9.0"H x 6.5"W x 4.0"D Size:

Weight: 1.7 lbs.

IX-VTA Versa-Phone (Discontinued)

The IX-VT Versa-Phone is an enhanced feature telephone with the 12 feature buttons mentioned above. This set is star connected to an IX-8PSUB port using one-pair twisted wire.

Model	IX-VT	Related		
Order No.:	104070	Hai are		1 IX-8PSUB port
Featur es:	4 fixed feature buttons, 8	Siz		9.0"H x 6.5"W x 4.0"D
001	programmable buttons with red LEDs	We t:	igh	1.7 lbs.
Optio	pedestal, noise canceling			
ns:	handset, amplified handset			





FIGURE 4.8-4 VERSA-PHONE (IX-VTA)

IX-DCKT900 Digital Cordless Key Telephones

The IX-DCKT900 Digital Cordless Key Telephone is designed to work with the Omega-Phone ADIX and ADIX-M systems. It is engineered to provide top-notch performance, reliable service and long life.

The IX-DCKT900 must be connected to both the telephone line and an ADIX Omega-Phone digital telephone. For installation instructions see the IX-DCKT900 Owner's Manual (Part Number 109330).

Model	IX-DCKT900	Handset Specific	ations:
Order No.:	109300	Power:	Rechargeable Ni-Cad Battery Pack
Featur es:	Listed Below	Size:	2 1/8 in. W X 7/8 in. D X 6 1/2 in. H
Frequency Control: Modulation: Operating Temperature: Frequency: Power Rating	Direct Sequence Spread Spectrum MSK -10° to 50° C 902 to 928 Mhz (9 Channels) 100 Milliwatts	Weight: Battery: Color Optio	with antenna Approx. 10.5 oz. with battery Capacity: 400 mAh, 4.8V Talk Mode: 3 hours (typical) Standby Mode: 42 hours (typical) Black Belt Clip, Backup Power
Base Unit Specif	ications:	ns:	Supply, Headset, Vibrator, Leather Case.
Power: Size: Weight:	10V DC from supplied AC Adapter 7 3/4 in. W X 7/8 in. D X 3 5/32 in. H Approx. 1 lb., 3 oz.	Relate d	Extended Life Battery, Wall Mount Bracket
Color	Black	Hardware:	1 IX-8PSUB port, IX-24KTD, 8KTD
	Families		

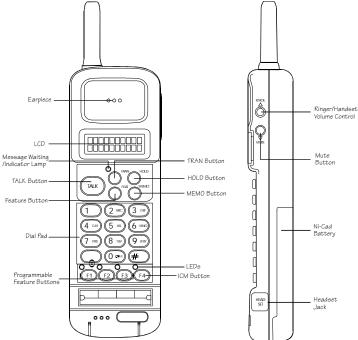


FIGURE 4.8-5 IX-DCKT900

Message Waiting/Indicator Lamp — Flashes when you have a message waiting. Lights when the TALK button is pressed.

TALK Button — Press the TALK button to go off hook when making or answering a call.

FEAT (Feature) Button — Press the FEAT button to operate ADIX system features.

TRAN (Transfer) Button — Press the TRAN button to transfer a call from your telephone to another extension.

HOLD Button — Press the HOLD button to put the current call on hold or set the Do Not Disturb feature.

MEMO (Memory) Button — The MEMO button is used to store in memory and access up to 20 numbers and feature access codes.

Programmable Feature Buttons (F1-F3) — The key assignment of the F1, F2 and F3 buttons corresponds to the programming of the first three multipurpose buttons on the Host Telephone.

ICM Button (F4) — The ICM (F4) button allows you to access the other system extensions.

LEDs — The four LEDs correspond to the F1-F4 buttons. An LED will light or flash when the line or feature of the corresponding button is in use.

Ringer/Handset Volume Control — Use this button to select the ringer volume and the handset volume.

IX-ATT Attendant Console / IX-BLF Busy Lamp Field

The IX-ATT attendant console allows the operator to quickly process incoming calls. This unit has 24 feature buttons that can be programmed to activate specific features or for outside line termination. Eight of these 24 buttons have dual-color (red and green) LEDs that are usually reserved for outside line termination. These buttons are frequently referred to as float [FLT] or loop buttons. In addition, there are 30 buttons that can be programmed as direct station selection (DSS) buttons. DSS buttons provide onetouch access to call the system extensions. The IX-ATT attendant console has a 4-line by 40-character LCD that displays call status information, the date, and the time of day. A contrast switch is located on the right side of the IX-ATT. This switch is used to adjust the LCD for different lighting conditions. The IX-ATT attendant console has six soft function buttons. The soft function buttons have no fixed functionality. Their capabilities are interactive with the prompts that appear on the LCD. Pressing a soft function button that corresponds to a prompt on the display will result in a change of the prompts on the display. Handset volume, ringer volume, and speaker volume adjustment buttons are also provided. The IX-ATT attendant console has an alarm panel with three LEDs: Major Alarm, Minor Alarm, and Power Failure. There are also eight LEDs that provide a visual indication of the number of calls waiting to be answered. A handset or headset can be attached to either side of the IX-ATT attendant console. If necessary, a second handset or headset can be attached for training purposes. There is a talk/monitor switch for each handset or headset.

An optional IX-BLF Busy Lamp Field (BLF) can be added to the IX-ATT. The BLF has two screens each containing 200 lamps that provide status indication for the system extensions and outside lines.

The IX-ATT has all the capabilities described in the *Digital Telephone User's Guide*. Unlike feature operation from a KT, the IX-ATT user is not required to press the speaker button [SPKR] to start feature operation. However, the user must press the release [RLS] button to end feature operation. The maximum number of DSS units and attendant consoles cannot exceed eight. The attendant console is star connected to two consecutive IX-8PSUB ports using two-pair twisted wire that is split for two channels (See **Section 5 – Installation Guide**). If a BLF is connected to the IX-ATT two-pair twisted wire and a third IX-8PSUB port are required.

Note:	The IX-ATT cannot be used as a programming terminal.				
	Model	IX-ATT/ IX-BLF		Optio	IX-BLF
	Order No.:	IX-ATT - 104510	Related	ns:	
	No	IX-BLF - 104550		Hardw are:	IX-ATT - 2 consecutive IX-8PSUB
	Featur es:	IX-ATT - 30 DSS buttons, 24 buttons		aic.	ports
	c 3.	programmable feature buttons, 6			IX-BLF - 1 IX-8PSUB port
		soft function keys, line, alarm and		Size:	IX-ATT - 11.4"H x 15.7"W x 4.6"D
		call waiting LEDs, 4-line x 40-			IX-BLF - 3.5"H x 14.5"W x 0.75"D
		character LCD		Weigh t:	IX-ATT - 4.2 lbs.
		IX-BLF - 200 programmable LEDs		•	IX-BLF - 1.3 lbs.



FIGURE 4.8-6 ATTENDANT CONSOLE (IX-ATT) WITH BUSY LAMP FIELD (IX-BLF)

IX-DSS-A-2 / (IX-DSS-A Discontinued)

The IX-DSS-A-2 has two 50-key screens with red and green LEDs that provide one-touch access and status indication for 100 system extensions. In addition, there are 20 keys with red LEDs that can be programmed for specific attendant features. IX-DSS-A-2 keys may also be programmed for feature operation. The IX-DSS-A-2 has a 40-character LCD to assist in call processing. The IX-DSS-A-2 is star connected to an IX-8PSUB port using one-pair twisted wire. Through database programming, the IX-DSS-A-2 must be joined with an attendant KT to initiate operation. Up to four DSS units can operate in parallel.

Note: The IX-DSS-A-2 can be used as a database programming terminal.

Model :	IX-DSS-A		Optio ns:	Additional DSS units
Order No.:	104610	Related		
Featur es:	50 DSS buttons with BLFs, 20		Hardw are:	1 IX-8PSUB port
	function buttons with LEDs, 1-line x 40-character LCD		Size: Weigh t:	9.0"H x 8.2"W x 3.2"D 1.8 lbs.





FIGURE 4.8-7 IX-DSS-A-2 DIRECT STATION SELECTION UNIT

	DSS LED Indication			
Lamp	Status	Meaning		
Red	Flashing	The extension is in either the do not disturb, call forward, absence message, station forced release, or station lock mode.		
Red	Solid	The extension is busy.		
Green	Flashing	The extension has the Message Waiting lamp lit.		
Green	Solid	The extension is talking with the attendant.		

IX-DSS-B

The IX-DSS-B has two 50-button screens that provide one-touch access and status indication for 100 system extensions. These buttons may also be programmed for feature operation. IX-DSS-B buttons have two-color LEDs to provide visual status indication. The IX-DSS-B unit is star connected to an IX-8PSUB port using one-pair twisted wire. Through database programming, the IX-DSS-B must be joined with an attendant KT to initiate operation. Up to four DSS units can operate in parallel.

Model :	IX-DSS-B		Optio ns:	Up to 4 additional DSS units
Order No.:	104620	Related		
Featur es:	50 DSS buttons with BLFs		Hardw are:	1 IX-8PSUB port
			Size: Weigh	9.0"H x 5.9"W x 3.2"D 1.3 lbs.

ZT-D Telephones

The telephone sets from Iwatsu's smaller ZT-D system can be used with the ADIX. There are four ZT-D telephone models: the ZT-24KTX-SP, ZT-12KTX-SP, ZT-24KTS-SP, and ZT-12KTS-SP. ZT-D telephones have four fixed feature buttons and six programmable feature buttons with red LED lamps. The four fixed feature buttons are assigned as Speaker [SPKR], Transfer [TRAN], Feature [FEAT] and Hold/Do Not Disturb [HOLD/DND]. Depending on the model, the ZT-D telephone will also have an additional 12 or 24 multi-purpose buttons with two-color LEDs. Multi-purpose buttons can be programmed for outside line appearance or feature operation. The LCD on the ZT-12/24KTX-SP is 1-line by 16-characters. Because the LCD is one line, the system name is not displayed.



FIGURE 4.8-8 ZT-D KEY TELEPHONE

ZT-S Telephones

The telephone sets from Iwatsu's smaller ZT-S system can be used with the ADIX. ZT-S telephones have four fixed feature buttons and six programmable feature buttons with red LED lamps. The four fixed feature buttons are assigned as Speaker [SPKR], Transfer [TRAN], Feature [FEAT] and Hold/Do Not Disturb [HOLD/DND]. These telephones provide an additional 18 multipurpose buttons that can be programmed for feature operation. The multipurpose buttons do not have LEDs. ZT-S telephones are available with an optional 1-line by 16-character LCD. An autodial unit or busy bypass/autodial unit cannot be added. The off-hook call announce (busy bypass voice calling) feature is not available from ZT-S telephones.



FIGURE 4.8-9 ZT-S KEY TELEPHONE

IX-DDPH Digital Doorphone

The IX-DDPH digital doorphone allows visitors to make an intercom call to gain entrance to your building. This unit is connected to an IX-8PSUB port using #22 AWG one-pair twisted wire. One of four doorphone chime tones can be selected through database programming.

Model: IX-DDPH Options: None Order No.: 076900 Related

Features: Call button, microphone Hardware: 1 IX-8PSUB port Speaker, Red / Green LED Size: 5.3"H x 4.0"W x 2.0"D

Weather Resistant Weight: 0.7 lbs.



FIGURE 4.8-10 ADIX DIGITAL DOORPHONE

IX-COMLINK TAPI-Compliant Computer Telephony Interface Adapter

IX-COMLINK is a TAPI-compliant Computer Telephony Interface Adapter that combines the features available with your ADIX digital telephone and the information processing power of your PC. This device provides a TAPI (Telephony Application Programming Interface) compliant interface that can operate as a stand-alone voice terminal or in parallel with an ADIX Digital Key Telephone. This device supports standard TAPI functions as well as TAPI "extended" features which provide access to ADIX PBX features. It is connected to an IX-8PSUB-1 port using #22 AWG two-pair twisted wire. This unit has jacks for an ADIX Digital Telephone, Headset, ADIX Handset/Cradle, and modem.



FIGURE 4.8-11 IX-COMLINK

PC Requirements

- Microsoft® Windows® 3.11 or Windows® 95 Operating System.
- A 486 or higher Microprocessor.
- Follow Microsoft® recognized RAM requirements. For Windows® 3.11 a minimum of 4MB of RAM (8MB recommended). For Windows® 95 a minimum of 8MB of RAM (16MB recommended). Additional RAM may be required for your Computer Telephony application.
- A 3.5 inch floppy disk drive.
- At least 1MB of free hard disk space for IX-COMLINK drivers. Additional hard disk space is required for your Computer Telephony application.
- Color Monitor with at least 480 x 640 Resolution.
- An RS232C COM port.

ADIX Requirements

- ADIX Software Versions 4.71/5.71 or higher.
- An IX-8PSUB-1, IX-408, or IX-044 card digital station port.
- 24 AWG twisted-pair cable to establish the connection between the ADIX system and the IX-COMLINK location.

Power Supply Requirements

The IX-COMLINK consumes the same amount of power as an ADIX digital telephone. An IX-COMLINK operating with an ADIX digital telephone connected, consumes the same amount of power as two ADIX digital telephones. The chart below lists the maximum number of IX-COMLINK units and digital telephones the system power supply will support.

System Capacity for ADIX-S and ADIX-M1

System	ADIX-S	ADIX-M		
Power Supply	IX-PWSS	IX-PWSM	IX-PWSM	IX-PWSM
Expansion Modules	0	0	1	2
Universal Card Slots	5	5	11	17
Number of Ports ²	52	72	136	200
Digital Station Ports ³	24	32	80	120

System Capacity for ADIX¹

Power Supply	IX-100PWS	IX-200PWS		
Expansion Modules	0	1	2	6
Universal Card Slots	12	20	28	56
Number of Ports ²	96	160	224	448
Digital Station Ports ³	88	152	200	400

NOTES:

- 1. This table lists the maximum quantity supported for each component type. The combined total number of ports for each system is limited to the figures listed in the "Number of Ports" category of this table. The capacities listed are based on the total number of card slots available, software restrictions and the power consumption of each component. It is recommended to use the ADIX Power Calculator Program to determine the exact power supply required.
- 2. The combined number of Station, Trunk, and Misc ports may not exceed the number of ports listed in this category.
- 3. The total number of ADIX digital telephones and IX-COMLINK units combined may not exceed the numbers listed in this category.

Optional External Power Supply (Future)

(This power supply is not available at this time but will be released in the future.)

The IX-COMLINK was designed to support an external power supply. This power supply is not required for normal operation, but when used, will allow the connection of IX-COMLINK adapters without reducing the port capacity of the system and the number of key telephones that may be equipped. This supply is a Regulated 24VDC (100ma) AC to DC power converter which connects to the back panel of the IX-COMLINK unit. The connector for this power supply is currently covered with a blank panel that may be removed if the use of an external power supply is required in the future.

IX-COMLINK Contents

Before proceeding with the installation of your IX-COMLINK computer telephony interface adapter, make sure you received the following components in the box:

- IX-COMLINK Computer Telephony Interface Adapter (Part Number 104665)
- Six-pin modular cord
- IX-COMLINK SPI, TAPI Driver Installation Disk (Part Number 109175)
- DB9 female/DB9 female serial cable (Part Number 107515)

Optional Equipment

You may also be installing or connecting the following optional equipment:

- IX-CTH/C Handset and Cradle with Hookswitch
- ADIX IX-12KTD/S-2 (w or w/o IX-ELK) Digital Key Telephone
- ADIX IX-24KTD/S Digital Key Telephone
- Headset
- Modem
- Sound Card or PC Speakers
- Microphone

Connection Options

IX-COMLINK by itself, is not a communication device. However, by connecting your computer to one of the following primary communication devices, its design offers a full range of Computer Telephony (TAPI) features. There are also connectors provided to allow the use of a modem for outgoing calls and Line In/Out jacks for connection of a sound card or PC speakers if supported by your application software. Strapping options are provided to select the primary communication device used with IX-COMLINK.

Primary Communication Devices

Only one primary communication device may be connected at a time. Simultaneous connection of multiple primary communication devices is not supported.

- An ADIX Digital Telephone, model IX-12KT/S-2 or IX-24KTD/S, may be connected to the KT connector. The ADIX digital telephone operates in parallel with IX-COMLINK.
- The IX-CTH/C Iwatsu Handset and Cradle with Hookswitch may be connected to the HANDSET connector
- A headset (compatible with ADIX telephones) may be connected to the HEADSET connector.

Optional Communication Devices

A connection from the modem LINE jack to the IX-COMLINK MODEM jack may be used for originating outgoing calls.

■ A SoundBlasterTM or SoundBlasterTM-compatible PC sound card or PC speakers may be connected to the LINE IN/LINE OUT connectors. The speakers must be amplified when connected directly to the IX-COMLINK LINE IN/LINE OUT connectors. **Note:** IX-COMLINK is not compatible with all sound cards.

PRIMARY COMMUNICATION DEVICES (One Device Per IX-COMLINK)

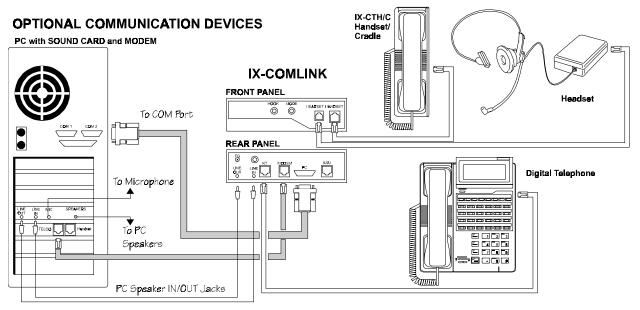


FIGURE 4.8-12 IX-COMLINK CONNECTION OPTIONS

Front And Rear Panel Layout

The drawing below illustrates the location of each IX-COMLINK connector.

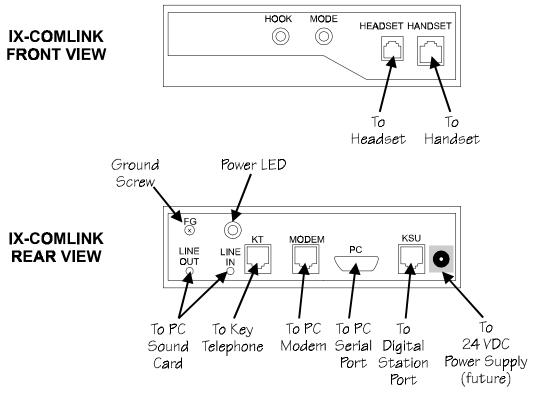
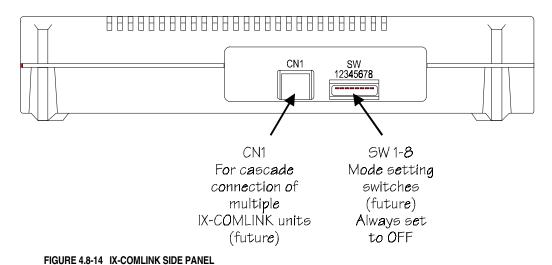


FIGURE 4.8-13 IX-COMLINK CONNECTORS

Side Panel Layout

The drawing below illustrates the IX-COMLINK side panel. These connectors and switches are reserved for future use.



Connectors

The table below provides an overview of each IX-COMLINK connector:

Connector	Type	Description
KSU	6-pin RJ11	Connection to an IX-8PSUB-1, IX-408, or IX-044 digital station port. Required to operate the IX-COMLINK. This port may be shared with an ADIX Digital Telephone or a stand alone port.
PC	DB9 Male	Connection to the RS232C port of the PC. Required to operate the IX-COMLINK.
MODEM	6-pin RJ11	Connection to a PC modem LINE jack. The modem may only be used to make an outgoing call. When the modem is in use, no other devices connected to IX-COMLINK may be used for call processing. The ADIX LCD will display "BUSY!" when the modem is in use.
KT	6-pin RJ11	Connection to an IX-12KTD/S-2 (w or w/o IX-ELK) or IX-24KTD/S Digital Key Telephone. An optional headset may be connected to the digital telephone.
LINE IN / LINE OUT	Audio Jack	Connection to a PC Sound Card or PC Speakers. The functionality of the sound card is dependent upon the capabilities of the computer telephony application and the sound card.
FG	Screw	Ground wire connection. Ground wire connection is not required for normal operation. FG provides a connection to ground the chassis of the PC connector when utilizing a shielded RS232 cable.
24V DC	Power Jack	Connection for Optional External Power Supply. (Not Used, Future) This connector is currently covered, but will be used for locally powering the IX-COMLINK unit with a 24VT DC (100ma) AC to DC power converter in the future.
HEADSET	4-pin RJ11	Connection of a headset for stand alone operation. Requires a change to jumpers JP1 and JP2 on the IX-COMLINK circuit board. If an ADIX Digital Telephone is connected to IX-COMLINK, this connector will not function. Both a headset and handset cannot be connected at the same time.
HANDSET	6-pin RJ11	Connection of an IX-CTH/C Handset/Cradle for stand alone operation. If a digital telephone is also connected, this connector will not function. Both a handset and headset cannot be connected at the same time.
CN 1	8-pin RJ11	Connection to cascade IX-COMLINK units. (Not Used, Future)

Overview of LEDs and Switches

Hook LED

This LED is the primary hook switch status indicator. This LED does not provide indication when IX-COMLINK is ringing.

Status	Description
ON	IX-COMLINK is busy, off-hook on a conversation.
OFF	IX-COMLINK is idle or ringing.

Mode LED

This LED provides audio status indication. It only functions when the Hook LED is lit.

Status	Description
OFF	Digital Key Telephone is in use.
SOLID	IX-CTC/H Handset/Cradle or Headset connected to HEADSET jack is in use.
SLOW FLASH	Microphone connected to PC Sound Card is in use. (0.8 sec. On / 0.2 sec. Off)
FAST FLASH	Modem is in use. (0.1 sec. On / 0.1 sec. Off)

Switch 1-8 (Not Used)

Switches 1-8 must remain in the OFF position (factory setting).

PC Interface

There are three possible interfaces between PC and IX-COMLINK:

- The PC serial interface.
- The audio interface.
- The modem interface.

PC Serial Interface. This is the primary connection between the IX-COMLINK and your computer. The PC serial interface is used to send control data between the PC and the IX-COMLINK.

Audio Interface. If a sound card is connected to the IX-COMLINK LINE IN jack, a device driver is required to control audio through the sound card. This device driver is supplied by the sound card and/or computer telephony application manufacturer. The computer telephony application software must also support this capability. These drivers are not included with the IX-COMLINK Installation Disk.

Modem Interface. A device driver is required to control the PC modem. Iwatsu recommends using Unimodem (/V) if the application uses TAPI for controlling the modem. Also for controlling the modem, the application must use a driver which supports the modem. Unimodem (/V) is included with Windows® 95 or available from Microsoft Corporation.

IX-DMS Data Module (Discontinued)

The IX-DMS data module is a stand-alone unit that interfaces RS232C compatible data terminal equipment to the ADIX. It is connected to an IX-8PSUB port using #22 AWG two-pair twisted wire.

IX-DMS Model: **Communication Commands:**

104650 Order No.:

> On-Line key, 10 configuration Simplified

switches, rotary switch, LED

indicators

Terminal Interface:

RS232C serial port interface

Options: None

Features:

Data Speed: 300, 600, 1200, 1400, 2400, 4800,

9600, 19.2k

NCU Mode: AA Type

Hayes AT, CCITT, V.25 bis, Iwatsu

On-Board Functions

SW1-see table below SW2-see table below

INIT - Used to initialize the IX-DMS

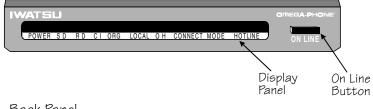
Related Hardware:

1 IX-8PSUB port, pooled modem

Size: 8.3"H x 10.0"W x 1.5"D

Weight: 3.0 lbs.

Front Panel





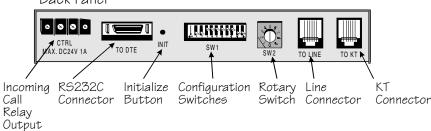


FIGURE 4.8-15 IX-DMS DATA MODULE

Data Module LED Indications The table below lists the function of each LED on the IX-DMS front panel.

LED Label	Indication
Power	Power is being supplied to the IX-DMS
SD	Send Data – flashes when the IX-DMS is sending data
RD	Receive Data – flashes when the IX-DMS is transmitting
	data to the terminal
CI	Call Indication – Flashes when there is an incoming call (the
	flashing is synchronized with the ringing signal)
ORG	Originate – Lights when the IX-DMS originates a call during
	communication
LOCAL	Lights when the IX-DMS is enabled to receive commands
OH	Off Hook – Lights when the data module is off hook
CONNECT	Lights when the IX-DMS is in the on-line state and may
	communicate with another party
MODE	OFF – Direct Link Mode
	FLASHING – Buffered Link Mode
	STEADY ON – Error-Free Link Mode
HOTLINE	Lights when dialing using the ON LINE button.

SW1 Switch Settings Switch SW1 is a 10-position switch that is used to configure the IX-DMS. The table below lists the function of each SW1 switch position.

Positions	Positions 1-5 and 8-10		
Position	Description	ON	OFF
1	Send/Receive Signal Data Length	8-bit	7-bit
2	Parity ON/OFF	Parity ON	Parity OFF
3	Type of Parity	Odd	Even
4	Stop Bit Length	2-bit	1-bit
5	Not Used		Set to OFF
8	Modem Compatibility	CCITT	Bell
9	CA Signal Request to Send	Forced ON	DTR Line Signal
10	Incoming Call	Ringing Enabled	Ringing Disabled

Positions 6 & 7		
Communication	Position 6	Position 7
Commands		
AT Commands	OFF	OFF
V.25 bis Commands	OFF	ON
Iwatsu Simplified Commands	ON	ON

SW2 Rotary Switch Settings Rotary switch SW2 is used to set the data speed between the IX-DMS and the terminal. The table below lists the function of each SW2 position.

Position	Data Speed (bps)
0	300
1	600
2	1200
3	2400
4	4800

Position	Data Speed (bps)
5	9600
6	19.2 K
7	_
8	_
9	_

Initializing the IX-DMS Data Module When the IX-DMS is first installed, or when an SW1 switch position is changed, the IX-DMS must be initialized using the INIT button.

To initialize the IX-DMS:

- 1. Make sure the IX-DMS is connected properly to an IX-8PSUB port and powered up.
- 2. Unplug the line connected to the TO LINE connector.
- 3. Push the INIT button with a pin. At the same time connect the data module to the line by inserting the modular plug in the TO LINE connector
- 4. Continue to hold the INIT button until the LOCAL LED on the front panel of the IX-DMS lights.

Chapter 8 Station Equipment

RS232C Connector Pin Assignments

Pin No.	Name (EIA)	Function	Direction
1	AA	Protective Ground ⁴	
2	BA	Send Data	To IX-DMS
3	BB	Receive Data	From IX-DMS
4	CA	Request to Send 1	To IX-DMS
5	СВ	Clear to Send ²	From IX-DMS
6	CC	Data Set Ready ²	From IX-DMS
7	AB	Signal Ground 4	
8	CF	Carrier Detect ²	From IX-DMS
12	SCF	Secondary Carrier Detect ⁴	From IX-DMS
20	CD	Data Terminal Ready 3	To IX-DMS
22	CE	Ring Indication	To IX-DMS
23	CH	Data Signal Rate Selector 4	To IX-DMS

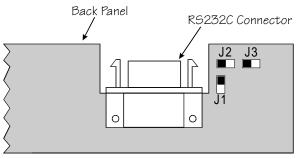
Notes:

- 1 The terminal status can be set to "forced ON" by setting SW1, position 9 to ON. If the terminal does not have the ability to send a CA signal, SW1, position 9 should be set to ON.
- 2 Signals to the terminal can be set to "forced ON", by commands.
- 3 Signals from the terminal can be set to "forced ON", by commands.
- 4 AA and AB can be connected by moving the short-plug on (J3) inside the data module. (Refer to Data Speed assignment for details).

Data Speed Assignment The data module can be set to output the HS (High Speed) signal to the SCF (J1) or CH (J2) terminals, using the short plugs inside the data module. When data transmission speed is 2400 bps or higher (V.22 bis standard), or 1200 bps or higher (Bell 212A standard), the HS signal will be ON. The table below lists the factory settings of the short plugs. Figure 4.8-12 shows the location of the short plugs.

J1	No HS output to SCF
J2	No HS output to CH
J3	AA and AB are isolated

FIGURE 4.8-16 IX-DMS SHORT PLUG LOCATION



Single-Line Telephones

Industry standard single-line telephones (either 500 or 2500 type) can be connected as on-premise or as off-premise extensions. Single line connection varies depending on the type of SLT, the location and the usage. The loop resistance of SLTs connected to the ADIX is 600 ohms. #24 AWG one-pair twisted wire is required.



FIGURE 4.8-17 SINGLE-LINE TELEPHONE

Single-Line Telephone Requirements		
Model:		
	500 Type, (DP)	
Hardware:	IX-8SUBS-2, IX-RNGU/IX-RNGU-M	
Model:	2500 Type, (DTMF)	
Hardware:	IX-8SUBS-2, IX-RNGU/IX-RNGUM,	
	(IX-4RCVS for IX-8SUBS,-1)	
Model:	500 Type, off premises (DP)	
Hardware:	IX-4SÚBL, IX-RNGU/IX-RNGU-M	
	IX-DCDCA or	
	IX-DCDCB/IX-DCDCM	
Model:	500 Type w/ message lamp, (DP)	
Hardware:	IX-8SÚBM-1, IX-RNĞU/IX-RNĞÚ-M	
	IX-DCDCA or external power	
	source	
Model:	2500 Type w/ message lamp, (DTMF)	
Hardware:	IX-8SUBM-1, IX-RNGU/IX-RNGUM,	
114141141141	IX-DCDCA or external power source	
	(IX-4RCVS for IX-8SUBS,-1)	
Model:	2500 Type, off premises (DTMF)	
Hardware:	IX-4SUBL, IX-4RCVS, IX-RNGU/	
naruware:		
	IX-RNGU-M,	
	IX-DCDCA or	
	IX-DCDCB/IX-DCDCM	

Chapter 8 Station Equipment

Optional Station Equipment

The following components may be added to the ADIX station terminals.

IX-SNHD Noise Cancelling Handset

The IX-SNHD station noise canceling handset provides comfortable conversation in noisy areas for the ADIX telephones.

Model: IX-SNHD Order No.: 105410

IX-SHHD Station Amplified Handset

The IX-SHHD station amplified handset provides acoustic receiving voice amplification for the hearing impaired.

Model: IX-SHHD Order No.: 105420

IX-SSHD Standard Handset

The IX-SHHD is the factory equipped handset of all Iwatsu telephones. It can be used with a hearing aid device that uses a magnetic pick-up coil.

Model: IX-SSHD Order No.: 106581

IX-SSPU Station Speakerphone Unit

The IX-SSPU station speakerphone unit is an add-on to the ADIX digital multiline telephones. This unit must be installed to used the hands-free conversation feature on outside line calls to the ADIX telephones. This unit cannot be added to the IX-VT Versa-Phone.

Model: IX-SSPU Order No.: 105110

IX-LRSP Station Loud-Ringer / External Speakerphone Adapter

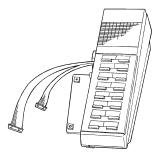
The IX-LRSP allows the connection of an ADIX digital telephone to a station loud-ringer or external speakerphone adapter. This unit cannot be connected to a Versa-Phone.

Model: IX-LRSP Order No.: 105120

IX-AUTD Autodial Unit

The IX-AUTD station autodial unit is an add-on to the ADIX digital multiline telephones This unit adds 16 keys that can be programmed for speed dial or DSS usage.

Model: IX-AUTD Order No.: 105010



Chapter 8 Station Equipment

IX-BPAD Busy Bypass Unit

The IX-BPAD station busy bypass/autodial unit is an add-on to the ADIX digital multiline telephones. With this unit, a station can use the busy bypass calling feature. The 16 additional keys can be programmed for speed dial or DSS usage. This unit requires one IX-8PSUB port.

Model: IX-BPAD 0rder No.: 105020



FIGURE 4.8-19 IX-BPAD BUSY BYPASS/AUTODIALER UNIT

IX-PHSAD Station Headset Adapter

The IX-PHSAD station headset adapter/autodial unit is an add-on to the ADIX digital multiline telephones It adds a headset adapter and 16 keys that can be programmed for speed dial or DSS usage.

Model: IX-PHSAD 0rder No.: 105030

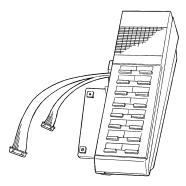


FIGURE 4.8-20 IX-PHSAD STATION HEADSET ADAPTER/AUTODIALER UNIT

IX-STPD Station Pedestal

The IX-STPD station pedestal/wall mount is used to wall mount or increase the angle of an ADIX digital multiline telephone.

Model: IX-STPD 0rder No.: 105210

IX-VTPD Station Pedestal

The IX-VTPD station pedestal/wall mount is used to wall mount or increase the angle of an IX-VT Versa-Phone.

Model: IX-VTPD Order No.: 105220

IX-ADPD Station Pedestal

The IX-ADPD autodial pedestal/wall mount is used to wall mount or increase the angle of an IX-AUTD autodial unit.

Model: IX-ADPD Order No.: 105230

IX-SREP Station Loop Extender

The IX-SREP star repeater is used to extend the loop limit (distance) from the KSU to an ADIX digital telephone, DSS unit, attendant console, or digital doorphone. One star repeater extends the loop limit to 1,500 feet. The second star repeater extends the loop limit by an additional 6,500 feet to a maximum distance of 8,000 feet from KSU to station. An IX-SRWPS is required for local power.

Model: IX-SREP
Order No.: 101560

On-Board Functions

SW1-Operation Mode

SW2-Without Local Power

(IX-SRPWS)

SW3-With Local Power

(IX-SRPWS)

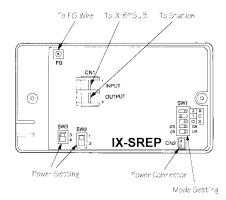


FIGURE 4.8-18 IX-SREP STAR REPEATER

IX-SRPWS Power Supply

The IX-SRPWS star repeater power supply is used to provide local power for loop limit expansion using one or two IX-SREPs.

Model: IX-SRPWS Order No.: 100470

Miscellaneous Station Equipment

Part No.	Description
107110	IX-KT Strapping Jack
107340	ADIX 16 ft. Handset cord
107350	ADIX KT Handset Clip
107410	ADIX KT Handset Hanger Assembly

Miscellaneous Equipment and Parts

Miscellaneous Parts

Part No.	Description
107420	ADIX KSU Wiring Band (100/PKG)
107430	ADIX KSU Wiring Stopper On Cover
107440	ADIX KSU Wiring Holder On Top
107450	IX-FG Connecting Bar
107460	IX-ATT Handset Base
107470	CP-128 TR Hanger Base (GR)
006412	SSBB Battery Cable
107480	IX-CM DC-DC Cable
107490	IX-RNGU Cable (RNGU-M. Board)
107500	IX-RNGU CABLE (PWS-M. Board)
107510	IX-MBIF Cable
107520	IX-200CM PWS Cable
107530	IX-5/10CM PWS Cable
107540	IX-E/10CM PWS Cable
107550	IX-CM Power Failure Cable
107560	IX-DM PC Connecting Cable
107570	IX-DM PC Connecting Cable (9PIN)
106590	HP-20 250V Fuse (5/PKG)
106591	HP-32 250V Fuse (5/PKG)
107100	Accessory Package for IX-CM



Section 5 **Installation Guide**

nstallation Tips

This section describes the installation process for the ADIX, ADIX APS and ADIX-S/M systems. When installing a system, it is very important that you first familiarize yourself with the individual components of the ADIX series in detail. **Section 4 – Component Description** contains a detailed description of each system component.

Safety Warning

Keep in mind the following precautions during the installation of the ADIX, ADIX APS and ADIX-S/M systems to ensure personal and public safety:

- Do not install telephone wiring during a lightning storm.
- Do not install telephone jacks in or near water unless the jack is specifically designed for such locations.
- Do not touch telephone wires or terminals that are not insulated unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Anti-Static Procedures

Make sure to follow proper anti-static procedures whenever handling ADIX circuit cards. Anti-static mats and anti-static wrist straps are recommended when handling electronic components. The metal clip connected to the wrist strap should be attached to an external earth ground, such as a grounding screw on the front of the ADIX cabinet or grounding panels located between cabinets on the frame of the IX-CM cabinet.

ROM Chip Extraction And Replacement

- Follow the instructions listed below to successfully replace a ROM chip:
- 1. Using the ADIX PC Programmer, download the ADIX system database for backup.
- 2. Make sure that a NiCad battery is attached to the circuit card, then power down the ADIX system.
- 3. Disconnect any connectors from the circuit card.
- 4. Remove the circuit card from its slot. Place the card on an anti-static mat.

Note: See Anti-Static Procedures in this chapter for more information.

5. Carefully remove any daughter boards connected to the circuit card that cover the connector for the ROM chip, and place on an anti-static surface.

- 6. Carefully remove ROM chip with a ROM extracting tool.
- 7. Install the ROM chip by following the instructions below:
 - Place the circuit card on a firm, level anti-static surface. (An anti-static mat is recommended).
 - Examine the pins on the ROM chip to make sure they are straight, i.e., at a 90 degree angle to the chip. Straighten pins that are bowed out by placing the length-wise edge of the ROM chip on an anti-static mat, slowly rocking the chip toward the tips of the pins.
 - Locate the keying notch on the width of the ROM chip. (See Figure 5.1-1 below).

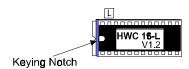


FIGURE 5.1-1 HIGHWAY ROM CHIP, SHOWING KEYING NOTCH

- Locate the socket for the ROM chip on the circuit card. A white rectangle with a Keying Notch is silk-screened around the socket.
- Locate the Keying Notch on the width of the white rectangle around the ROM chip socket on the circuit card.
- Hold the ROM chip, pins down, with the Keying Notch on the ROM chip matching the Keying Notch printed on the circuit card.
- Align the pins of one side of the ROM chip with the holes in the socket mounted on the card. Gently push in the one side of the aligned ROM chip pins while supporting the sides of the pins with a sturdy straight edge, such as a credit card.
- With one side of the ROM chip partly inserted in the socket from the previous step, gently push the other side of the ROM chip into the socket.
- Place both thumbs on each end of the ROM chip, and simultaneously apply even downward pressure to both ends until firmly seated or the ROM chip clicks into place.
- 8. Reconnect daughter boards removed in step 5 to the circuit card.
- 9. Return the circuit card to its proper slot and reconnect any connectors removed in step 3.
- 10. Power up the ADIX system.
- 11. Thoroughly test the system.



The Iwatsu ADIX, ADIX-S/M, and ADIX APS systems are fully digital voice and data communication systems designed to provide a multitude of voice and data communication features with the reliability that Iwatsu products are famous for. The ADIX, ADIX-S/M, and ADIX APS common modules, expansion modules, and power supplies are UL and CSA listed, fulfilling the safety requirements mandated by the United States and Canadian governments. Environmental and structural considerations, AC power and grounding requirements, and CO line characteristics must be met, however, to ensure proper system operation. As with all processor controlled voice and data equipment, the proper operating environment is necessary for reliable operation and long-term system performance. These conditions are explained below.

Environmental and Structural Conditions

It is important to satisfy – with careful consideration – the environmental conditions specified for system installation. The environment in which the ADIX, ADIX-S/M, and ADIX APS cabinets and key telephones are located must be free of moisture, fumes, dust, and vibrations. Any deviation from the recommended environment may affect the proper operation of the system. If you expect to operate the system in an extreme environment, you should be aware of these limits:

Operating Temperature 0 to 40 degrees Centigrade (32 to 104 degrees Fahrenheit)
Storage Temperature -10 to 50 degrees Centigrade (14 to 122 degrees Fahrenheit)
Relative Humidity (non condensing) 10 to 90% at 24 degrees Centigrade (75 degrees Fahrenheit)

Static Discharge 10 KV or less Electromagnetic Interference 0.3 V/ft. or less

Ventilation At least one inch above and to the sides of the IX-CMM/IX-EXPMM and power supply;

On the ADIX APS, at least three inches above and to the sides of the IX-CML/IX-EXPML and

power supply

Floor Strength 200 lbs. per sq. ft.

Common Module / Expansion Module Location

The ADIX, ADIX-S/M, and ADIX APS common module and expansion module units are designed to be either mounted on a wall or free standing. When selecting the location for the units, be sure that all conditions for AC power and grounding are satisfied. These requirements are specified on pages 5-9 and 5-16. It is recommended that you:

- Mount the common module and expansion module units within five feet of a dedicated three-wire grounded AC outlet.
- Install the common module and expansion module units within 25 feet of the network interface provided by the local telephone company or the cross connect serving the area of the building where the common module and expansion module units are installed.
- Allow enough space for air circulation and the installation of additional equipment (e.g., MDF blocks, PFXU, SMDR).

Note: A double-tower ADIX cannot be wall mounted.

■ For floor mounting, allow enough space from the floor to prevent flood damage to the ADIX, ADIX-S/M, and ADIX APS System.

Note: Use of the IX-CMMBU Base Unit is strongly recommended for floor mounted ADIX APS applications.

Chapter 2 Preparing a Location

Do not place common module and expansion module units in the following areas:

- Near a sprinkler system, sweating pipes, steam pipes, or steam vents.
- In an extremely hot or cold area. Do not install the unit in an environment that does not meet the requirements specified on page 5-5.
- In direct sunlight.
- In a passage used for moving equipment.
- In areas where airborne contaminants, corrosive fumes, or exhaust from machinery is present.
- In areas where high power radio frequency transmitters or transmission cables are installed.

Figure 5.2-1 illustrates a typical installation layout for an ADIX system.

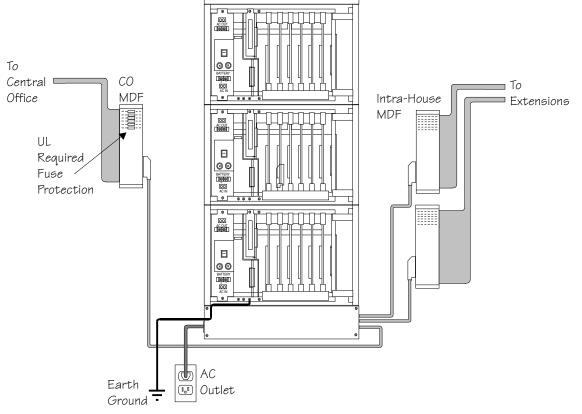
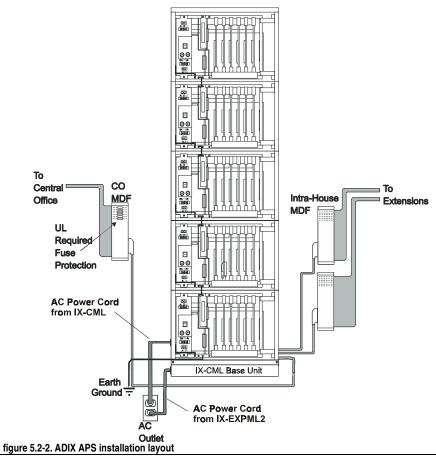


FIGURE 5.2-1 INSTALLATION LAYOUT

Note: Effective 1993, it is a UL requirement to install protective fusing on all analog CO trunk circuits. Fusing is to be installed by the distributor at the time of system installation. UL approved fuse protectors are available through local vendors. Fusing is to be installed in a series connection with tip and ring on each trunk circuit.

Figure 5.2-2 illustrates a typical installation layout for a typical ADIX APS system.

Note: Always connect both cables from the ADIX APS system into the same circuit.



Note: It is a UL requirement to install protective fusing on all analog CO trunk circuits. Fusing is to be installed by the distributor at the time of system installation. UL listed fuse protectors ITW LINX Model SCP-9 are available through local vendors. Fusing is to be installed in a series connection with tip and ring on each trunk circuit at the CO MDF.

Chapter 2 Preparing a Location

AC Power Requirements

Clean power and proper grounding for common module and expansion module units are required to maintain problem free operation. A dedicated single-phase 120 VAC, 60Hz grounded outlet is required for the ADIX, ADIX-S/M and ADIX APS systems. Depending on the type of power supply being used either a conventional NEMA 5-15 electrical outlet or a NEMA 5-20R electrical outlet is required. Power supply specifications are listed on page 5-9. Refer to **Section 4 – Component Description** for a detailed description of each power supply.

The AC circuit must conform to National Electrical Code (NEC) standards and be capable of providing noise free power to the power supply unit. Line noise such as electromagnetic interference (EMI) may cause erratic system operation.

To protect the ADIX, ADIX-S/M and ADIX APS systems:

- Install a noise filter on the AC power input line to prevent noise interference through the AC line as illustrated in figure 5.2-2, example 1.
- If AC voltage fluctuation is greater than the allowable range defined on page 5-9 install a computer-grade AC line voltage regulator as illustrated in figure 5.2-2, example 1.
- Install battery backup to maintain system power in the event of a power outage or brownout. (Battery backup cannot be connected to the IX-PWSS.)
- Use a dedicated AC circuit with an isolated ground as illustrated in figure 5.2-2, example 2. Do not use AC outlets which are shared with air conditioners or equipment such as a copy machine.
- Do not place radio frequency, electromagnetic, or inductive devices near the ADIX, ADIX-M or ADIX APS..

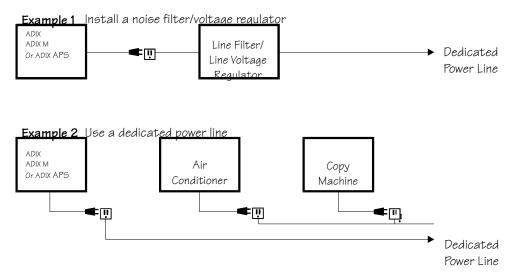


FIGURE 5.2-2 RECOMMENDED AC POWER CONNECTION

Grounding Requirements

The ADIX is a sound and reliable communications system that is not inherently subject to ground related problems. The ADIX is, however, a sophisticated electronic CPU-controlled product that is susceptible to environmental factors that will and can affect system performance and component integrity.

The ADIX system must be connected to an effective earth ground potential for proper system operation. The system must be properly grounded to dissipate external environmental and electrical interference such as static discharge, radio frequency interference, electromagnetic interference, electrical surges, lightning surges, and transient high voltage.

This is particularly important in any installation that has off premise cabling, networked systems, station repeaters, feeder cables, underground cables and multi-vendor, multi-product installations. All products and equipment connected or integrated to the ADIX system must be grounded to the same ground potential.

Items to consider when grounding the system:

- Request isolated ground receptacles for all telephone equipment in new construction.
- Any rise in ground potential, or power induction of electrical current induced in twisted pair telephone cable when using feeder cables will not be properly drained if the system is not grounded.
- Any transient rise in ground and voltage potential due to lightning or commercial electrical surge will not be properly drained if the system is not grounded.
- The shortest and most direct path to ground provides a lower impedance connection (resistive and inductive) to earth.
- Ground all equipment that is connected to the ADIX system. This will provide improved ground equalization between products in a multi-product installation.
- Equipment will be damaged to some degree if the system is subject to adverse electrical surges or spikes if the equipment is not grounded.
- Effective earth potential is required to operate analog, DID, Ground Start, E&M and SLT OPX circuits as earth potential is used as the basic means of signaling.
- Effective ground reference is important in multi-product installations to prevent ground loops from occurring.

Note: An optional lightning arrester unit (Iwatsu ARST-S) installed on CO lines is recommended in areas where lightning is common. This will protect trunk interface cards.

Earth Ground

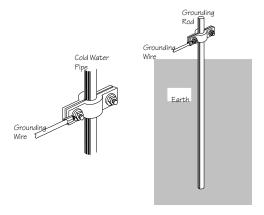


FIGURE 5.2-3 SYSTEM GROUND

Chapter 2 Preparing a Location

Common Module Using the AC Power Cord Ground Conductor

Once it has been determined and verified that the electrical outlet that the system is connected to is a <u>dedicated and isolated telecommunications earth ground</u> as defined by the National Electrical Code and the TIA / EIA as stated above, the electrical power cord ground conductor can be used as the system's reference to earth ground potential.

This means that the ground receptacle of the outlet is connected directly to a dedicated ground conductor that is secured to an effective earth ground of known potential. This is defined in detail the Articles above.

If the origin or quality of the electrical outlet ground is suspect, or is known not to have been wired in accordance with the National Electrical Code and the TIA / EIA as stated above, the AC Power Cord Ground is to be considered a poor ground. In that case, an external ground conductor must be used as the effective ground reference as defined below.

Use of an External Ground Conductor

An external ground conductor must be used as the system's reference to an effective earth ground if it has been determined that the AC Power Outlet Ground is ineffective or is not a dedicated telecommunications quality ground as defined by National Electrical Code and the TIA / EIA.

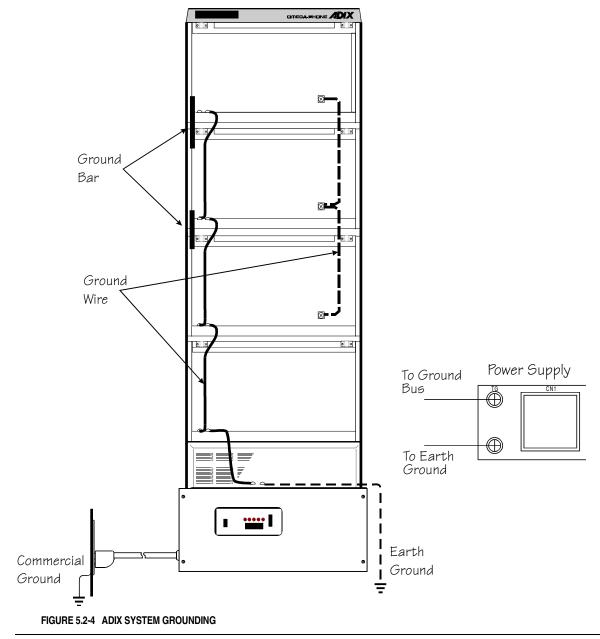
The use of cold water pipes that have historically been used for ground reference should be avoided. The prevalent use of PVC pipe in most construction today renders this ground source unreliable. It should also be noted that the use of a copper water pipe is prohibited by many building codes.

The grounding conductors must be a minimum of 12 AWG. Use wire that is either green or green and yellow striped. Use crimp terminals for all stranded wire.

Important: All grounding used in the ADIX System installation shall comply with the standards defined in National Electrical Code, NFPA 70, Article 250, and the Telecommunication Industry Association / Electrical Industry Association (TIA/ EIA) Telecommunications Ground Procedures, Article 607, including cabinets, feeder cables, network connections, and off-premise stations. Copies of the TIA / EIA, Article 607 may be purchased by contacting the EIA Standards Sales Office, at 202-457-4966.

Grounding the ADIX

Figure 5.2-4 illustrates the proper ground termination points for the ground straps between the IX-CM and IX-EXPM units and the earth ground conductor attached to the power supply.



Note: A separate grounding conductor must be run if the AC outlet ground is not effective.

Chapter 2 Preparing a Location

Grounding the ADIX-S and ADIX-M

Figure 5.2-5 illustrates the proper ground termination points for ground straps between the IX-CMM and IX-EXPMM units and the earth ground conductor attached to each power supply. Grounding must comply with the general rules for grounding contained in Article 250 of the National Electrical Code, NFPA 70, and Article 607 of the TIA/ EIA Standard.

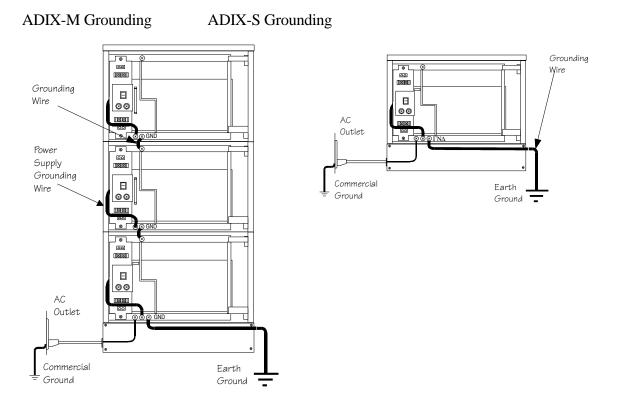


FIGURE 5.2-5 ADIX-S/M SYSTEM GROUNDING

Note: A separate grounding conductor must be run if the AC outlet ground is not effective. If it is determined that a separate grounding conductor is required, precautions must be taken through voltage and current measurements that a ground loop condition does not exist between the electrical ground and the earth ground conductor. Also consider the following:

- 1. An external ground conductor should always be considered when using ground start trunks.
- 2. An external ground conductor should always be considered when the system is installed in an environment that is likely to have high RF or EMI density. For example, near a radio stations with a local transmitter.
- 3. The use of a cold water pipe as a ground is not permitted by some utilities and facilities. Check with your local utility or building manager before using a cold water pipe as a ground.

Grounding the ADIX APS

The ground conductor of the AC Power Cord is to be secured on the bottom of the Common Module frame as illustrated in Figure 5.2-6. Grounding must comply with the general rules for grounding contained in Article 250 of the National Electrical Code, NFPA 70, and Article 607 of the TIA/EIA Standard.

The ground conductor is to be secured on the bottom of the IX-CML Common Module frame as illustrated in Figure 5.2-6. The opposite end of the ground conductor must be bonded to an effective earth ground potential as illustrated in Figure 5.2-6. The conductor must be bonded to an earth ground rod of a known potential.

When one or more IX-EXPMLn units are added to the IX-CML, the ground connecting jumper wire that is provided with the IX-EXPMLn must be used. The ground connecting jumper wire provides continuity from the frame of the IX-CML to the frame of each IX-EXPMLn. Ground wires must be connected individually to the ground screws on each IX-CML common module, IX-EXPML1 and IX-EXPML2 expansion module.

If the ground wires are joined at any point, instead of being secured separately, their common impedance will render the grounding less effective against interference.

Figure 1 illustrates the proper ground termination points for ground straps between the IX-CML common module, IX-EXPML1 and IX-EXPML2 expansion modules and the earth ground conductor attached to each power supply.

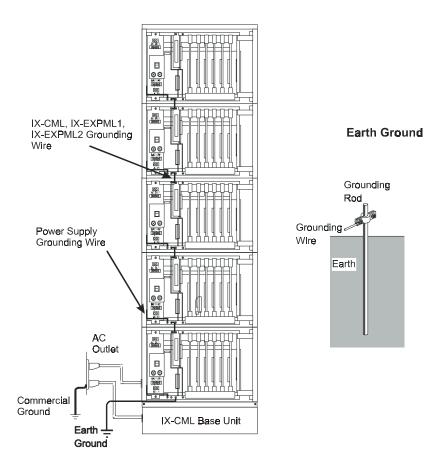


FIGURE 5.2-6. ADIX APS Grounding

Power Supply Specifications

The main power supply generates the necessary DC voltages required for system operation. Each ADIX, ADIX-S/M, or ADIX APS system configuration requires a unique power supply unit. An ADIX system with up to 96 ports requires an IX-100PWS. An ADIX system with more than 96 ports requires the IX-200PWS. Each shelf of the ADIX-M requires an IX-PWSM power supply. Power supply specifications are listed below.

IX-PWSM

AC Input:

Voltage: 120 VAC +10%, 50-60 Hz Input Current: 3A for each shelf

DC Charger Output Voltage: 27.3 VDC Current: 0.5A

IX-200PWS

AC Input:

Voltage: 120 VAC +10%, 50-60 Hz Input Current: 16A

DC Charger Output Voltage: 27.3 VDC Current: 2.0A

IX-PWSM

AC Input:

Voltage: 120 VAC +10%, 50-60 Hz

Input Current: 2A for each shelf

DC Charger Output Voltage: 27.3 VDC Current: 0.5A

IX-100PWS

AC Input:

Voltage: 120 VAC +10%, 50-60 Hz Input Current: 12A

120 VAC +10%, 50-60 Hz

DC Charger Output Voltage: 27.3 VDC Current: 1.0A

IX-PWSS

AC Input:

Voltage: 120 Vac + 10%, 50-60 Hz

Input Current: 2A

DC Charger Output Voltage: 27.3 VDC Current: 0.5A

IX-50PWS

AC Input:

Voltage:

Input Current: 6A

DC Charger Output Voltage: 27.3 VDC

Current: 0.5A

Note: The IX-PWSS power supply does not support battery backup. If battery backup is required, the IX-PWSM or IX-PWSL power supply must be used.

AC Power Testing

Before installing the ADIX, ADIX-S/M or ADIX APS systems, obtain the following information from the customer:

1. During working hours:

- Frequency of blackouts.
- Frequency of brownouts.

2. If any other computerized equipment or heavy duty machines are used:

- Existence of any operating problems.
- Power line routing.

3. With a multimeter on the AC voltage setting, check:

- Lowest line voltage.
- Highest line voltage.
- Fluctuation of line voltage when heavy duty machines are turned on/off.

4. When a line monitor is available:

■ Record the line condition of the outlet where the ADIX, ADIX-M or ADIX APS systems will be connected for a minimum of one week.

As a result of your testing you may need to install the following line protection devices to prevent the ADIX and ADIX-S/M systems from malfunctioning:

- Line Surge Protector.
- Line Voltage Stabilizer.
- Uninterrupted Power Supply.

Always select a device that will deliver enough power output capacity to meet the specifications listed on page 5-15.

Cabling

General cabling requirements for the ADIX, ADIX-S/M or ADIX APS systems are described in this section. Use the information provided as a reference when terminating CO lines, extensions, and optional equipment. Cabling information is also provided in Chapters 8 and 9.

General Requirements Before running in-house cable, verify that:

- The system building plan, indicating station locations, extension numbers, and device types, is accurate.
- Home run station cable.
- ZT-D station cable must be home run using two-pair twisted cables. Running ZT-D stations through feeder cables will cause erratic station operation, cross talk, and data noise on the audio path. Three-pair wiring is required for ZT-D stations equipped for off-hook voice announce and hands-free answerback.

Chapter 2 Preparing a Location

■ A suitable location has been selected for the common module and expansion module units and MDF

■ Loop limits and wire sizes for KTs, SLTs, and other optional equipment do not exceed the limits listed in the tables below:

Station Wire Size			
Equipment	Ca	Cable	
ADIX Digital Key Telephones	1-pair (twisted)	#22/24 AWG	
ADIX Digital KTs used with IX-BPAD or ADIX Data Modules	2-pair (twisted)	#22/24 AWG	
ADIX Direct Station Selection Units	1-pair (twisted)	#22/24 AWG	
ZT-D Key Telephones	2-pair (twisted)	#22/24 AWG	
ZT-D KTs equipped for off-hook voice announce and hands-	3-pair (twisted)	#22/24 AWG	
free answerback			
Single-Line Telephones (500/2500 type)	1-pair (twisted	#24 AWG	
	or quad)		
Doorphones	1-pair (twisted)	#24 AWG	

Station Loop Limits			
Station	Loop Limit	Loop Resistance	
ADIX Digital Stations	1000 feet	40 ohms or less	
ADIX Attendant Consoles	1000 feet	40 ohms or less	
ADIX DSS Units	1000 feet	40 ohms or less	
ZT-D KT Stations	1000 feet	60 ohms or less	
On-Premise SLTs	N/A	600 ohms	
Doorphones	1000 feet	1200 ohms	

Note: Distances indicated must be maintained regardless of the wire gauge. Total end-to-end distance can be increased to 1500 feet using one star repeater and 8,000 feet using two star repeaters. Resistance indicated includes internal resistance of the single-line telephone.

Digital Trunk Line Characteristics

The ADIX, ADIX-S/M or ADIX APS Systems supports the following digital line circuits:

- T1 if ADIX-S is equipped with IX-T1DTI
- ISDN Primary Rate Interface (PRI) if ADIX-S is equipped with IX-ICOTP
- ISDN Basic Rate Interface (BRI) if ADIX-S is equipped with IX-2ICOTB

For more information on T1 and ISDN lines see **Section 3 - Features and Operations**. For more information on Digital Trunk Cards see **Section 4 - Component Description**.

Chapter 2 Preparing a Location

Analog CO Line Characteristics

The ADIX and ADIX-M systems support the following types of analog CO Lines:

- Loop Start Trunks
- Ground Start Trunks
- Caller ID Trunks
- DID Trunks
- E&M Tie Lines

Loop Start Trunks (IX-8LGTK)

- Minimum ring detection is 60 Vrms.
- Recommended T/R current of 25 to 60 mA.

Ground Start Trunks (IX-8LGTK)

- Ring detection by ground signal applied to the tip side of the IX-8LGTK.
- Recommended T/R current of 25 to 60 mA.

Caller ID Trunks (IX-8CITK)

- Minimum ring detection is 60 Vrms.
- Recommended T/R current of 25 to 60 mA.

DID Trunks (IX-4DITK)

- DTMF input sensitivity is 40 dB.
- A maximum of six input digits are permitted.
- Recommended T/R current of 25 to 60 mA.
- Wink or immediate mode.

E & M Trunks (IX-4EMTK)

- Selection between Type I and Type II signaling.
- Four-wire voice circuit.
- System provides negative battery on the M lead to originate (TL31M or TL32M).
- Recommended loop current is 16.2 to 36 mA.
- Wink, delay wink, immediate, or attendant mode

nstalling a Single-Tower ADIX

This chapter describes the installation process for a single-tower ADIX system. Inspect all system components before beginning the installation process.

Note: Before installing this system, follow the grounding requirements and procedures on page 5-6 and 5-7 in Section 5.

Configuration

The single tower ADIX can be one of three different configurations:

- One IX-CM common module (96 ports / 2 shelves)
- One IX-CM common module plus one IX-EXPM expansion module (160 ports / 3 shelves)
- One IX-CM common module plus two IX-EXPM expansion modules (224 ports / 4 shelves)

Each shelf contains a motherboard that has connectors for circuit cards, power cables, and optional equipment. A main power supply must be installed to provide the basic system power. A 96-port system requires an IX-100PWS power supply. Systems larger than 96 ports require an IX-200PWS power supply. The single-tower ADIX can be either wall mounted or floor mounted. For more information on ADIX components see **Section 4 – Component Description**.

Installing the IX-CM Common Module

The following parts are needed to assemble the IX-CM common module:

- One Main Power Supply. Use the IX-100PWS if the system consists of an IX-CM (96 ports) only. If you plan to add one or more IX-EXPM expansion modules the IX-200PWS is required.
- One IX-CM Common Module. The IX-CM is shipped with the following components:

Component	Quantity
IX-CM Common Module	1
IX-CNTM Connect Module	1
IX-MBIF Card	1
IX-TERM Card	2
Amphenol Connector Clamp	2
Card Stopper	2
Ground Wires	2
Alarm Panel Cable	1
12-Pin DC Power Cable	2
4-Pin Power Cable	1
Wiring Bands	8
KT Programming Overlay	1
Mounting Screws	16
Toothed Washers	8
Tapping Screws	6

IX-CM Installation Procedure

The installation procedure consists of four interrelated parts. Please read through the entire procedure before attempting to install the system.

Part 1 — Connecting the Power Supply, Connect Module, and Common Module

- 1. Remove the power supply from the box and place it in the area you wish to install the system. Make sure the spot you have selected meets the requirements listed on page 5-5.
- 2. Attach the floor mount brackets to the bottom of the power supply using the four screws and toothed washers provided.
- 3. Attach the green ground wire provided with the IX-CM to the ground screw marked TG on the power supply.
- 4. Remove the four large screws and washers located on the top of the power supply.
- 5. Place the IX-CNTM connect module on top of the power supply so the screw holes line up and the IX-CNTM is flush with the power supply.
- 6. Remove the front cover of the IX-CNTM by removing the two screws.
- 7. Attach the IX-CNTM to the power supply using the four screws and toothed washers removed from the power supply in step 4.
- 8. Remove the two front covers on the IX-CM by loosening the two captured screws located on the top corners of each cover.
- 9. Remove the four side covers on the IX-CM by loosening the four screws located on each cover.
- 10. Place the IX-CM on top of the IX-CNTM so that is sits inside the top lip of the IX-CNTM. Make sure the four screw holes line up.
- 11. Attach the IX-CM to the IX-CNTM using four of the screws and toothed washers provided.

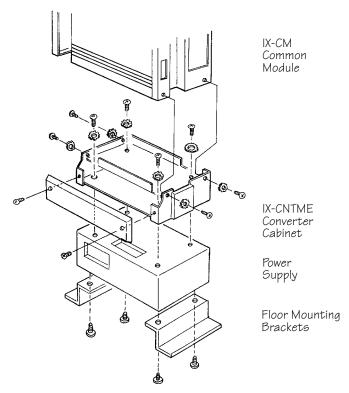


FIGURE 5.3-1 IX-CM COMMON MODULE INSTALLATION

Part 2 — Connecting the Power Cables and Grounding Wires

- 1. Remove the top cover of the IX-CM by removing the four screws.
- Attach one end of the red, blue, and gray alarm panel cable to the alarm panel. Run the cable through the space provided on the left side of the IX-CM so that the opposite end comes out above the CPU card slot.
- 3. Attach the opposite end of the ground wire from Part 1, Step 3 to the center ground screw on the ground bus located on the first shelf of the IX-CM. Run the wire through the space provided on the left side of the IX-CM.
- 4. Attach the second ground wire provided to the left ground screw of the ground bus located on the first shelf of the IX-CM. Attach the opposite end to the center ground screw on the ground bus located on the second shelf of the IX-CM. Run the wire through the space provided on the left side of the IX-CM.
- 5. Attach the 4-pin DC power monitor cable from CN3 on the power supply to PFCON on the IX-CM motherboard. Run the cable through the space provided on the left side of the IX-CM.
- 6. Attach the shorter of the 12-pin DC power cables provided from CN1 on the power supply to PCON1A on the first shelf motherboard of the IX-CM. Run the cable through the space provided on the left side of the IX-CM. **Note:** The longer 12-pin DC power cable is used with the IX-200PWS when an IX-EXPM expansion module is added.
- 7. (Optional) If an IX-RNGU is required for the IX-CM, attach the 6-pin power cable supplied with the IX-RNGU to motherboard connector PCON2A on the first shelf of the IX-CM. Attach a second 6-pin power cable from PCON2B on the first shelf of the IX-CM to PCON2A on the second shelf of the IX-CM. Run the cable through the space provided on the left side of the modules.

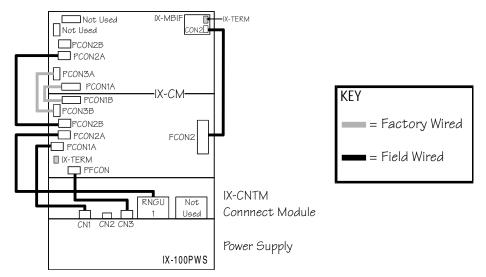


FIGURE 5.3-2 IX-CM COMMON MODULE CONNECTIONS

Part 3 — System Bus Connection

1. Remove the IX-MBIF from the box. Make sure that SW1 is set to 1. Attach the IX-MBIF card to connector MBIF on the upper right of the top shelf of the IX-CM by sliding it through the upper and lower guide rails from the side of the IX-CM.

- 2. Attach the IX-TERM card provided with the IX-CM to CON3 on the IX-MBIF. Install the IX-TERM from the front of the cabinet. **Note:** Skip this step if you are also installing one or two IX-EXPM expansion modules.
- 3. Attach the flat cable provided with the IX-CM from FCON2 on the right hand side of the lower shelf of the IX-CM to CON2 on the IX-MBIF. Run the cable through the space provided at the back right corner of the IX-CM.

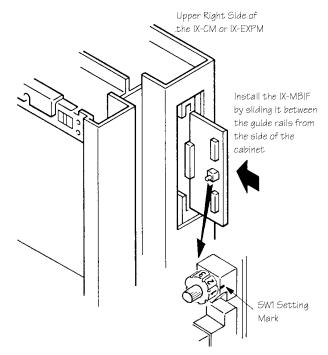


FIGURE 5.3-3 IX-MBIF INSTALLATION

Part 4 — Final Connections

- 1. Use the wiring bands to secure power cables to the ADIX modules.
- 2. Attach the desired circuit cards and amphenol connectors.
- 3. Once all the circuit cards are in place attach the two card stoppers provided to the bottom of each shelf and secure each using two of the screws and toothed washers provided.
- 4. Attach one of the amphenol connector clamps provided to the inside of each front cover using three of the tapping screws provided. Run the amphenol cables up through the top of the IX-CM to the cable raceway on the right side of the IX-CM.
- 5. Reattach the top cover, side covers, and IX-CNTM cover.

Installing an IX-EXPM Expansion Module

Each IX-EXPM expansion module adds 64 universal ports/8 card slots to the system. A maximum of two modules can be added to a single-tower ADIX. The IX-200PWS power supply is required when expanding the system beyond 96 ports. The following parts are needed to assemble the IX-CM common module:

- One IX-200PWS Power Supply
- One IX-CM Common Module
- One IX-EXPM. The IX-EXPM is shipped with the following components:

Component	Quantity
IX-EXPM Expansion Module	1
IX-MBIF Card	1
Amphenol Connector Clamp	1
Card Stopper	1
Cable Cover	1
Grounding Bar	1
Grounding Wire	2
12- Pin DC Power Cable	1
6-Pin RNGU Power Cable	1
4-Pin DC Power Cable	1
Mounting Screws	5
Tapping Screws	3

IX-EXPM Installation Procedure

The installation procedure consists of four interrelated parts. Please read through the entire procedure before attempting to install the system. IX-CM installation instructions begin on page 5-23.

Part 1 — Attaching the IX-EXPM to the IX-CM

- 1. Remove the side covers and front cover of the IX-CM.
- 2. Remove the top cover from the IX-CM and unplug the alarm panel cable.
- 3. Remove the front cover and side covers of the IX-CM by loosening the captured screws.
- 4. Place the IX-EXPM on top of the IX-CM. Make sure that the units are flush on all sides and the five screw holes on the bottom of the IX-EXPM line up with the five screw holes on the top of the IX-CM.

5. Attach the IX-EXPM to the IX-CM using the five mounting screws provided.

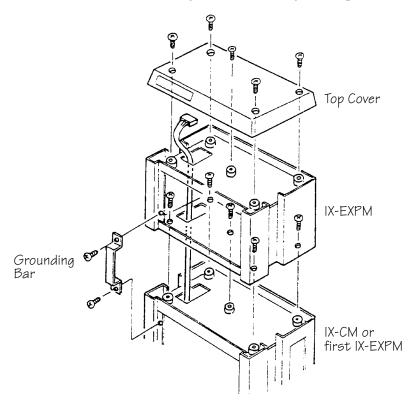


FIGURE 5.3-4 IX-EXPM EXPANSION MODULE ASSEMBLY

Part 2 — Connecting the Power Cables and Grounding Wires

- 1. Feed the alarm panel cable through the openings on the left side of the IX-EXPM.
- 2. Attach the grounding bar to the left side of the IX-CM and IX-EXPM using the screws provided (screws are already in place).
- 3. Attach one of the ground wires provided to the left ground screw of the ground bus located on the second shelf of the IX-CM. Attach the opposite end to the center ground screw on the ground bus located on the IX-EXPM. Run the wire through the space provided on the left side of the IX-CM.
- 4. Attach the second green ground wire provided to the ground screw marked SG3 on the lower right of the IX-CM motherboard. Attach the opposite end to the ground screw marked SG3 on the lower right of the IX-EXPM motherboard.
- 5. Attach the longer of the 12-pin DC power cables provided with the IX-CM from CN4 on the IX-200PWS power supply to PCON1A on the motherboard of the IX-EXPM. Run the cable through the space provided on the left side of the modules.
- 6. Attach the 4-pin DC power cable provided with the IX-EXPM from PCON3B on the second shelf of the IX-CM to PCON3A on the IX-EXPM. Run the cable through the space provided on the left side of the modules.
- 7. (Optional) If a second IX-RNGU is required for the IX-EXPM units, attach the 6-pin power cable supplied with the IX-RNGU to motherboard connector PCON2A on the IX-EXPM. Run the cable through the space provided on the left side of the modules.

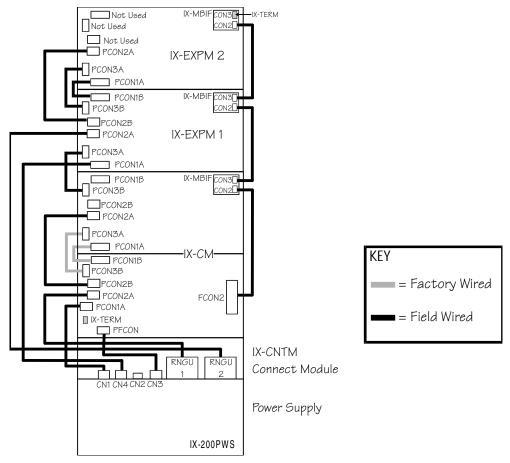


FIGURE 5.3-5 IX-EXPM COMMON MODULE CONNECTIONS

Part 3 – System Bus Connection

- Remove the IX-MBIF provided with the IX-EXPM from the box. Make sure that SW1 is set to 2. Attach the IX-MBIF card to connector MBIF on the upper right of the top shelf of the IX-EXPM by sliding it through the upper and lower guide rails from the side of the IX-EXPM.
- 2. Remove the IX-TERM card connected to CON3 of the IX-MBIF located on the top shelf of the IX-CM.
- 3. Attach the IX-TERM to CON3 of the IX-MBIF located on the IX-EXPM. **Note:** Install the IX-TERM from the front of the cabinet.
- 4. Attach the flat cable provided with the IX-EXPM from CON3 of the IX-MBIF located on the top shelf of the IX-CM to CON2 of the IX-MBIF in the IX-EXPM. Run the cable through the space provided at the back right corner of the modules.

Part 4 — Final Connections

- 1. Reattach the alarm panel cable then place the top cover on the IX-EXPM.
- 2. Attach the desired circuit cards and system cables.
- 3. Once all the circuit cards are in place attach the card stopper provided to the bottom of the IX-EXPM using the screws provided.
- 4. Attach one of the amphenol connector clamps provided to the inside of each front cover using the three tapping screws provided.
- 5. Reattach the top cover, side covers, front covers, and IX-CNTM cover.

Installing a Second IX-EXPM Expansion Module

The procedure to install a second IX-EXPM is similar to the procedure for installing the first IX-EXPM with a few variations. Please refer to the illustrations provided with the instructions for installing the first IX-EXPM.

Part 1 — Attaching the Second IX-EXPM to the First IX-EXPM and IX-CM

- 1. Remove the side covers and front cover of the IX-CM and the first IX-EXPM module.
- 2. Remove the top cover from the first IX-EXPM and unplug the alarm panel cable.
- 3. Remove the front cover and side covers of the IX-CM and first IX-EXPM by loosening the captured screws.
- 4. Place the second IX-EXPM on top of the first IX-EXPM. Make sure that the units are flush on all sides and the five screw holes on the bottom of the second IX-EXPM line up with the five screw holes on the top of the first IX-EXPM.
- 5. Secure the second IX-EXPM to the first IX-EXPM using five of the mounting screws provided.

Part 2 — Connecting the Power Cables and Grounding Wires

- 1. Feed the alarm panel cable through the openings on the left side of the IX-EXPM units.
- 2. Attach the grounding bar to the left side of the first IX-EXPM and the second IX-EXPM using the screws provided. (Already in place.)
- 3. Attach one of the green ground wires provided to the left ground screw of the ground bus located on the bottom left of the first IX-EXPM. Attach the opposite end to the center ground screw on the ground bus located on the bottom left of the second IX-EXPM. Run the wire through the space provided on the left side of the IX-EXPM units.
- 4. Attach the second green ground wire provided to the ground screw marked SG3 on the lower right of the first IX-EXPM motherboard. Attach the opposite end to the ground screw marked SG3 on the lower right of the second IX-EXPM motherboard.
- 5. Attach the 12-pin DC power cable provided from motherboard connector PCON1B on the first IX-EXPM to motherboard connector PCON1A on the second IX-EXPM. Run the cable through the space provided on the left side of the modules.
- 6. Attach the 4-pin DC power cable provided with the IX-EXPM from PCON3B on the first IX-EXPM to motherboard connector PCON3A on the second IX-EXPM. Run the cable through the space provided on the left side of the modules.
- 7. (Optional) If a second IX-RNGU is connected to PCON2A on the first IX-EXPM, attach the 6-pin power cable from motherboard connector PCON2B on the first IX-EXPM to motherboard connector PCON2A on the second IX-EXPM. Run the cable through the space provided on the left side of the modules.

Part 3 — System Bus Connection

- 1. Remove the IX-MBIF provided with the IX-EXPM from the box. Make sure that SW1 is set to 3. Attach the IX-MBIF card to connector MBIF on the upper right of the top shelf of the second IX-EXPM by sliding it through the upper and lower guide rails from the side of the IX-EXPM.
- 2. Remove the IX-TERM card connected to CON3 on the IX-MBIF located on first IX-EXPM.
- 3. Attach the IX-TERM to CON3 of the IX-MBIF located on the second IX-EXPM. **Note:** Install the IX-TERM from the front of the cabinet.
- 4. Attach the flat cable provided with the second IX-EXPM from CON3 of the IX-MBIF located on the first IX-EXPM to CON2 on the IX-MBIF on the second IX-EXPM. Run the cable through the space provided at the back right corner of the modules.

Part 4 - Final Connections

- 1. Reattach the alarm panel cable then place the top cover on the second IX-EXPM.
- 2. Attach the desired circuit cards and system cables.
- 3. Once all the circuit cards are in place attach the card stopper provided to the bottom of the IX-EXPM using the screws provided.
- 4. Attach one of the amphenol connector clamps provided to the inside of each front cover using the three tapping screws provided.
- 5. Reattach the top cover, side covers, front covers, and IX-CNTM cover.

Running Cable

Cable Inlets There are three cable inlets on the ADIX IX-CM and IX-EXPM modules:

- Right side of IX-CNTM
- Rear right of IX-CNTM
- Top right of top cover

Note: If possible, avoid using the upper outlet in order to avoid complications when adding future expansion modules.

The cutout must be removed in order to feed cable.

Cable Raceway The cable raceway is located on the right side of the ADIX IX-CM and IX-EXPM modules. Use the cable clamps provided to keep the MDF cables in place.

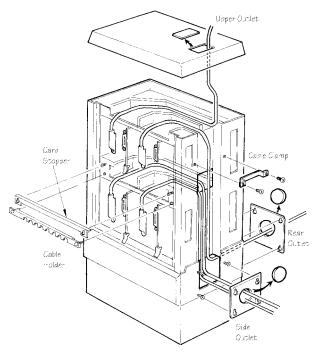


FIGURE 5.3-6 RUNNING CABLE

Wall Mounting

Wall mounting brackets come standard with the IX-100PWS and IX-200PWS power supplies. They are optional equipment (IX-10CWMN for IX-CM only; IX-20CMWM for IX-CM plus IX-EXPM expansion modules) with the ADIX IX-CM and IX-EXPM modules.

Important: Make sure the wall mount brackets are attached to a stud in the wall. Failure to do so may result in damage to the system.

To install wall mounting brackets:

- 1. Attach the two wall mounting brackets to the back of the IX-CM and the power supply wall mounting brackets to the back of the power supply with the twelve screws provided.
- 2. Attach two wall mounting brackets to the back of each IX-EXPM with four screws.
- 3. Mount the system to the wall with eight mounting screws (not included) as illustrated in figure 5.3-7.

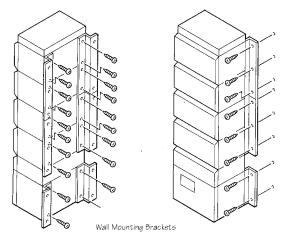
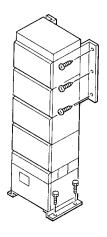


FIGURE 5.3-7 WALL MOUNTING BRACKET INSTALLATION

Wall Mounting the Expansion Modules

It is recommended that the IX-EXPM expansion modules are wall mounted when floor mount brackets are used with the single-tower ADIX. Figure 5.3-8 illustrates the recommended mounting configuration using the IX-20CMWS (Part No. 103450).



Completed Cabling

Figure 5.3-9 illustrates the completed cable connections for a single-tower ADIX.

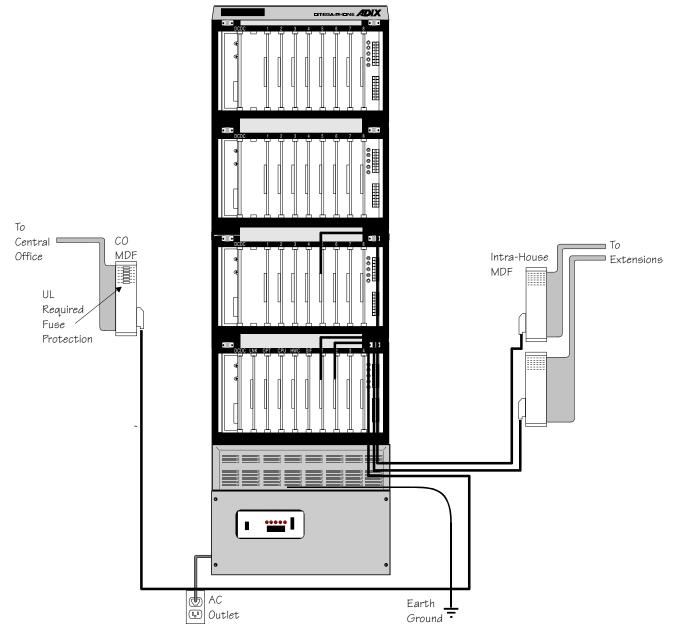


FIGURE 5.3-9 COMPLETED CABLING

nstalling a Double-Tower ADIX

This chapter describes the installation process for a double-tower ADIX system. Inspect all system components before beginning the installation process.

Note: Before installing this system, follow the grounding requirements and procedures on page 5-6 and 5-7 in Section 5.

Configuration

The following components are required to install a double-tower ADIX:

- One IX-200PWS Power Supply.
- One IX-CM Common Module
- Six IX-EXPM Expansion Modules
- One IX-450 Hardware Kit
- One IX-20PBOX Power Supply Housing
- One IX-BATBOX Battery Box
- Either the IX-CPU32-1, IX-CPU32M, or IX-CPU32 Central Processing Unit
- One IX-HWCE Highway Controller Card

The double-tower ADIX must be floor mounted. For more information on ADIX components see **Section 4 – Component Description**.

Part 1 — Mounting the Power Supply Inside the IX-20PBOX

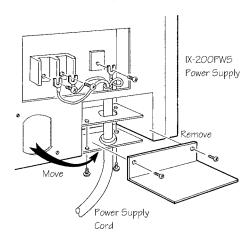


FIGURE 5.4-1 CHANGING THE POSITION OF THE POWER SUPPLY CORD

- 1. Loosen the two screws on the left side of the IX-200PWS power supply to remove the metal plate that covers the power cord screw terminals (backward 'L' shaped).
- 2. Remove the three conductors of the power supply cord from the screw terminals.

3. Loosen the two screws on the left side of the IX-200PWS power supply to remove the power supply cord mounting plate.

- 4. Place the IX-200PWS on its back and remove the cover plate of the cable raceway from the bottom of the IX-200PWS by loosening the two screws.
- 5. Remove the power supply cord hole cover plate from the cable raceway by loosening the two screws.
- 6. Fasten the brass-colored mounting bracket provided with the IX-20PBOX to the underside of the power supply using the two screws provided. **Note:** The silver-colored brackets provided with the IX-20PBOX are not used.
- 7. Attach the power supply cord to the IX-200PWS as illustrated in figure 5.4-1 carefully terminating the three conductors to their respective locations.
- 8. Insert the power supply cord through the rear cable raceway of the IX-20PBOX. Slide the IX-200PWS power supply into place so that the mounting bracket screw slots line up with the screw holes in the front of the IX-20PBOX. Fasten the power supply to the IX-20PBOX using the screws with washers provided.
- 9. Replace the side cover plate removed in step 1.

Part 2 — Installing the Battery Box and Connect Modules

- 1. Fasten the IX-CNTM provided with the IX-CM to the IX-20PBOX using the four screws provided. Make sure that the IX-CNTM is flush to the right and front of the IX-20PBOX. Replace the front cover of the IX-20PBOX.
- 2. Remove the front and top covers of the IX-BATBOX. Fasten the IX-CNTME provided with the IX-450 Hardware Kit to the IX-BATBOX using the four screws provided. Make sure the IX-CNTME is flush left and front with the IX-BATBOX.
- 3. Place the IX-DCDCU power supply in the space provided on the inside left of the IX-CNTME and secure it with the screws provided.

Part 3 — Installing the IX-CM, IX-EXPM 1, and IX-EXPM 2 (Tower 1)

- 1. Remove the two front covers on the IX-CM by loosening the two captured screws located on the top corners of each cover.
- 2. Remove the four side covers on the IX-CM by loosening the four captured screws located on each cover.
- 3. Place the IX-CM on top of the IX-CNTM so that is sits inside the top lip of the IX-CNTM. Make sure the four screw holes line up.
- 4. Attach the IX-CM to the IX-CNTM using four of the screws and toothed washers provided.
- 5. Remove the top cover from the IX-CM
- 6. Place IX-EXPM 1 on top of the IX-CM. Make sure that the units are flush on all sides and the five screw holes on the bottom of the IX-EXPM line up with the five screw holes on the top of the IX-CM.
- 7. Attach IX-EXPM 1 to the IX-CM using the five mounting screws provided.
- 8. Repeat steps 6 and 7 to install IX-EXPM 2.

Part 4 — Installing IX-EXPM 3, IX-EXPM 4, IX-EXPM 5, IX-EXPM 6 (Tower 2)

- 1. Remove the front and side covers of each IX-EXPM expansion module by loosening the captured screws.
- 2. Place IX-EXPM 3 on top of the IX-CNTME connect module so that is sits inside the top lip of the IX-CNTME. Make sure the four screw holes line up.
- 3. Attach IX-EXPM 3 to the IX-CNTME using four of the screws and toothed washers provided.
- 4. Place IX-EXPM 4 on top of IX-EXPM 3. Make sure that the units are flush on all sides and the five screw holes on the bottom of IX-EXPM 4 line up with the five screw holes on the top of IX-EXPM 3.
- 5. Connect the IX-EXPM expansion modules using the five mounting screws provided.
- 6. Repeat steps 4 and 5 to install IX-EXPM 5 and IX-EXPM 6.

Part 5 – System Bus Connection

1. Insert the IX-MBIF provided with the IX-CM and each IX-EXPM unit into connector MBIF on the upper right of each IX-EXPM by sliding it through the upper and lower guide rails from the side of the IX-EXPM. Make sure the SW1 setting of each IX-MBIF card is set as follows:

IX-MBIF Location	SW1 Switch Setting	
IX-CM (top shelf)	1	
IX-EXPM 1	2	
IX-EXPM 2	3	
IX-EXPM 3	4	
IX-EXPM 4	5	
IX-EXPM 5	6	
IX-EXPM 6	7	

- 2. Remove the IX-TERM card connected to FCON1 on the lower left side of the IX-CM first shelf motherboard. Connect it to CON3 of the IX-MBIF located on the upper right side of IX-EXPM-2 (Top of Tower 1).
- 3. Attach the other IX-TERM card provided with the IX-CM to CON3 of the IX-MBIF located on the upper right side of IX-EXPM 6 (Top of Tower 2).
- 4. Connect the flat cables provided with the IX-CM and IX-EXPM units starting from CON3 of the IX-MBIF in the IX-CM to CON2 of the IX-MBIF in IX-EXPM 1. Repeat this procedure as follows:
 - IX-EXPM 1 CON3 to IX-EXPM 2 CON2
 - IX-EXPM 3 CON3 to IX-EXPM 4 CON2
 - IX-EXPM 4 CON3 to IX-EXPM 5 CON2
 - IX-EXPM 5 CON3 to IX-EXPM 6 CON2

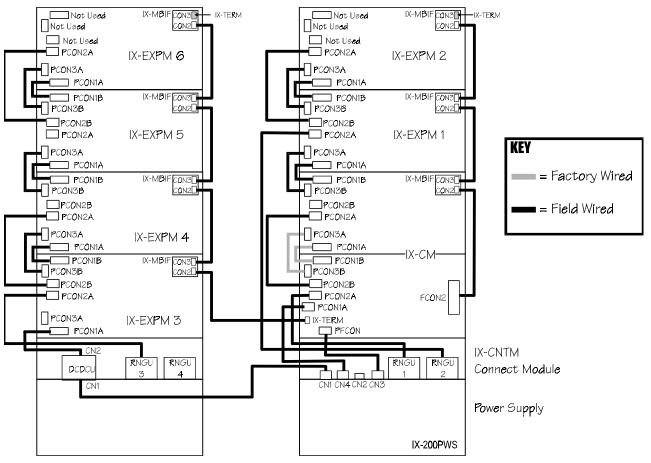
See figure 5.4-2 for an illustration of system bus connection.

5. Connect the bus jumper cable provided with the IX-450 hardware kit from FCON1 of the first shelf of the IX-CM to CON3 of the IX-MBIF in IX-EXPM 3. Connect the green ground wire to SG4 on the IX-CM side and SG3 on the IX-EXPM 3 side.

Part 6 – System Ground Connection

1. Attach the green ground wire provided with the IX-CM to the ground screw marked TG on the power supply.

- 2. Attach the opposite end of the ground wire to the center ground screw of the ground bus located on the first shelf of the IX-CM. Run the wire through the space provided on the left side of the IX-CM
- 3. Attach the second ground wire provided with the IX-CM to the left ground screw of the ground bus located on the first shelf of the IX-CM. Attach the opposite end to the center ground screw of the ground bus located on the second shelf of the IX-CM. Run the wire through the space provided on the left side of the IX-CM.
- 4. Attach the grounding bar provided with IX-EXPM 1 to the left side of the IX-CM and IX-EXPM 1 using the screws provided (screws are already in place).
- 5. Attach one of the ground wires provided with IX-EXPM 1 to the left ground screw of the ground bus located on the second shelf of the IX-CM. Attach the opposite end to the center ground screw of the ground bus located on IX-EXPM 1. Run the wire through the space provided on the left side of the IX-CM.
- 6. Attach the second green ground wire provided to the ground screw marked SG3 on the lower right of the IX-CM motherboard. Connect the opposite side to the ground screw marked SG3 on the lower right of IX-EXPM 1 motherboard.
- 7. Repeat steps 4-6 for IX-EXPM 2.
- 8. Attach the green ground wire provided with the IX-450 hardware kit from FG1 on the IX-DCDCU to the center ground screw on the ground bus located on IX-EXPM 3.
- 9. Repeat steps 4-6 for IX-EXPM 3, IX-EXPM 4, IX-EXPM 5, and IX-EXPM 6.



Part 7 — Power Cable Connection

FIGURE 5.4-2 TWO-TOWER POWER CABLE CONNECTION AND SYSTEM BUS CONNECTION

- 1. Attach one end of the red, blue and gray alarm panel cable to the alarm panel located in the top cover of tower 1. Run the cable through the space provided on the left side of the IX-CM and IX-EXPM modules so that the opposite end comes out above the CPU card slot.
- 2. Connect the longer of the two 12-pin DC power cables provided with the IX-CM from CN1 on the IX-200PWS to CN1 on the IX-DCDCU.
- 3. Connect the shorter of the 12-pin DC power cables provided with the IX-CM from CN4 of the IX-200PWS to PCON1A on the first shelf of the IX-CM motherboard.
- 4. Connect the 12-pin DC power cable provided with the IX-450 Hardware Kit from CN2 on the IX-DCDCU to PCON1A on IX-EXPM 3.
- 5. Connect the 4-pin DC power cable from CN3 of the IX-200PWS to PFCON on the first shelf motherboard of the IX-CM.
- 6. Connect the 12-pin DC power cable provided with IX-EXPM 1 from motherboard connector PCON1B to motherboard connector PCON1A on the second IX-EXPM 1. Run the cable through the space provided on the left side of the modules.
- 7. Connect the 4-pin DC power cable provided with IX-EXPM 1 from PCON3B on the on the second shelf of the IX-CM to motherboard connector PCON3A on the IX-EXPM 1. Run the cable through the space provided on the left side of the modules.

- 8. Repeat steps 5 and 6 for each IX-EXPM expansion module.
- 9. (Optional) Connect each IX-RNGU according to the wiring diagram illustrated in figure 5.4-2. Use connectors PCON2A and PCON2B to jump from shelf 1 to shelf 2 as illustrated. Run the cable through the space provided on the left side of the modules.

Part 8 — Joining the Two Towers

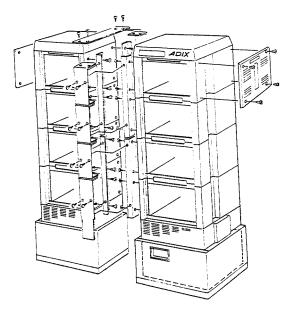


FIGURE 5.4-3 CONNECTING THE TWO TOWERS

- 1. Connect the four back-mounting brackets (larger brackets) with press nuts provided with the IX-450 hardware kit to the back left side of each shelf of tower 1 using two of the screws provided. Make sure the small flange with the single hole is facing up.
- 2. Connect the four back-mounting brackets without press nuts provided with the IX-450 hardware kit to the back right side of each shelf of tower 2 using two of the screws provided. Make sure the small flange with the single hole is facing up.
- 3. Connect four of the smaller front mounting brackets provided with the IX-450 hardware kit to the front left side of each shelf of tower 1 using two of the screws provided. Connect the remaining four front mounting brackets to the front right side of each shelf of tower 2 using two of the screws provided.
- 4. Place tower 1 and tower side by side so that the back mounting brackets attached to tower 2 lie inside the back mounting brackets attached to tower 1 and the center holes line up. Use two of the screws provided to attach each set of back mounting brackets.
- 5. Attach the contoured front mounting plate provided with the IX-450 hardware kit to the front mounting brackets attached to the first shelf of the IX-CM and IX-EXPM 3. Attach the three remaining straight-edged front mounting plates to the remaining six front mounting brackets.
- 6. Attach the top mounting plate to the top front mounting plate and the top back mounting brackets using four of the screws provided.

Part 9 — Final Connections

- 1. Place the top cover on tower 2 and secure it using the four screws provided.
- 2. Connect the desired circuit cards and system cables. Run the amphenol cables through the cable raceway located on the right side of each IX-CM and IX-EXPM module.
- 3. Once all the circuit cards are in place attach the card stoppers provided with the IX-CM and IX-EXPM modules to the bottom of each shelf using the screws provided.
- 4. Attach one of the amphenol connector clamps provided to the inside of each front cover using the three tapping screws provided.
- 5. Reattach the top cover, outside side covers, front covers, and connect module covers.
- 6. Attach the floor mount brackets to the IX-20PBOX and IX-BATBOX.

Note: The inside side covers of the IX-CM and IX-EXPM modules are not used in a two-tower system.

Cable Inlets There are three cable inlets on the ADIX IX-CM and IX-EXPM modules:

- Right side of IX-CNTM
- Rear right of IX-CNTM
- Top right of top cover

The cutout must be removed in order to run cable.

Cable Raceway The cable raceway is located on the right side of the ADIX IX-CM and IX-EXPM modules. Use the cable clamps provided to keep the MDF cables in place.



Installation

This chapter describes the installation of the IX-CMM common module, IX-EXPMM expansion module and the system battery backup. Inspect all system components before beginning the installation process.

Note: Before continuing, make sure to follow the grounding requirements and procedures starting on page 5-10.

The IX-CMM common module forms the base of the ADIX-S and ADIX-M. It supports up to 52 universal ports and is expandable to 136 ports with the addition of two IX-EXPMM expansion modules. Each IX-EXPMM adds 48 universal ports to the IX-CMM. (Note: The ADIX-S IX-PWSS must be upgraded to an IX-PWSM for migration to ADIX-M.)

The IX-CMM and IX-EXPMM units each consist of a single cabinet that contains the motherboard for all plug-in circuit cards, power cables, and optional equipment. The units can be either wall mounted or floor mounted.

IX-CMM Common Module

The IX-CMM is powered by an internally mounted IX-PWSS power supply (ADIX-S) or IX-PWSM power supply (ADIX-M). It contains a dedicated card slot for the IX-CPU16M card and five universal card slots. The first universal card slot is specially designed to accommodate up to 24 circuits. This slot is normally used for an IX-T1DTI, IX-ICOTP or IX-044 card with IX-400 daughterboard. Universal card slots 2-5 each support up to 12 circuits.

The table below lists the components shipped with the IX-CMM common module:

Component	Quantity
IX-CMM Common Module	1
Floor Mounting Brackets	2
Toothed Sems (Phillips) Screws	4
ADIX KT Programming Overlay	1
Wall Mounting Brackets	2
Pan Head Screws (Gold)	4
User's Card	1

Part 1 — Shelf Assembly

- 1. Loosen the two screws on each side of the front panel. **Note:** They are captured screws and cannot be removed from the panel.
- 2. The front panel is held to the chassis with ball catches. Pull and remove the front panel from the IX-CMM.

3. Insert the circuit cards by sliding them between the guide rails on the upper an lower shelf brackets. Make sure to insert each card until the connectors snap into place.

Part 2 — Power Supply Installation

CAUTION! Make sure that the main switch is in the OFF position and unplug the AC power cord from the AC outlet before installing the power supply.

- Locate the green ground wire attached to CN3 on either the IX-PWSS or IX-PWSM circuit board. This wire will be used in step 4. Make sure it is accessible after you insert the IX-PWSS or IX-PWSM into its dedicated motherboard slot.
- 2. Insert the IX-PWSS or IX-PWSM into the IX-CMM motherboard slot marked PWCON (far left) by sliding it between the left and right guide rails located on the lower shelf bracket. Make sure that the power supply is inserted deep enough so that all of the connector pins make complete contact with those on the motherboard.
- 3. Secure the IX-PWSS or IX-PWSM to the upper and lower shelf brackets with two screws provided.
- 4. Connect the green ground wire attached to the IX-PWSS or IX-PWSM (located in step 1) to the left screw terminal on the lower shelf bracket marked GND (figure 5.5-1) using one of the screws provided.
- 5. Plug the white connector coming from the AC power cord (located at the bottom of the IX-CMM) into the mini-AMP type connector marked AC IN on the lower front of the IX-PWSS or IX-PWSM.

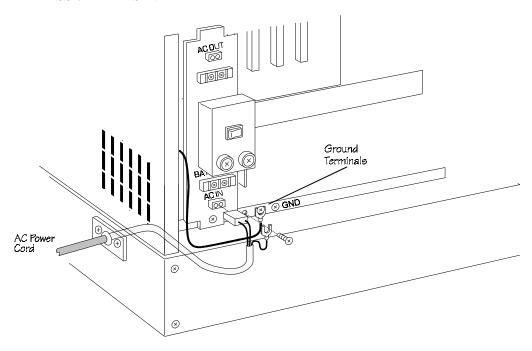


FIGURE 5.5-1 POWER SUPPLY INSTALLATION

Part 3 – System Bus Connection

The IX-CMM is shipped with the IX-TERMM card installed. It must be moved when an IX-EXPMM is added. See page 5-53 for instructions.

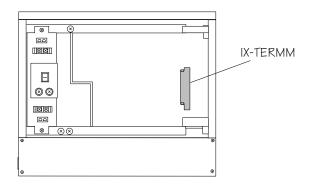


FIGURE 5.5-2 IX-TERMM CONNECTION

Completed Cabling

Figure 5.6-3 illustrates the completed cable connections for the IX-CMM.

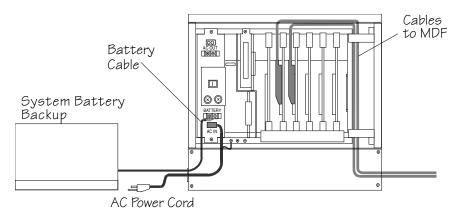


FIGURE 5.5-3 IX-CMM COMPLETED CABLING

Adding an IX-EXPMM Expansion Module

The IX-EXPMM expansion module adds an additional six universal card slots to the ADIX-M. The first universal card slot is specially designed to provide 24 circuits when an IX-T1DTI card is installed. A maximum of two IX-EXPMM units can be installed. An IX-PWSM power supply is required for each IX-EXPMM installed. The table below lists the components shipped with each IX-EXPMM expansion module:

Component	Quantity
IX-EXPMM Expansion Module	1
Binding Head Screws (Black)	4
Power Supply Connecting Cable	1
Flat Cable	1
Ground Wire (Green)	1
Wall Mounting Brackets	2
Pan Head Screws (Gold)	4

Part 1 – Assembly

- 1. Power down the system and unplug the AC power cord from the AC outlet.
- 2. Remove the four binding head screws securing the top cover of the IX-CMM. Lift to remove.
- 3. Loosen the two captured screws securing the front panels of both the IX-CMM and IX-EXPMM units.
- 4. The front panels are held to the chassis with ball-catches. Pull to remove.
- 5. Place the IX-EXPMM on top of the IX-CMM. Align the IX-EXPMM with the top of the IX-CMM and attach with the four binding head screws provided (figure 5.5-4).
- 6. Connect the green ground wire provided from the right screw terminal on the lower shelf bracket marked GND to the screw terminal on the upper shelf bracket marked GND on the IX-CMM or IX-EXPMM directly below.
- 7. Repeat steps 4 and 5 to add a second IX-EXPMM unit.
- 8. Secure the top cover to the upper IX-EXPMM unit.

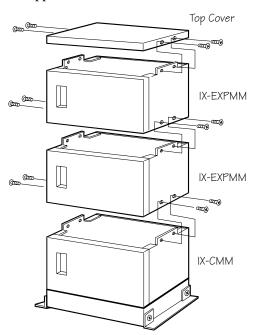


FIGURE 5.5-4 IX-EXPMM EXPANSION MODULE MOUNTING

Part 2 — IX-EXPMM Power Supply Installation

CAUTION! Make sure that the main switch is in the OFF position and unplug the AC power cord from the AC outlet before installing the power supply.

- Locate the green ground wire attached to CN3 on the IX-PWSM circuit board. This wire will be used in step 4. Make sure it is accessible after you insert the IX-PWSM into its dedicated motherboard slot.
- 2. Insert the IX-PWSM into the IX-EXPMM motherboard slot marked PWCON (far left) by sliding it between the left and right guide rails located on the lower shelf bracket. Make sure that the power supply is inserted deep enough so that all of the connector pins make complete contact with those on the motherboard.
- 3. Secure the IX-PWSM to the upper and lower shelf brackets with two mounting screws.
- 4. Connect the green ground wire attached to the IX-PWSM (located in step 1) to the left screw terminal on the lower shelf bracket marked GND (figure 5.5-5).
- 5. Connect the power supply connecting cable from the connector marked AC IN on the power supply to the connector marked AC OUT on the power supply on the shelf **immediately** below.

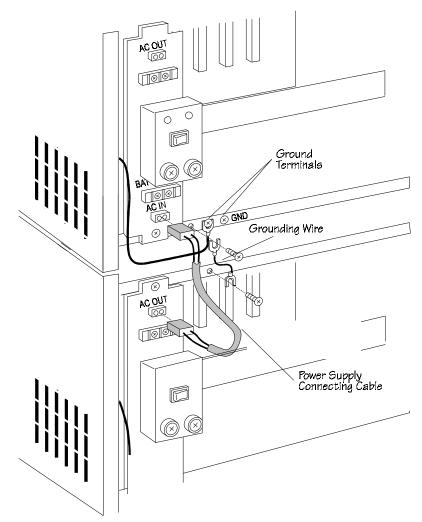


FIGURE 5.5-5 IX-EXPMM POWER SUPPLY INSTALLATION

Part 3 – System Bus Connection

The system bus connection must be modified when an IX-EXPMM unit is added.

Note: Bus connection differs depending on the number of IX-EXPMM units being added.

• To modify the system bus connection when adding a single IX-EXPMM unit:

- 1. Unplug the IX-TERMM card from the connector marked FCON on the IX-CMM motherboard and plug it into the connector marked FCON1 on the left side of the IX-EXPMM motherboard. Make sure that the IX-TERMM snaps into place.
- 2. Connect motherboard connector FCON on the IX-CMM to motherboard connector FCON2 on the right side of the IX-EXPMM with the flat cable provided (figure 5.5-6).

• To modify the system bus connection when adding two IX-EXPMM units:

- 1. Unplug the IX-TERMM card from the connector marked FCON on the IX-CMM motherboard and plug it into the connector marked FCON2 on the right side of the IX-EXPMM unit 2 motherboard (figure 5.5-6). Make sure that the IX-TERMM snaps into place.
- 2. Connect motherboard connector FCON on the IX-CMM to motherboard connector FCON2 on the right side of IX-EXPMM unit 1 with the flat cable provided (figure 5.5-6).
- 3. Connect motherboard connector FCON1 on IX-EXPMM unit 1 to motherboard connector FCON1 on the left side of IX-EXPMM unit 2 with the flat cable provided (figure 5.5-6).

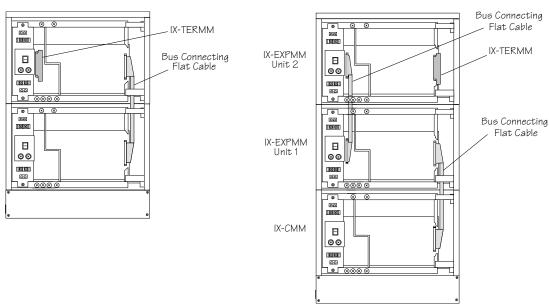


FIGURE 5.5-6 SYSTEM BUS CONNECTING CABLE AND IX-TERMM CONNECTION

Completed Cabling

The completed cabling connections of an IX-CMM common module with two IX-EXPMM expansion modules is illustrated in figure 5.5-7.

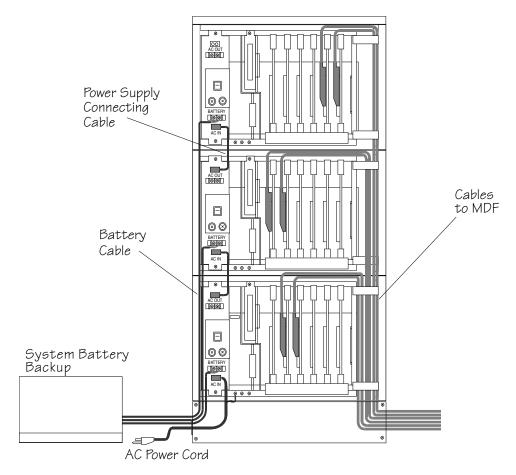


FIGURE 5.5-7 COMPLETED CABLING IX-CMM COMMON MODULE WITH TWO IX-EXPMM EXPANSION MODULES

Floor Mounting

1. Attach the two floor mounting brackets to the bottom of the IX-CMM with the four pan head screws provided (figure 5.5-8).

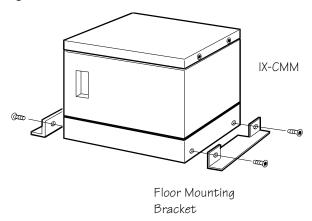


FIGURE 5.5-8 FLOOR MOUNTING BRACKET INSTALLATION

Wall Mounting

- 1. Attach two of the wall mounting brackets (IX-CMMWM) to the back of the IX-CMM with four mounting screws (figure 5.5-9).
- 2. Attach two of the wall mounting brackets (IX-CMMWM) to the back of each IX-EXPMM with four mounting screws.
- 3. Mount the IX-CMM and IX-EXPMM units to the wall with 16 screws as illustrated in figure 5.5-9.

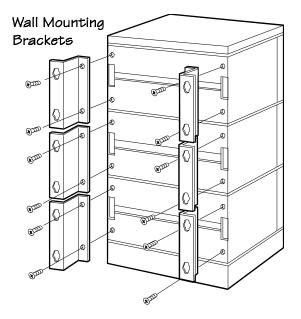


FIGURE 5.5-9 WALL MOUNTING BRACKET INSTALLATION



This section describes the installation of the ADIX APS IX-CML common module, IX-EXPML*n* expansion modules and the system battery backup. Inspect all system components before beginning the installation process.

Single Cabinet System

The IX-CML is powered by an internally mounted IX-PWSL power supply. It contains a dedicated card slot for the IX-CPUP/HW card and five universal card slots. The first universal card slot provides 24 ports on one highway. The remaining 4 card slots each provide 16 universal ports on two highways.

The table below lists the components shipped with the IX-CML common module:

Component	Quantity
IX-CML Common Module	1
ADIX KT Programming Overlay	1
ADIX 2 nd KT Programming Overlay	1
ADIX Wall Mounting Bracket L	1
ADIX Wall Mounting Bracket R	1
Pan Head Screws (Gold)	4
User's Card	1

Wall Mounting Brackets

To install wall mounting brackets:

1. Attach the two wall mounting brackets (IX-CMMWM) to the back of the IX-CML with the four pan head screws provided (Figure 18).

2. Mount the IX-CML to the wall with four mounting screws (not included with the IX-CML), as illustrated in Figure 18.

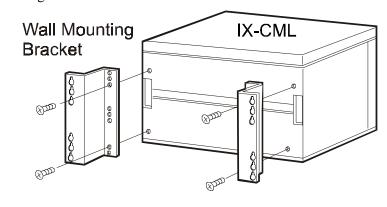


figure 5.6.1. wall mounting bracket installation.

Shelf Assembly

- 1. Loosen the two screws on each side of the front panel. **Note:** They are captured, keyed screws and cannot be removed from the panel.
- 2. The front panel is held to the chassis with ball-catches. Pull and remove the front panel from the IX-CML.
- 3. Insert the circuit cards by sliding them between the guide rails on the upper and lower shelf guide rails.
- 4. Align the card ejector clips parallel with the card and insert the ejector clips into the corresponding slots on the top and bottom of the frame associated with each card slot.
- 5. Insert the card until it "snaps" into position by pushing on both ejector clips simultaneously toward the center of the card.

Power Supply Installation

To install the power supply:

CAUTION! Make sure that the main switch is in the OFF position and unplug the AC power cord from the AC outlet before installing the power supply.

- Locate the green ground wire attached to CN3 on the IX-PWSL circuit board. This wire will be used in step 4. Make sure it is accessible after you insert the IX-PWSL into its dedicated motherboard slot.
- 2. Insert the IX-PWSL into the IX-CML motherboard slot marked PWCON (far left) by sliding it between the left and right guide rails located on the lower shelf bracket. Make sure that the power supply is inserted deep enough so that all of the connector pins make complete contact with those on the motherboard. Make sure the AC power cable attached to the IX-CML is pulled out to the left and for easy access after power supply installation.
- 3. Secure the IX-PWSL to the upper and lower shelf brackets with two screws provided.
- 4. Connect the green ground wire attached to the IX-PWSL (located in step 1) to the left screw terminal on the lower shelf bracket marked GND (Figure 19) using one of the screws provided. Place a star washer between the screw and the metal end of the green ground wire.
- 5. Plug the white connector coming from the AC power cord (located at the bottom of the IX-CML) into the mini-AMP type connector marked AC IN on the lower front of the IX-PWSL.

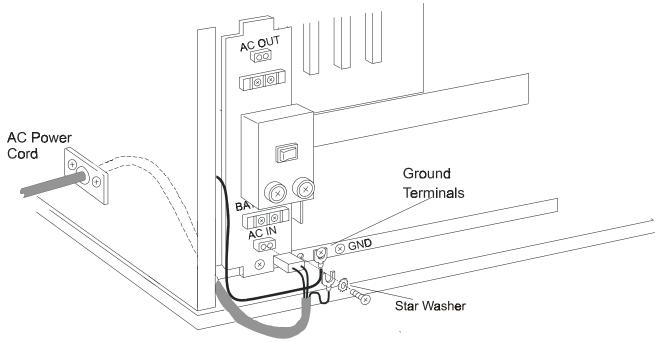


figure 5.6.2. power supply installation

System Bus Connection

The ADIX APS is shipped with the IX-TERML cards (Figure 5.6.3) pre-installed. They must be moved when IX-EXPML*n* units are added..

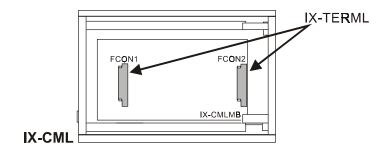


figure 5.6.3. IX-TERML connection.

Completed Cabling

Figure 5.6.4 illustrates the completed cable connections for the IX-CML

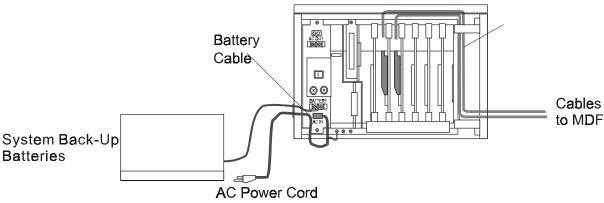


figure 5.6.4 IX-CMI completed cabling

Two-Cabinet ADIX APS System

A two-cabinet ADIX APS System consists of an IX-CML common module and one IX-EXPML1 expansion module. The IX-EXPML1 Expansion Module is used to add the second, third and fifth shelves to the ADIX APS. Use the IX-EXPML2 Expansion Module only when adding the fourth shelves.

The IX-EXPML1 expansion module provides the ADIX APS with six additional universal card slots. The first universal card slot provides 24 circuits on one highway. The second card slot provides 8 circuits on the same highway as card slot 1. The remaining 4 card slots each provide 16 circuits on two highways. An IX-PWSL power supply is required for each IX-EXPML1 installed.

Note 1: It is strongly recommended that the battery backup be connected to each shelf of a multi-shelved ADIX APS System.

Note 2: The system size setting of the CPUSW switch position 4 of on the IX-CPUP/HW card must be set to ON, when a IX-CPU20/ MEM-L is installed on the IX-CPUP/HW card.

Component	Quantity
Expansion Module 1 (IX-EXPML1)	1
Pan Head Screws (Gold)	4
ADIX Exp Power Cable	1
ADIX EML1 Exp Flat cable	1
ADIX Ground Wire	1
ADIX Wall Angle L	1
ADIX Wall Angle R	1
Binding Screws	4
Sticker Set	1

Assembly

The procedure below explains how to expand the ADIX APS System by installing an IX-EXPML1 unit.

To attach an IX-EXPML1 expansion module to the IX-CML common module:

- 1. Power down the system and unplug the AC power cord from the AC outlet.
- 2. Remove the four binding head screws securing the top cover of the IX-CML. Lift to remove.
- 3. Loosen the two screws securing the front panels on both the IX-CML and IX-EXPML1 units. **Note:** They are captured screws and cannot be removed from the panel.
- 4. The front panels are held to the chassis with ball-catches. Pull to remove.
- 5. Place the IX-EXPML1 on top of the IX-CML. Align the IX-EXPML1 with the top of the IX-CML and attach with the four binding head screws provided (Figure 5.6.5).
- 6. Connect the green ground wire provided with the IX-EXPML1 from the right screw terminal on the lower shelf bracket marked GND on the IX-EXPML1 to the screw terminal on the upper shelf bracket marked GND on the IX-CML or IX-EXPML1 directly below.
- 7. Secure the top cover from the IX-CML to the upper IX-EXPML1 unit.

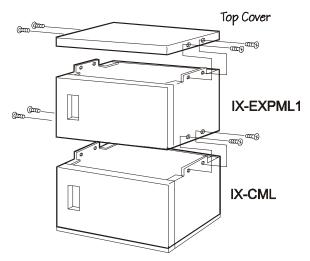


figure 5.6.5. IX-EXPML1 expansion module mounting

Wall Mounting

To install wall mounting brackets:

1. Attach the two wall mounting brackets (IX-CMMWM) to the back of the IX-CML Common Module and the IX-EXPML1 Expansion Module with the four pan head screws provided for each cabinet (Figure 5.6.6).

2. Mount the two-cabinet system to the wall with four mounting screws for each cabinet (not included with the IX-CML or IX-EXPML*n*), as illustrated in Figure 5.6.6.

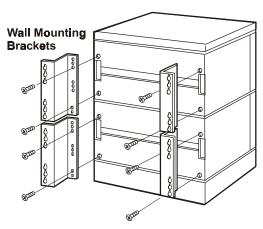


figure 5.6.6. wall mounting for two cabinet system

System Bus Connection

The system bus connection must be modified when an IX-EXPML1 unit is added.

Note 1: Bus connection differs depending on the number of IX-EXPML1 units being added.

Note 2: It is recommended that the system bus connection be installed before connecting the power supply.

© Completed Bus Connection for two cabinets:

The drawing below illustrates a proper bus connection for a two-cabinet system.

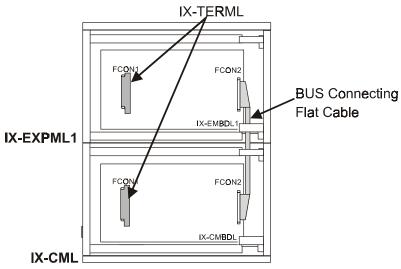


figure 5.6.7. bus connecton for two-cabinet system

- 1. Unplug the IX-TERML card from the connector marked FCON2 on the right side of the IX-CML motherboard by pressing the black levers on top and bottom of each IX-TERML, and gently pulling out of the socket. Plug the IX-TERML into the connector marked FCON1 on the left side of the IX-EXPML1 motherboard. Make sure that the IX-TERML snaps into place. The connector is keyed and will only fit in one direction.
- 2. Connect motherboard connector FCON2 on the right side of the IX-CML to motherboard connector FCON2 on the right side of the IX-EXPML with the flat cable provided by threading flat cable through the elliptical slots on the bracket shelves.

Complete Cabling

Figure 5.6.8 below illustrates the complete cabling for an IX-CML with one IX-EXPML1.

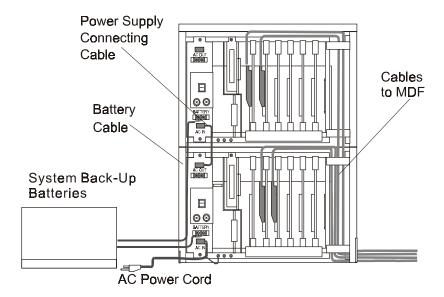


figure 5.6.8. complete cabling for a two-cabinet system

IX-EXPML1 Power Supply Installation

To install the power supply:

CAUTION! Make sure that the main switch is in the OFF position and unplug the AC power cord from the AC outlet before installing the power supply.

- Locate the green ground wire attached to CN3 on the IX-PWSL circuit board. This wire will be used in step 4. Make sure it is accessible after you insert the IX-PWSL into its dedicated motherboard slot.
- 2. **Important:** Make sure to identify the IX-PWSL by confirming that 10A is marked on the F5 fuse located on the right front of the unit.
- 3. Insert the IX-PWSL into the IX-EXPML1 motherboard slot marked PWCON (far left) by sliding it between the left and right guide rails located on the lower shelf bracket. Make sure that the power supply is inserted deep enough so that all of the connector pins make complete contact with those on the motherboard.
- 4. Secure the IX-PWSL to the upper and lower shelf brackets with two mounting screws.
- 5. Connect the green ground wire attached to the IX-PWSL (located in step 1) to the left screw terminal on the lower shelf bracket marked GND (Figure 5.6.9). Place a star washer between the screw and metal end of green ground wire.
- 6. Connect the power supply connecting cable from the connector marked AC IN on the power supply to the connector marked AC OUT on the power supply on the shelf **immediately** below.

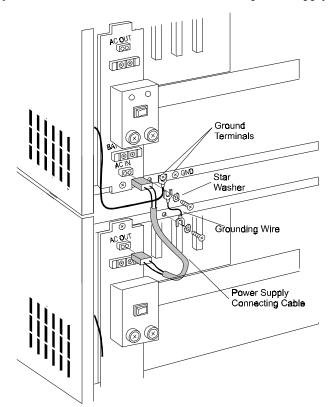


figure 5.6.9 IX-EXPML power supply installation

Three-Cabinet ADIX APS System

A three-cabinet system consists of an IX-CML common module and two IX-EXPML1 expansion modules. The IX-EXPML1 Expansion Module is used to add the second, third and fifth shelves to the ADIX APS. Use the IX-EXPML2 Expansion Module only when adding the fourth shelf.

The IX-EXPML1 expansion module provides the ADIX APS with six additional universal card slots. The first universal card slot provides 24 circuits on one highway. The second card slot provides 8 circuits on the same highway as the first card slot. The remaining 4 card slots each provide 16 circuits on two highways. An IX-PWSL power supply is required for each IX-EXPML1 installed.

Note 1: It is strongly recommended that the battery backup be connected to each shelf of a multi-shelved ADIX APS System.

Note 2: The setting of the CPUSW switch position 4 of on the IX-CPUP/HW card must be set to ON, when a IX-CPU20/ MEM-L is installed on the IX-CPUP/HW card.

Component	Quantity
Expansion Module 1 (IX-EXPML1)	1
Pan Head Screws (Gold)	4
ADIX Exp Power Cable	1
ADIX EML1 Exp Flat cable	1
ADIX Ground Wire	1
ADIX Wall Mounting Bracket L	1
ADIX Wall Mounting Bracket R	1
Binding Screws	4
Sticker Set	1

Assembly

The procedure below explains how to assemble the three-cabinet system by installing an IX-CML, and two IX-EXPML1 units.

To attach two IX-EXPML1 expansion modules to the IX-CML common module:

- 1. Power down the system and unplug the AC power cord from the AC outlet.
- 2. Remove the four binding head screws securing the top cover of the IX-CML. Lift to remove.
- 3. Loosen the two screws securing the front panels on both the IX-CML and IX-EXPML*n* units. **Note:** They are captured screws and cannot be removed from the panel.
- 4. The front panels are held to the chassis with ball-catches. Pull to remove.
- 5. Place the IX-EXPML1 on top of the IX-CML. Align the IX-EXPML1 with the top of the IX-CML and attach with the four binding head screws provided (Figure 5.6.10).
- 6. Connect the green ground wire provided with the IX-EXPML1 from the right screw terminal on the lower shelf bracket marked GND on the IX-EXPML1 to the screw terminal on the upper shelf bracket marked GND on the IX-CML or IX-EXPML1 directly below.
- 7. Repeat steps 4 through 6 to add a second IX-EXPML1 unit.
- 8. Secure the top cover from the IX-CML to the upper IX-EXPML1 unit.

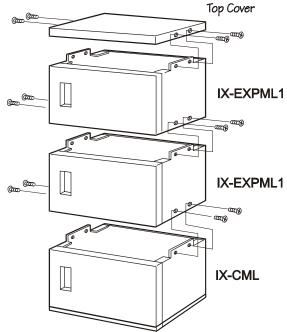


FIGURE 5.6.10. ASSEMBLY FOR A THREE-CABINET SYSTEM

Wall Mounting

To install wall mounting brackets:

1. Attach two wall mounting brackets (IX-CMMWM) to the back of the IX-CML and both IX-EXPML1 expansion modules with the four pan head screws provided for each cabinet (Figure 5.6.11).

2. Mount the three-cabinet system to the wall with four mounting screws for each cabinet (not included with the IX-CML or IX-EXPML*n*), as illustrated in Figure 5.6.11.

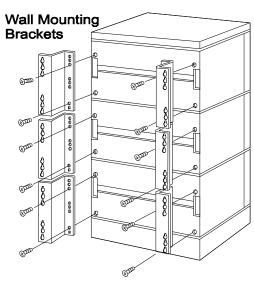


FIGURE 5.6.11. WALL MOUNTING FOR A THREE-CABINET SYSTEM

Completed Bus connection for three cabinets:

The drawing below illustrates a completed bus connection. IX-EXPML1 (1st) refers to the second cabinet in the system. IX-EXPML1 (2nd) refers to the third cabinet in the system.

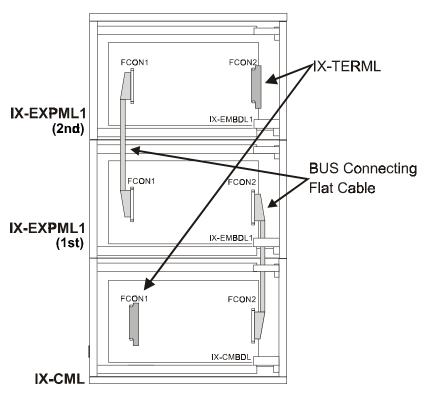


FIGURE 5.6.12. BUS CONNECTION FOR A THREE-CABINET SYSTEM

- Remove the IX-TERML in FCON2 on the left side of the first IX-EXPML1 by pressing the black levers on top and bottom of each IX-TERML, and gently pulling out of the socket. Connect the IX-TERML to FCON2 on the right side of the second IX-EXPML1. Make sure that the IX-TERML snaps into place. The connector is keyed and can only be installed in one direction.
- 2. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON2 on the right side of the IX-CML. Thread the cable through two elliptical cut-outs on the right side of both cabinets. Connect the other end of the flat cable to FCON2 on the right side of the first IX-EXPML1.
- 3. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON1 on the left side of the first IX-EXPML1. Thread the cable through two elliptical cutouts on the right side of both cabinets. Connect the other end of the flat cable to FCON2 on the left side of the second IX-EXPML1.

Completed Cabling

The completed cabling connections of an IX-CML common module with two IX-EXPML1 expansion modules are shown in Figure 5.6.13.

Note: Cabling to MDF is not provided with the IX-EXPML*n* expansion modules.

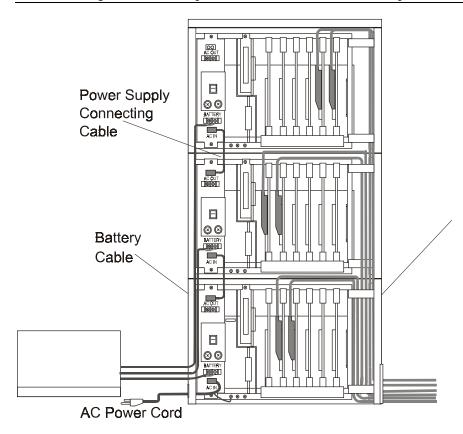


figure 5.6.13. completed cabling threee-cabinet system

Four-Cabinet ADIX APS System

Important: An IX-CPU20/ MEM-L is required for ADIX APS systems with four or more shelves. See the appendix for part numbers and component information.

A four-cabinet ADIX APS System consists of an IX-CML Common Module, two IX-EXPML1 Expansion Modules, and one IX-EXPML2 Expansion Module. The IX-EXPML2 expansion module must be used when adding a 4th shelf to the ADIX APS. Additionally, when this unit is installed, the IX-CMMBU is required.

Note 1: The IX-EXPML2 expansion module may only be used as the fourth shelf of the ADIX APS system.

Note 2: The IX-EDVIF card should not be installed in the fourth or fifth cabinets in the ADIX APS System due to a FIFO addressing conflict. The IX-EDVIF will only function in the first three cabinets.

Note 3: The setting of position 4 of CPUSW on the IX-CPUP/HW card must be set to ON, when an IX-CPU20/ MEM-L is installed in the IX-CPUP/HW.

Like the IX-EXPML1, the IX-EXPML2 expansion module provides the ADIX APS with six additional universal card slots. The first universal card slot provides 24 circuits on one highway. The second card slot provides 8 circuits on the same highway as the first card slot. The remaining 4 card slots each provide 16 circuits on two highways. An IX-PWSL power supply is required for each IX-EXPML1 installed.

Note: It is strongly recommended that the battery backup be connected to each shelf of a multi-shelved

ADIX APS System.

Component	Quantity
Expansion Module 2 (IX-EXPML2)	1
Pan Head Screws (Gold)	4
ADIX Exp Power Cable	1
ADIX EML2 Exp flat cable	1
ADIX Ground Wire	1
ADIX Wall Mounting Bracket L	1
ADIX Wall Mounting Bracket R	1
ADIX EML2 AC Cord	1
Cable Clamp	2

Component	Quantity
Expansion Module 1 (IX-EXPML1)	1
Pan Head Screws (Gold)	4
ADIX Exp Power Cable	1
ADIX EML1 Exp Flat cable	1
ADIX Ground Wire	1
ADIX Wall Mounting Bracket L	1
ADIX Wall Mounting Bracket R	1
Binding Screws	4
Sticker Set	1

Assembly

The procedure below explains how to assemble a four-cabinet system with an IX-CML Common Module, two IX-EXPML1 Expansion Modules, one IX-EXPML2 Expansion Module, and an IX-CMMBU Base Unit.

To install an IX-CML with three IX-EXPMLn Expansion Modules, and IX-CMMBU:

- 1. Power down the system and unplug the AC power cord from the AC outlet.
- 2. Remove the four binding head screws securing the top cover of the IX-CML. Lift to remove.
- 3. Loosen the two screws securing the front panels on both the IX-CML and all IX-EXPML*n* units. **Note:** They are captured screws and cannot be removed from the panel.
- 4. The front panels are held to the chassis with ball-catches. Pull to remove.
- 5. Place the IX-CML on top of the IX-CMMBU. Align the IX-CML with the top of the IX-CMMBU and attach with the four binding head screws provided (Figure 5.6.14).
- 6. Place the IX-EXPML1 on top of the IX-CML. Align the IX-EXPML1 with the top of the IX-CML and attach with the four binding head screws provided (Figure 5.6.14).
- 7. Connect the green ground wire provided with the IX-EXPML1 from the right screw terminal on the lower shelf bracket marked GND on the IX-EXPML1 to the screw terminal on the upper shelf bracket marked GND on the IX-CML or IX-EXPML1 directly below.
- 8. Repeat steps 3 through 7 to add a second IX-EXPML1 unit.
- 9. Place the IX-EXPML2 on top of the second IX-EXPML1. Align the IX-EXPML2 with the top of the IX-EXPML1 and attach with the four binding head screws provided (Figure 5.6.14).
- 10. Connect the green ground wire provided from the right screw terminal on the lower shelf bracket marked GND to the screw terminal on the upper shelf bracket marked GND on the IX-EXPML1 directly below.
- 11. Secure the top cover to the upper IX-EXPML2 unit.

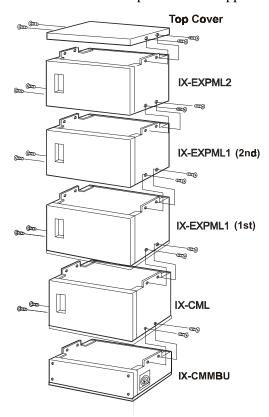


figure 5.6.14. aSSEMBLY OF FOUR CABINETS PLUS IX-CMMBU BASE UNIT

Wall Mounting

See page 71 for Wall Mounting Installation.

System Bus Connection for Four Cabinets

The system bus connection must be modified when an IX-EXPML2 unit is added.

Note 1: Bus connection differs depending on the number of IX-EXPML1 units being added.

Note 2: It is recommended that the system bus connection be installed before connecting the power supply.

© Completed System Bus Connection for four cabinets:

The drawing below illustrates a completed bus connection. IX-EXPML1 (1st) refers to the second cabinet in the system. IX-EXPML1 (2nd) refers to the third cabinet in the system. IX-EXPML2 refers to the fourth cabinet in the system.

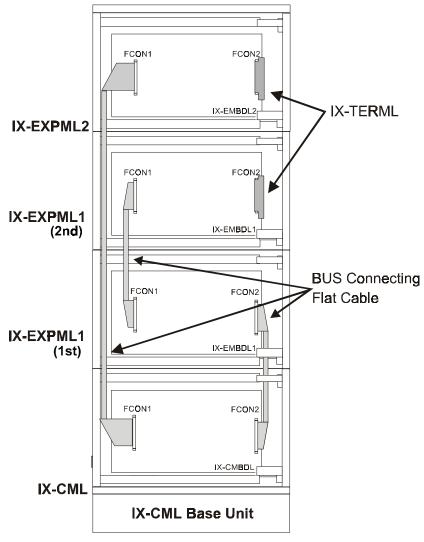


FIGURE 5.6.15 BUS CONNECTION FOR A FOUR-CABINET SYSTEM

1. Disconnect the IX-TERML from FCON1 on the left side of the IX-CML by pressing the black levers on top and bottom of each IX-TERML, and gently pulling out of the socket. Connect the IX-TERML to FCON2 on the right side of the second IX-EXPML1. Make sure that the IX-TERML snaps into place. The connector is keyed and will only fit in one direction.

- 2. Disconnect the IX-TERML from FCON2 on the right side of the IX-CML. Connect the IX-TERML to FCON2 on the right side of the IX-EXPML2. The connector is keyed and will only fit in one direction.
- 3. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON2 on the right side of the IX-CML. Thread the cable through two elliptical cut-outs on the right side of the both cabinets. Connect the other end of the flat cable to FCON2 on the right side of the first IX-EXPML1.
- 4. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON1 on the left side of the first IX-EXPML1. Thread the cable through two elliptical cutouts on the left side of the both cabinets. Connect the other end of the flat cable to FCON1 on the left side of the second IX-EXPML1.
- 5. Find the long Bus Connecting Flat Cable provided with the IX-EXPML2. Connect one end of the cable to FCON1 on the left side of the IX-CML. Thread the cable through the elliptical cutouts on left side of the cabinets up to the IX-EXPML2. Connect the other end of the cable to FCON1 on the left side of the IX-EXPML2 motherboard.

Complete Cabling

Figure 5.6.16 illustrates the complete cabling for a four-cabinet system.

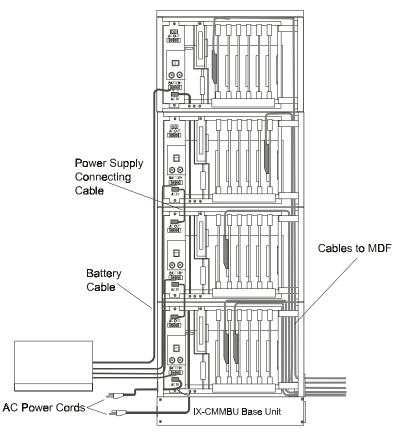


FIGURE 5.6.16. COMPLETE CABLING FOR A FOUR CABINET SYSTEM

IX-EXPML2 Power Supply Installation

The IX-EXPML2 requires the IX-PWSL power supply. Unlike the IX-EXPML1 expansion modules, however, the AC power source for the IX-PWSL installed in the IX-EXPML2 must be connected directly to the outlet, not from the IX-PWSL on the shelf below. For this reason, the IX-CMMBU base unit is required to provide a termination point for the second AC cable to enter the cabinet.

Note: The IX-EXPML2 uses an additional AC power cord connected to the same power outlet as the AC power cord connected to the IX-CML. Because of this, the power-on sequence is **NOT** still controlled only by the IX-CML power switch. **The IX-PWSL in the IX-EXPML2 had to be turned off along with the power switch in the IX-CML to turn ON/ OFF the system power.**

To install the power supply:

CAUTION! Make sure that the main switch is in the OFF position and unplug the AC power cord from the AC outlet before installing the power supply.

- Locate the green ground wire attached to CN3 on the IX-PWSL circuit board. This wire will be used in step 4. Make sure it is accessible after you insert the IX-PWSL into its dedicated motherboard slot.
- 2. **Important:** Make sure to identify the IX-PWSL by confirming that 10A is marked on the F5 fuse located on the right front of the unit.
- 3. Insert the IX-PWSL into the IX-EXPML2 motherboard slot marked PWCON (far left) by sliding it between the left and right guide rails located on the lower shelf bracket. Make sure that the power supply is inserted deep enough so that all of the connector pins make complete contact with those on the motherboard.
- 4. Secure the IX-PWSL to the upper and lower shelf brackets with two screws provided.
- 5. Connect the green ground wire attached to the IX-PWSL (located in step 1) to the left screw terminal on the lower shelf bracket marked GND (Figure 5.6.17) using one of the screws provided.
- 6. Remove the two screws from AC Power Supply Cable plate on the left side of the IX-CMMBU Base Unit.
- 7. Take the white connector end of the AC Power Supply cable and run it through the square opening on the left side of the IX-CMMBU Base Unit. Continue to run the cable up the left cable raceway through IX-CML common module, and two IX-EXPML1 expansion modules
- 8. Run the other end of the AC power cord through down the left cable raceway through the two IX-EXPML1 expansion modules, IX-CML common module and IX-CML base unit, exiting the cabinet through the right side of the IX-CML base unit.
- Plug the white connector coming from the AC power cord (provided with the IX-EXPML2
 expansion module) into the mini-AMP type connector marked AC IN on the lower front of the
 IX-PWSL.

Chapter 6 ADIX-APS Installation

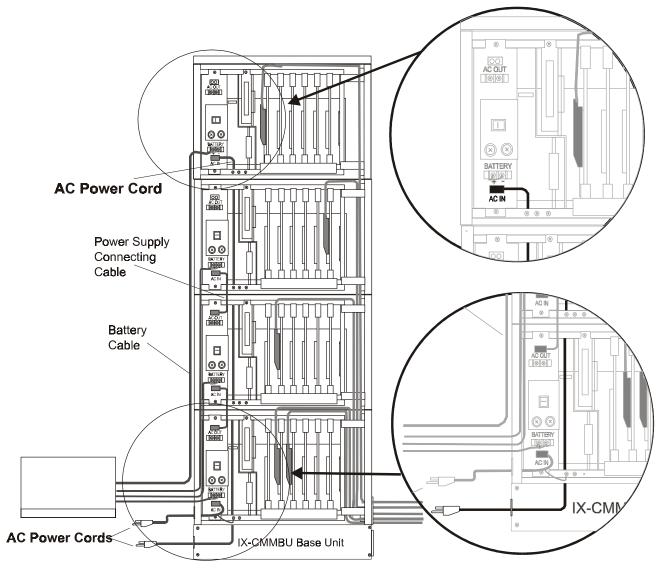


figure 5.6.17. IX-EXPML power supply installation

Chapter 6 ADIX-APS Installation

Fully Expanded ADIX APS System

Important: An IX-CPU20/ MEM-L is required for ADIX APS systems with four or more shelves.

A fully-expanded ADIX APS consists of an IX-CML Common Module, three IX-EXPML1 Expansion Modules, and one IX-EXPML2 Expansion Module. The IX-EXPML1 Expansion Module is used to add the second, third and fifth shelves to the ADIX APS. Use the IX-EXPML2 Expansion module when adding the fourth shelf.

The IX-EXPML1 expansion module provides the ADIX APS with an additional six universal card slots. The first universal card slot provides 24 circuits on one highway. The second card slot provides 8 circuits on the same highway as the first card slot. The remaining 4 card slots each provide 16 circuits on two highways. An IX-PWSL power supply is required for each IX-EXPML1 installed.

Note 1: It is strongly recommended that the battery backup be connected to each shelf of a multi-shelved ADIX APS System.

Note 2: The setting of position 4 of CPUSW on the IX-CPUP/HW card must be set to ON, when the IX-CPU20/ MEM-L is installed on the IX-CPUP/HW card.

Note 3: The IX-EDVIF card should not be installed in the fourth or fifth cabinets in the ADIX APS System due to a FIFO addressing conflict. The IX-EDVIF will only function in the first three cabinets.

Component	Quantity
Expansion Module 1 (IX-EXPML1)	1
Pan Head Screws (Gold)	4
ADIX Exp Power Cable	1
ADIX EML1 Exp Flat cable	1
ADIX Ground Wire	1
ADIX Wall Mounting Bracket L	1
ADIX Wall Mounting Bracket R	1
Binding Screws	4
Sticker Set	1

Component	Quantity
Expansion Module 2 (IX-EXPML2)	1
Pan Head Screws (Gold)	4
ADIX Exp Power Cable	1
ADIX EML2 Exp flat cable	1
ADIX Ground Wire	1
ADIX Wall Mounting Bracket L	1
ADIX Wall Mounting Bracket R	1
ADIX EML2 AC Cord	1
Cable Clamp	2

Assembly

The procedure below explains how to assemble a five-cabinet system with an IX-CML Common Module, three IX-EXPML1 Expansion Modules, one IX-EXPML2 Expansion Module, and an IX-CMMBU Base Unit.

To install an IX-CML with four IX-EXPMLn Expansion Modules, and IX-CMMBU:

- 1. Power down the system and unplug the AC power cord from the AC outlet.
- 2. Remove the four binding head screws securing the top cover of the IX-CML. Lift to remove.
- 3. Loosen the two screws securing the front panels on both the IX-CML and all IX-EXPML*n* units. **Note:** They are captured screws and cannot be removed from the panel.
- 4. The front panels are held to the chassis with ball-catches. Pull to remove.
- 5. Place the IX-CML on top of the IX-CMMBU. Align the IX-CML with the top of the IX-CMMBU and attach with the four binding head screws provided (Figure 35).
- 6. Place the IX-EXPML1 on top of the IX-CML. Align the IX-EXPML1 with the top of the IX-CML and attach with the four binding head screws provided (Figure 5.6.18).
- 7. Connect the green ground wire provided with the IX-EXPML1 from the right screw terminal on the lower shelf bracket marked GND on the IX-EXPML1 to the screw terminal on the upper shelf bracket marked GND on the IX-CML or IX-EXPML1 directly below.
- 8. Repeat steps 3 through 7 to add a second IX-EXPML1 unit.
- 9. Place the IX-EXPML2 on top of the second IX-EXPML1. Align the IX-EXPML2 with the top of the IX-EXPML1 and attach with the four binding head screws provided (figure 5.6.18).
- 10. Connect the green ground wire provided from the right screw terminal on the lower shelf bracket marked GND to the screw terminal on the upper shelf bracket marked GND on the IX-EXPML1 directly below.
- 11. Repeat steps 3 through 7 to add a third IX-EXPML1 unit.
- 12. Secure the top cover to the upper IX-EXPML1 unit.

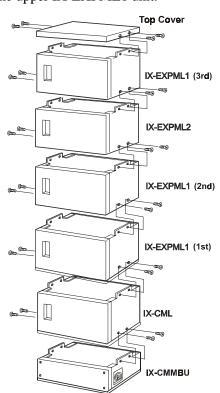


FIGURE 5.6.18. ASSEMBLY FOR a FIVE-CABINET SYSTEM

Chapter 6 ADIX-APS Installation

Wall Mounting

See page 5-71 for Wall Mounting Installation.

System Bus Connection Full Expanded ADIX APS

The system bus connection must be modified when a third IX-EXPML1 unit is added.

Note 1: Bus connection differs depending on the number of IX-EXPML1 units being added.

Note 2: It is recommended that the system bus connection be installed before connecting the power supply.

© Completed System Bus Connection for five cabinets (full system):

The drawing below illustrates a completed bus connection. IX-EXPML1 (1st) refers to the second cabinet in the system. IX-EXPML1 (2nd) refers to the third cabinet in the system. IX-EXPML2 refers to the fourth cabinet in the system. IX-EXPML1 (3rd) refers to the fifth cabinet of the system.

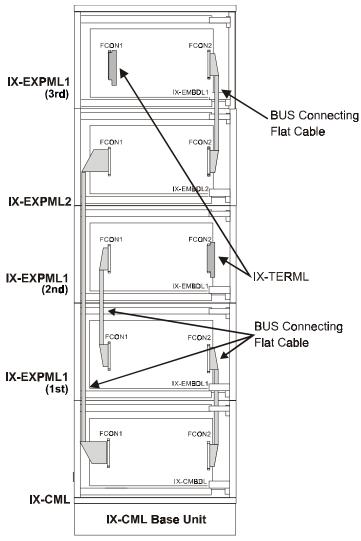


FIGURE 5.6.18. BUS CONNECTION FOR FIVE-CABINET SYSTEM

1. Disconnect the IX-TERML from FCON1 on the left side of the IX-CML by pressing the black levers on top and bottom of each IX-TERML, and gently pulling out of the socket. Connect the IX-TERML to FCON2 on the right side of the second IX-EXPML1. Make sure that the IX-TERML snaps into place. The connector is keyed and will only fit in one direction.

- 2. Disconnect the IX-TERML from FCON2 of the IX-CML. Connect the IX-TERML to FCON1 of the third IX-EXPML1 (the fifth cabinet.)
- 3. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON2 on the right side of the IX-CML. Thread the cable through two elliptical cut-outs on the right side of the both cabinets. Connect the other end of the flat cable to FCON2 on the right side of the first IX-EXPML1.
- 4. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON1 on the left side of the first IX-EXPML1. Thread the cable through two elliptical cutouts on the left side of the both cabinets. Connect the other end of the flat cable to FCON1 on the left side of the second IX-EXPML1.
- 5. Find a flat gray cable provided with an IX-EXPML1. Connect one end of the flat cable to FCON2 on the right side of the IX-EXPML2. Thread the cable through two elliptical cut-outs on the right side of the both cabinets. Connect the other end of the flat cable to FCON2 on the right side of the third IX-EXPML1 (the fifth cabinet.)
- 6. Find the long Bus Connecting Flat Cable provided with the IX-EXPML2. Connect one end of the cable to FCON1 on the left side of the IX-CML. Thread the cable through the elliptical cutouts on left side of the cabinets up to the IX-EXPML2. Connect the other end of the cable to FCON1 on the left side of the IX-EXPML2 motherboard.

Chapter 6 ADIX-APS Installation

Complete Cabling

Figure 5.6.19 illustrates complete cabling for a fully expanded system.

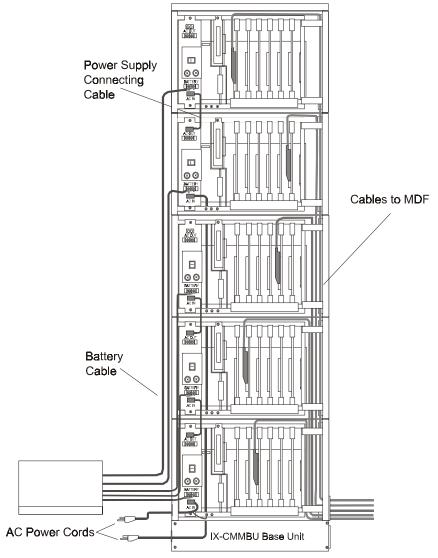


FIGURE 5.6.19. COMPLETE CABLING FOR FIVE CABINET SYSTEM



Backup Battery and Common Control Card Installation (ADIX)

Additional Power Supplies

Certain circuit cards and system features require additional power supplies. Refer to **Section 4** – **Component Description** for more details. The table below lists the different additional power supplies available and the function of each:

Additional Power Supplies		
Model	Function	
IX-DCDCA	Provides -48VDC, +90VDC for ADIX	
IX-DCDCB	Provides -48VDC for ADIX	
IX-DCDCM	Provides -48VDC for ADIX-M	
IX-DCDCU	Provides ±8VDC for tower 2	
IX-MSGPW	(Discontinued) Provides +90VDC	
IX-RNGU	Provides +90VDC for ADIX	
IX-RNGUM	Provides +90VDC for ADIX-M	

Installing the IX-DCDCA, IX-DCDCB, and IX-MSGPW Power Supplies

At the far left of each IX-CM and IX-EXPM shelf is a dedicated slot marked DCDC. This slot is reserved for the IX-DCDCA, IX-DCDCB, and IX-MSGPW additional power supplies. Install the additional power supply as illustrated below:

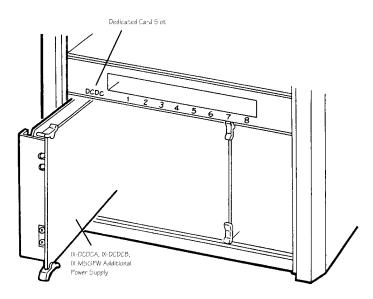


FIGURE 5.7-1 INSTALLING AN IX-DCDCA, IX-DCDCB, OR IX-MSGPW

Installing the IX-DCDCU Power Supply

The IX-DCDCU provides an additional ±8VDC for the second tower of a double-tower system. The other power outputs, +5 VDC and +24 VDC from the main power supply, are relayed to the back plane of the second tower through this unit. Instructions for installing this unit are provided on page 5-43.

Installing the IX-RNGU Power Supply

The IX-RNGU ring generator unit supplies ringing voltage to two consecutive shelves of the ADIX by converting +24 VDC from the main power supply to 90 VAC. This voltage is used to ring up to 128 single-line telephones. Each ADIX tower has connectors for two IX-RNGU units. The IX-RNGU is located in the IX-CNTM converter cabinet. It is connected to PCON2A of the IX-CM/EXPM motherboard. To extend the range to a second shelf a connection must be made from PCON2B on the first shelf to PCON2A on the shelf directly above as illustrated in the wiring diagram below:

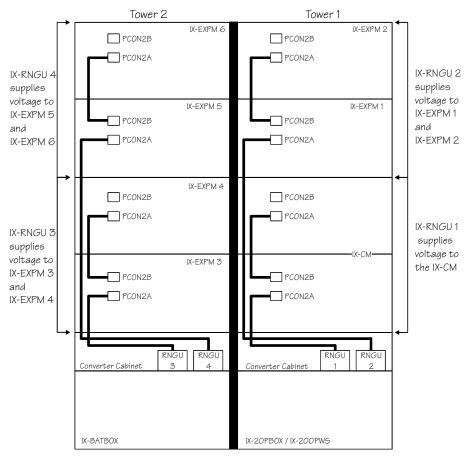


FIGURE 5.7-2 TWO-PAIR BATTERY CONNECTION

Backup Battery Installation

This section describes the correct procedure for connecting backup batteries to the IX-PWSM power supply for ADIX-M. If the backup batteries are not connected to the IX-PWSM power supply as illustrated and described in this document, the IX-PWSM power supply will be damaged.

Note About Backup Batteries. In most installations, two 12 volt gel cell batteries are connected in series to provide 24 volts of backup power. Gel cell batteries are available through local vendors.

Identifying the (+) and (-) Backup Battery Terminals

The (+) positive and (-) negative backup battery terminals are illustrated in figure 5.7-3. These are the only terminals on the IX-PWSM that may be used for back-up battery connection.

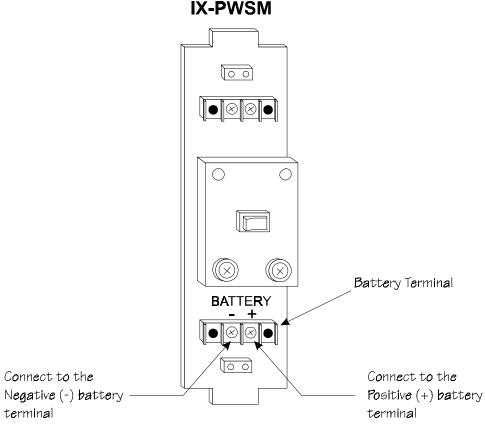


FIGURE 5.7-3 IX-PWSM BATTERY TERMINAL

Procedure for Connecting Backup Batteries to the IX-PWSM

Follow the procedure listed below to connect backup batteries to the IX-PWSM power supply.

- 1. Make sure the system power is OFF.
- 2. Remove the front panels of the IX-CMM or IX-EXPMM module.
- 3. Feed the battery cable through the opening marked BATT on the lower left side of the IX-CMM.
- 4. Connect the batteries to the positive (+) and negative (-) screw terminals on the connector labeled BATTERY on the IX-PWSM power supplies as illustrated in figure 5.7-4. Always connect the positive (+) side first.

Important: Make sure that the conductors on the battery cables do not touch the chassis or any other metal parts of the IX-PWSM or IX-CMM and IX-EXPM modules.

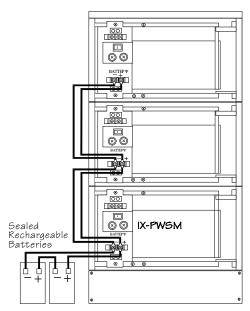


FIGURE 5.7-4 BACKUP BATTERY CONNECTION.

5. If multiple power supplies are used, each power supply must be connected directly to the battery array as illustrated in figure 2. The screw terminals on each power supply labeled BATTERY (+) and (–) are the only connection points used for battery backup.

CPU Card Installation

The card slot that the IX-CPUP/HW Controller Card is installed in differs depending on the common module model. On the IX-CMM common module (ADIX-S/M) the card is installed in the slot marked CPU. On the IX-CM common module (full-size ADIX) the card is installed in the slot marked HWC.

The IX-CPUL, IX-CPUL-1, IX-CPU16, and IX-CPU32 central processing unit cards are always installed in the slot marked CPU located on the first shelf of the IX-CM. The IX-CPU16M, however, is installed in the slot marked HWC when installed in an ADIX. If you are using an IX-CPUL or IX-CPUL-1, a memory expansion daughterboard must be mounted on board. For a detailed description of each CPU card see **Section 4 – Component Description**.

CPU Card Preparation

Regardless of the type of CPU card used, the following procedures must be followed:

System Size Setting The CPU card in a single-tower ADIX must be configured as 224 ports using positions 3 and 4 of the system size setting switch. The IX-CPU32 card in a double-tower ADIX must be configured as 448 ports using positions 3 and 4 of the system size setting switch.

Type of CPU card:	System Size Setting Switch:
IX-CPUP/HW	S1
IX-CPU32, CPU32-1	S1
IX-CPU16M, CPU32M	CPUSW
IX-CPU16	S1
IX-CPUL/IX-CPUL-1	SW1

System Size Setting Switch on the CPU Card					
System Size	Start Up Mode	Position 1	Position 2	Position 3	Position 4
224 Ports				On	Off
448 Ports				On	On
	Default	Off			
	Protected	On			

Note: Switch S1, Position 2 is set always to off on the IX-CPUP/HW card.

Installation

1. Mount the daughterboard containing the system software to the CPU card:

Type of CPU card:	System Software Daughterboard:	CPU Connectors:
IX-CPUP/HW	IX-CPU20 MEM-M	CN11/CN12
	IX-CPU20 MEM-L	
IX-CPU32-1	IX-ROMP32-1/IX-ROMP32-1S	CNROM1/CNROM2
IX-CPU32	IX-ROMP32	CN1/CN2
IX-CPU16M	IX-ROMP16M	ROMCN1/ROMCN2
IX-CPU16	IX-ROMP16	CN3/CN5
IX-CPUL/IX-CPUL-1	N/A	N/A

2. Connect the alarm panel cable to:

Type of CPU card:	Alarm panel connector:
IX-CPUP/HW	CN2
IX-CPU32-1	CN1
IX-CPU32	CN4
IX-CPU16M	LDCON
IX-CPU16	CN1
IX-CPUL/IX-CPUL-1	CONN3

 Card:
 Connector:

 IX-CPUP/HW
 CN1

 IX-CPU32-1
 CN6

 IX-CPU32M
 BATT

 IX-CPU32
 CN3

PFCON

CONN4

CN4

3. Make sure the NiCad battery is connected to:

IX-CPU16M

IX-CPUL-1/IX-CPUL

IX-CPU16

- 4. (**IX-CPU16M Only**) Mount the optional IX-DPHM doorphone chime daughterboard in the ECONN connector for doorphone chime tone.
- 5. Plug the CPU card into the slot marked CPU on the first shelf of the IX-CM. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 6. Secure the card stopper bracket with the two screws if no other cards are to be installed.
- 7. The IX-CPUP/HW contains a PC Programming port which can be used for modem connection. See page 5-253 for more information.



Nickel-Cadmium Battery Recycling Procedure

The RBRCTM seal on the nickel-cadmium battery connected to the CPU card indicates that Iwatsu is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful lives when taken out of service in the United States. Instead of placing nickel-cadmium batteries into the trash or a municipal waste site, which is illegal in some areas, the RBRCTM program provides a convenient alternative for disposing used nickel-cadmium batteries.

Iwatsu's participation in the RBRC™ program allows you to recycle the spent battery by dropping it off at local retailers of replacement nickel-cadmium batteries or at the authorized Iwatsu distributor from whom you purchased the product. For more information on recycling spent nickel-cadmium batteries contact your local recycling center or call 1-800-8-BATTERY. Iwatsu's involvement in this program is part of our commitment to protect the environment and conserve natural resources. The following ADIX circuit cards are shipped with a nickel-cadmium battery:

IX-CPU32-1	IX-CPU16
IX-CPU32M	IX-CPUL-1
IX-CPU32	IX-CPUL
IX-CPU16M	IX-HCIF

Nickel-Cadmium Battery Removal Instructions

1. The nickel-cadmium battery is connected to the following connector:

Card:	Connector:
IX-CPUP/HW	CN1
IX-CPU32-1	CN6
IX-CPU32M	BATT
IX-CPU32	CN3
IX-CPU16M	PFCON
IX-CPU16	CN4
IX-CPUL-1/IX-CPUL	CONN4
IX-HCIF	CN7

2. Disconnect the battery by squeezing and pulling off the connector.

Programming

For initialization and system default and reset procedures see **Section 6 – Database Programming Guide**.

Highway Card Installation

The system highway card is always installed in the slot marked HWC located on the first shelf of the IX-CM. If you are using an IX-CPU16M a highway card is not required. The IX-HWCE highway card is required for a double-tower ADIX. A single-tower ADIX can use either the IX-HWCE or IX-HWCL highway card. For a detailed description of each highway card see **Section 4 – Component Description**.

Highway Card Preparation

Internal MOH Source Setting Use switch MSSW to select one of the internal music on hold sources listed below:

- I Home on the Range
- II Greensleeves

Installation

- Mount the optional IX-DPHM doorphone chime daughterboard to the ECONN connector if doorphone chime tone is required.
- 2. Mount an IX-PLLU clock card to connectors DCONN1 and DCONN2 if required.
- 3. Mount an IX-8ECNF eight conference or IX-16ECNF 16 conference expansion daughterboard to connectors FCONN1 and FCONN2 if required.
- 4. Plug the highway card into the slot marked HWC on the first shelf of the IX-CM. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 5. Secure the card stopper bracket with the two screws if no other cards are to be installed.

Programming

None.

IX-100MBD Motherboard Upgrade

In order to accommodate the new IX-CPUP/HW Controller Card in ADIX systems larger than 224 ports, the IX-CM Common Module IX-100MBD in some systems must be replaced. Replacement IX-100MBD motherboards are available from Iwatsu America Customer Service (1-800-866-6342, Part Number: 107545).

Determining IX-100MBD Motherboard Replacement

IX-100MBD motherboard replacement is only required in ADIX systems larger than 224 ports which currently have a motherboard manufactured prior to **Rev. 1, Lot 97H.** IX-100MBD motherboard replacement is not required in ADIX systems 224 ports or less, or if the IX-100MBD motherboard was manufactured during or after **Rev. 1, Lot 97H.** Iwatsu America has been shipping these motherboards since October 1997.

Identifying the IX-100MBD Lot Number

The lot number is located in two spots, on the IX-100MBD Motherboard and on the IX-CM Common Module.

IX-CM – The lot number is located on the side of the IX-CM Common Module. All IX-CM Common Modules manufactured before **REV. 3 LOT 97H** contain IX-100MBD Motherboards that must be replaced.

IX-100MBD – The lot number is located on the bottom left corner of the IX-100MBD Motherboard. All IX-100MBD Motherboards manufactured before **REV. 1 LOT 97H** must be replaced.

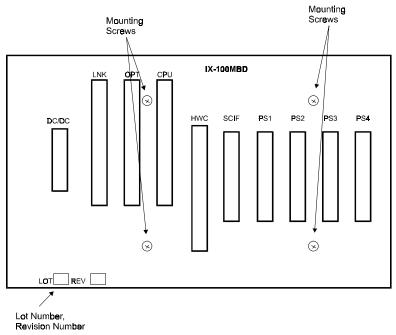


FIGURE 5.7-5 IX-100MBD MOTHERBOARD

Removing the IX-100MBD Motherboard

Note: It is important to follow anti-static procedures at all times during the removal of the IX-100MBD Motherboard. Failure to do so may result in damage to ADIX components.

- 1. Power down the ADIX and remove all components connected to the IX-100MBD Motherboard. This includes all circuit cards, power supplies, and connection devices.
- 2. Remove the cables attached to the following connectors:
 - PCON1B
 - PCON3B
 - PCON2B
 - PCON2A
 - PCON1A
 - FCON1
 - PFCON
 - FCON2
- 3. Move the cables into the upper or lower cable raceways.
- 4. Remove ground wires and screws from SG1, SG2 and SG3.
- 5. Remove the grounding bars. These bars attached to the front of the IX-CM Common Module and SG1 or SG2.
- 6. Remove the four screws used to attach the IX-100MBD to the IX-CM Common Module.
- 7. Remove the IX-100MBD from the IX-CM Common Module by lifting the motherboard straight up and then gently pulling from the bottom and left corner of the motherboard. **Tip:** Flex the IX-100MBD slightly to remove.

Installing the Replacement IX-100MBD Motherboard

Note: It is important to follow anti-static procedures at all times during the installation of the IX-100MBD Motherboard. Failure to do so may result in damage to ADIX components.

- 1. Carefully insert the IX-100MBD in the IX-CM Common Module so that the motherboard rests in the back slot of the IX-CM.
- 2. Position the IX-100MBD in the IX-CM Common Module so that the four screw holes line up with the screw holes on the IX-CM.
- 3. Insert and loosely tighten the four screws used to connect the IX-100MBD to the IX-CM Common Module.

- 4. Insert the IX-CPUP/HW card in the slot marked HWC. Slide the IX-100MBD slightly to the left or right so that the ACONN connector on the IX-CPUP/HW is properly seated in the IX-100MBD HWC connector.
- 5. Insert a station, trunk, or miscellaneous card in the slot marked PS4. Slide the IX-100MBD slightly to the left or right so that the ACONN connector on the circuit card is properly seated in the IX-100MBD PS4 connector.

6. Completely tighten the four screws used to connect the IX-100MBD to the IX-CM Common Module.

- 7. Retest the alignment of the IX-100MBD motherboard by inserting a card in each IX-CM card slot. Make sure the circuit card is properly seated. If not, repeat steps 2 through 5.
- 8. Remove the IX-CPUP/HW card and station, trunk, or miscellaneous card used in steps 2 and 3 from the IX-CM.
- 9. Reattach the grounding bars attached to SG1 and SG2 to the IX-CM Common Module. Do not attach the screws to the SG1 and SG2 grounding terminals until step 10.
- 10. Reattach the ground wires and screws to SG1, SG2 and SG3.
- 11. Reattach the cables removed in step 2 of the procedure to remove the old IX-100MBD motherboard.
- 12. Reinsert all circuit cards, power supplies, and connection devices.

Emergency System Backup

Battery Backup

If full system operation is required during a power failure, a pair of rechargeable gel cell backup batteries must be connected to the power supply. Backup batteries are charged while the system is powered up. In the event of a power failure, the batteries will prevent a system shutdown. The voltage of the batteries connected to the power supply must be between 21.7 VDC and 27.3 VDC.

Important! To reduce the risk of fire or injury, follow the instructions listed below:

- Use only a UL tested sealed battery.
- Do not dispose of the batteries by burning; the cell may explode. Check with local codes for special disposal instructions.
- Do not open or mutilate the batteries. Released electrolyte is a corrosive and may cause injury to the eyes or skin. It is toxic if swallowed.
- Handle the batteries with care to avoid shorting the battery by touching conducting materials such as rings, bracelets, screwdrivers, and pliers.
- Charge the batteries in accordance with the instructions and limitations specified on page 5-93.
- Observe proper polarity orientation between the batteries and battery charger.
- Do not mix used and new batteries in this product.
- Do not mix batteries of different sizes or from different manufacturers in this product.

The table below lists the backup power consumption of the individual ADIX components. Use it as a guide to determine the quantity of backup batteries needed.

Unit	Backup Current
	Draw
Power Supplie	es
IX-DCDCA	316 mA
IX-DCDCB	413 mA
IX-DCDCU	120 mA
IX-DCDCM	170 mA
IX-MSGPW	142 mA
IX-RNGU	320 mA
IX-RNGUM	320 mA
IX-PSMMG	45 mA
Common Card	ls
IX-CPU16	76 mA
IX-CPU16M	160 mA
IX-CPU32	353 mA
IX-CPU32-1	360 mA
IX-CPU32M	360 mA
IX-ROMP16	27 mA
IX-ROMP16M	20 mA
IX-ROMP32	28 mA
IX-ROMP32S	30 mA
IX-ROMP32-1	30 mA
IX-ROMP32-S	30 mA
IX-HWCL	80 mA
IX-HWCE	145 mA
IX-8ECNF	5 mA

Unit	Backup
	Current
	Draw
Common Card	
IX-16ECNF	5 mA
IX-EDVIF	90 mA
IX-DPHM	25 mA
IX-SCIF	25 mA
IX-HCIF	78 mA
IX-BUFM	8 mA
Trunk Cards	•
IX-8LGTK-2	205 mA
IX-4EMTK	210 mA
IX-4DITK	425 mA
IX-T1DTI	100 mA
IX-T1RCVC	85 mA
IX-8ERVC	35 mA
IX-PLLU	9mA
IX-8CITK	190 mA
IX-400	103 mA
IX-2ICOTB	50 mA
IX-ICOTP	70 mA
Station Cards	
IX-8PSUB	40 mA
IX-8PSUB-1	40 mA
IX-8DSUB	80 mA
IX-8SUBS	90 mA

Unit	Backup Current
Station Cards	Draw (Cont.)
IX-8SUBS-1	100 mA
IX-8SUBM	90 mA
IX-8SUBM-1	230 mA
IX-8SUBM-2	230 mA
IX-6SUBIVI-2	230 MA 215 mA
IX-408	143 mA
IX-044	82 mA
Miscellaneous	
IX-4TRAN	45 mA
IX-MISC	40 mA
IX-RMPU	220 mA
IX-RCVPM	15 mA
IX-4RCVC	80 mA
IX-12PMD	130 mA
IX-24PMD	130 mA
IX-EMDIF	53 mA
IX-PEXM	35 mA
IX-MSGU	60 mA
IX-EMCH	40 mA
IX-CMSG	10 mA
IX-CMSG-1	36 mA
IX-4RCVS	23 mA
IX-SREP	41 mA

Unit	Backup
	Current
	Draw
Station Equip	ment
IX-12KTS-2	70 mA
IX-12KTD-2	70 mA
IX-12ELK	N/A
IX-8KTS	70 mA
IX-8KTD	70 mA
IX-16KTS	70 mA
IX-16KTD	70 mA
IX-24KTS	70 mA
IX-24KTD	70 mA
IX-VT	60 mA
IX-ATT	180 mA
IX-BLF	230 mA
IX-DSS-A-2	130 mA
IX-DSSA	130 mA
IX-DSSB	81 mA
IX-DDPH	30 mA
IX-DMS	150 mA
IX-AUTD	30 mA
IX-BPAD	42 mA
IX-PHSAD	26 mA
IX-SSPU	15 mA
IX-LRSP	20 mA
ZT-D KTs	70 mA

ADIX

To install battery backup in an ADIX system:

- 1. Loosen the four screws and remove the front cover of the power supply.
- 2. Connect the conductors from the batteries on the IX-BACBB cable to the battery connection terminal. The red conductor is positive (+) and the black conductor is negative (-).
- 3. Connect the batteries as illustrated.

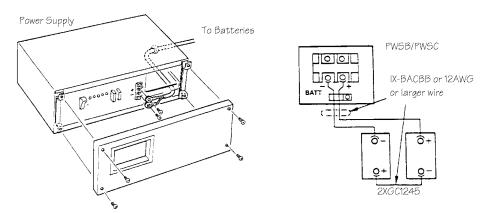


FIGURE 5.8-1 ADIX BATTERY BACKUP CONNECTION

ADIX APS and ADIX-M

Note: It is strongly recommended that the battery backup is connected to each shelf of a multishelved ADIX APS or ADIX-M. The IX-PWSS Power Supply does not support battery backup.

To install battery backup in an ADIX APS and ADIX-M system:

- 1. Remove the front panels.
- 2. Feed the battery cable through the opening marked BATT on the lower left side of the IX-CML/M.
- 3. Connect the batteries to the connection terminal marked BATTERY on the IX-PWSM power supplies as illustrated in figure 5.8-2. The red conductor is positive (+) and the black conductor is negative (-).

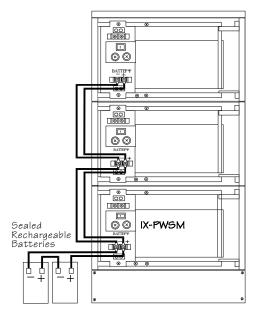


FIGURE 5.8-2 ADIX APS AND ADIX-M BATTERY BACKUP CONNECTION

If multiple power supplies are used, each power supply must be connected directly to the battery array. The screw terminals on each power supply labeled BATTERY (+) and (-) are the only connection point used for battery backup.

Note: Do not use the screw terminals labeled EX. OUT, GND or +24V for battery backup connection. These screw terminals are reserved for the connection of an internally mounted power failure transfer unit (PFXU-M).

Two-Pair Battery Connection

To increase battery capacity you can connect two pairs of backup batteries in parallel as illustrated in figure 5.8-3:

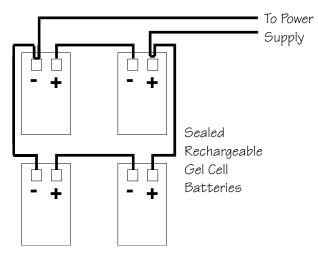


FIGURE 5.8-3 TWO-PAIR BATTERY CONNECTION

Power Failure Transfer

An alternative to the battery backup array is the PFXU-M power failure transfer unit. The PFXU-M automatically transfers designated CO/PBX lines from the ADIX or ADIX-M to single-line telephones in the event of a power failure. The SLTs can be either working extensions or SLTs reserved specifically for power failure operation. Each PFXU-M can accommodate eight CO lines. If ground start trunks are used, the SLTs must be equipped with a ground start button and wired to the ground lead on CN1 of the PFXU-M. The ground lead is a switched ground that does not operate during normal system operation. See figure 5.7-4 for an illustration of PFXU-M installation.

ADIX

To install a PFXU-M power failure transfer unit (ADIX):

- 1. Remove the front cover of the power supply.
- 2. Mount the PFXU-M to the wall with two screws.
- 3. Plug the Molex connector on one end of the PFXU-M cable into CBLD-F on the PFXU-M unit.
- 4. Connect the opposite end of the cable to the screw terminal marked CN2 on the power supply.
- 5. Cross connect the CO lines and the SLT stations to CN2 and CN1 respectively as illustrated in figure 5.8-4.

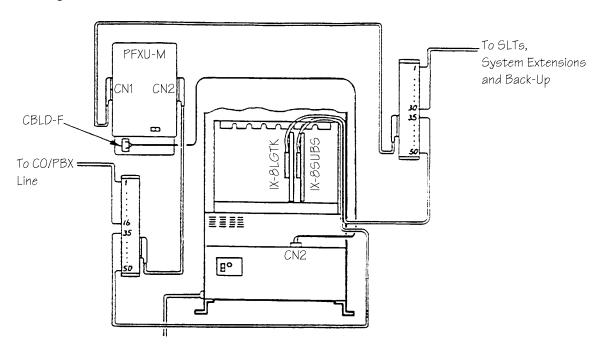


FIGURE 5.8-4 INSTALLING A POWER FAILURE TRANSFER UNIT FOR ADIX

ADIX-M

To install a PFXU-M power failure transfer unit (ADIX-M):

- 1. Remove the front panels from the ADIX-M.
- 2. Mount the PFXU-M to the wall with two screws.
- 3. Feed the PFXU-M cable through the opening marked BATT on the lower left side of the IX-CMM.
- 4. Plug the Molex connector on one end of the PFXU-M cable into CN3 on the PFXU-M unit.
- 5. Connect the opposite end of the cable to the screw terminal marked EX OUT on the power supply installed in the IX-CMM.
- 6. Connect the blue wire to the screw terminal marked GND on the power supply located in the IX-CMM.
- 7. Connect the black wire to the screw terminal marked +24VDC on the power supply located in the IX-CMM.
- 8. Cross connect the CO lines and the SLT stations to CN2 and CN1 respectively as illustrated in figure 5.8-5.

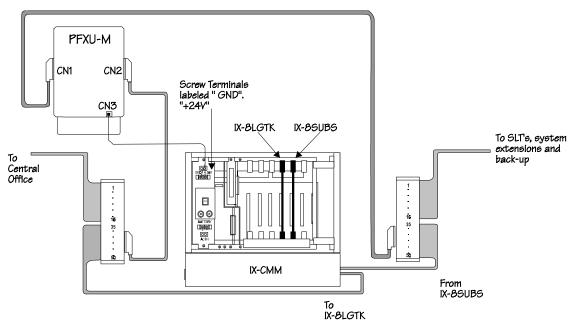


FIGURE 5.8-5 INSTALLING A POWER FAILURE TRANSFER UNIT FOR ADIX-M

PFXU-M Wiring

CN1					
PFXU Conn.	PFXU Cable	Designation	Function		
(CN1)	Wire Color				
26	WHT-BLU	Т			
1	BLU-WHT	R	SLT #1		
27	WHT-ORN	GND*	021 #1		
2	ORN-WHT	512			
28	WHT-GRN	Т			
3	GRN-WHT	R	SLT #2		
29	WHT-BRN	GND*	021 #2		
4	BRN-WHT	GITE			
30	WHT-SLT	Т			
5	SLT-WHT	R	SLT #3		
31	RED-BLU	GND*	021 #0		
6	BLU-RED	GIVE			
32	RED-ORN	Т			
7	ORN-RED	R	SLT #4		
33	RED-GRN	GND*	JE1 117		
8	GRN-RED	GIVD			
34	RED-BRN	Т			
9	BRN-RED	R	SLT #5		
35	RED-SLT	GND*	OLI #3		
10	SLT-RED	GIVD			
36	BLK-BLU	Т			
11	BLU-BLK	R	SLT#6		
37	BLK-ORN	GND*	OL1#0		
12	ORN-BLK	GIVD			
38	BLK-GRN	Т			
13	GRN-BLK	R	SLT#7		
39	BLK-BRN	GND*	OLI III		
14	BRN-BLK	GIVE			
40	BLK-SLT	Т			
15	SLT-BLK	R	SLT #8		
41	YEL-BLU	GND*	021 770		
16	BLU-YEL	GILE			
42	YEL-ORN		SPARE		
17	ORN-YEL		J		
43	YEL-GRN	1ET	8 tip & ring		
18	GRN-YEL	1ER	connections		
44	YEL-BRN	2ET	to IX-8SUBS		
19	BRN-YEL	2ER	ports		
45	YEL-SLT	3ET	P5/10		
20	SLT-YEL	3ER			
46	VIO-BLU	4ET			
21	BLU-VIO	4ER			
47	VIO-ORN	5ET			
22	ORN-VIO	5ER			
48	VIO-GRN	6ET			
23	GRN-VIO	6ER			
49	VIO-BRN	7ET			
24	BRN-VIO	7ER			
50	VIO-SLT	8ET			
25	SLT-VIO	8ER			
	J	J			

CN2					
PFXU Conn.	PFXU Cable	Designation	Function		
(CN2)	Wire Color	3 3 3			
26	WHT-BLU	1T	8 tip & ring		
1	BLU-WHT	1R	connections		
27	WHT-ORN	2T	to CO/PBX		
2	ORN-WHT	2R	lines or OPX		
28	WHT-GRN	3T	trunks		
3	GRN-WHT	3R	serving as		
29	WHT-BRN	4T	ADIX trunks		
4	BRN-WHT	4R			
30	WHT-SLT	5T			
5	SLT-WHT	5R			
31	RED-BLU	6T			
6	BLU-RED	6R			
32	RED-ORN	7T			
7	ORN-RED	7R			
33	RED-GRN	8T			
8	GRN-RED	8R			
34	RED-BRN				
9	BRN-RED				
35	RED-SLT				
10	SLT-RED				
36	BLK-BLU				
11	BLU-BLK				
37	BLK-ORN				
12	ORN-BLK				
38	BLK-GRN				
13	GRN-BLK		SPARE		
39	BLK-BRN		0171112		
14	BRN-BLK				
40	BLK-SLT				
15	SLT-BLK				
41	YEL-BLU				
16	BLU-YEL				
42	YEL-ORN				
17	ORN-YEL				
43	YEL-GRN	1T	8 tip & ring		
18	GRN-YEL	1R	connections		
44	YEL-BRN	2T	to IX-8LGTK		
19	BRN-YEL	2R	ports		
45	YEL-SLT	3T	p		
20	SLT-YEL	3R			
46	VIO-BLU	4T	İ		
21	BLU-VIO	4R			
47	VIO-ORN	5T	İ		
22	ORN-VIO	5R	Ť		
48	VIO-GRN	6T	†		
23	GRN-VIO	6R	İ		
49	VIO-BRN	7T	†		
24	BRN-VIO	7R	†		
50	VIO-SLT	8T	†		
25	SLT-VIO	8R			

CO Line Installation

This chapter describes the installation process for terminating CO lines to ADIX trunk cards. Inspect all system components before beginning the installation process.

Trunk Interface Cards

Trunk interface cards are used to connect both analog and digital trunks to the system. Trunk circuits can be programmed to accommodate either DP or DTMF lines.

Each trunk card has a make busy LED that works in conjunction with the card's make busy switch. The make busy switch is used to disable (make busy) all of the circuits on the card for power-on maintenance. Make busy LED lamp status is listed in the table below:

LED Status	Description
Off	All circuits idle
Steady	Minimum of one circuit busy
Flashing	All circuits idle and made busy (out of service)

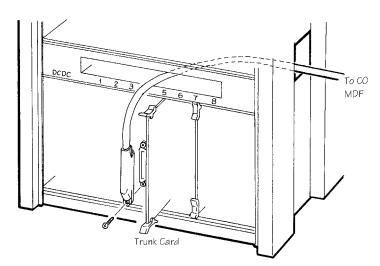


FIGURE 5.9-1 TRUNK CARD INSTALLATION

Installing Loop/Ground Start Lines (IX-8LGTK-2)

Loop and ground start trunks are terminated to the IX-8LGTK-2 card. The IX-8LGTK-2 card contains eight CO/PBX line interface circuits. Each circuit can be used for either a loop start or a ground start trunk. The trunk type is selected using switches SW103-SW803. A -48 VDC optional power supply (IX-DCDCA or IX-DCDCB) is required with ground start trunks. See **Section 4 – Component Description** for detailed information on the IX-8LGTK-2 card.

Preparation

CAUTION! Set switch SW1 to the MB position and wait until the MB LED starts flashing before removing or inserting a circuit card while the ADIX is powered up.

- Set line loss with switches SW101-SW801. These switches are numbered in order of the CO line circuits on the card. The factory default setting is 0dB. See Section 4 Component Description for setting values.
- 2. Set each circuit to loop start or ground start interface with switches SW103 SW803 (numbered in order of CO line circuits on the card).
- 3. Set the impedance of each circuit to either 600 Ohms or 900 Ohms using switches SW102 SW802.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-8LGTK-2 card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the central office tip and ring to the desired circuit on the IX-8LGTK-2 card according to the table below. **Note:** Make sure the polarity of the wires is correct when making connections.

CO/PBX Line Designation						
	Amph. Pin	MDF Pin	CM Wire	RJ11 Jack		
IX-8LGTK-2	No.	No.	Color	Pin No.	Wire Color	
	26	1	W-BL			
NO	1	2	BL-W			
CONNECTION	:	:	:			
	41	31	Y-BL			
	16	32	BL-Y			
1T	42	33	Y-O	2	GN	
1R	17	34	O-Y	1	R	
2T	43	35	Y-GN	2	GN	
2R	18	36	GN-Y	1	R	
3T	44	37	Y-BR	2	GN	
3R	19	38	BR-Y	1	R	
4T	45	39	Y-SL	2	GN	
4R	20	40	SL-Y	1	R	
5T	46	41	V-BL	2	GN	
5R	21	42	BL-V	1	R	
6T	47	43	V-O	2	GN	
6R	22	44	0-V	1	R	
7T	48	45	V-GN	2	GN	
7R	23	46	GN-V	1	R	
8T	49	47	V-BR	2	GN	
8R	24	48	BR-V	1	R	
	:	:	:			
NO	50	49	V-SL			
CONNECTION	25	50	SL-V			

Chapter 9 CO Line installation

Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio.

Installing Caller ID Loop Start Lines (IX-8CITK)

Caller ID loop start trunks are terminated to the IX-8CITK card which contains eight caller ID trunk interface circuits. See **Section 4 – Component Description** for detailed information on the IX-8CITK card.

Note: The system software must be version 4.60/5.60 to support caller ID.

Preparation

CAUTION! Set switch SW1 to the MB position and wait until the MB LED starts flashing before removing or inserting a circuit card while the ADIX is powered up.

- 1. Set line loss with switches SW101-SW801. These switches are numbered in order of the CO line circuits on the card. The factory default setting is 0dB.
- 2. Set the impedance of each circuit to 600 Ohms or 900 Ohms using switches SW102 SW802.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-8CITK card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the central office tip and ring to the desired circuits on the IX-8CITK card according to the table below. **Note:** Make sure the polarity of the wires is correct when making connections.

CO/PBX Line Designation						
	Amph. Pin	MDF Pin	CM Wire	RJ11 Jack		
IX-8CITK	No.	No.	Color	Pin No.	Wire Color	
	26	1	W-BL			
NO	1	2	BL-W			
CONNECTION						
	41	31	Y-BL			
	16	32	BL-Y			
1T	42	33	Y-O	2	GN	
1R	17	34	O-Y	1	R	
2T	43	35	Y-GN	2	GN	
2R	18	36	GN-Y	1	R	
3T	44	37	Y-BR	2	GN	
3R	19	38	BR-Y	1	R	
4T	45	39	Y-SL	2	GN	
4R	20	40	SL-Y	1	R	
5T	46	41	V-BL	2	GN	
5R	21	42	BL-V	1	R	
6T	47	43	V-O	2	GN	
6R	22	44	0-V	1	R	
7T	48	45	V-GN	2	GN	
7R	23	46	GN-V	1	R	
8T	49	47	V-BR	2	GN	
8R	24	48	BR-V	1	R	
	:	:	:			
NO	50	49	V-SL			
CONNECTION	25	50	SL-V			

Chapter 9 CO Line installation

Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio; Class 24 Caller ID/ANI Conversion Data.

Installing the IX-408 Card

The IX-408 card consists of eight digital station (PSUB-1) ports and four Caller ID trunk (CITK) ports. This card may be inserted in any IX-CMM Common Module card slot. This card was designed to be utilized in the IX-CMM Common Module to take advantage of the unique additional highway structure of the IX-CMM. If the IX-408 card is installed in any IX-EXPMM, IX-CM, or IX-EXPM card slot, it requires two consecutive card slots on the same shelf to operate.

Note: The system software must be version 4.60/5.60 to support caller ID.

Digital Station (PSUB-1) Ports. The eight PSUB-1 ports are terminated on ports 1-8 of the card slot (physical ports 97-104 of card slot 1). They interface ADIX digital station terminals to the IX-CMM Common Module.

Each PSUB-1 circuit of the IX-408 card is connected to an ADIX digital telephone or DSS unit using #22/24 AWG one-pair twisted cable. If a busy bypass unit is used with an ADIX digital telephone, #22/24 AWG two-pair twisted cable is required. The loop limit of ADIX digital station terminals is 1000 feet. The loop limit can be extended using star repeaters.

Caller ID Trunk (CITK) Ports. The four CITK ports are terminated on ports 9-12 of the card slot (physical ports 105-108 of card slot 1). They interface central office/PBX circuits that provide caller ID service to the IX-CMM Common Module.

Physical Port Mapping Table (IX-CMM)

Card Installed In IX-CMM Slot	Digital Station Ports	Caller ID Ports
1	097-104	105-108
2	1-8	129-132
3	9-16	137-140
4	17-24	145-148
5	25-32	153-156

Preparation

CAUTION! Set switch MBSW1 to the MB position and wait until MBLED1 and MBLED2 start flashing before removing or inserting a circuit card while the system is powered up.

- 1. Determine the IX-CMM or IX-CM card slot in which you will install the IX-408 card.
- 2. Set both SW1 and SW2 according to the following table:

Card Position	SW1	SW2
IX-CMM Slot 1	SLOT 1	SLOT 1
IX-CMM Slot 2-5	SLOT 2-5	SLOT 2-5
Any other cabinet (IX-EXPMM, IX-CM, IX-EXPM)	SLOT 1	SLOT 1

3. Set trunk attenuation with switches SW121-SW421. These switches are numbered in order of the CO line circuits on the card. The factory default setting is 0dB.

Chapter 9 CO Line installation

Installation

1. Plug the card into the card slot determined above. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.

2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-408 card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the central office tip and ring to the desired circuits on the IX-8CITK card according to the table below. **Note:** Make sure the polarity of the wires is correct when making connections.

Digital	Amphenol	MDF "66"	25-Pair	RJ11	Jack
Station Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
FG	27	3	W-O	4	Υ
FG	2	4	O-W	1	BK
2PT	28	5	W-GN	3	GN
2PR	3	6	GN-W	2	R
FG	29	7	W-BR	4	Y
FG 3PT	4 30	8 9	BR-W W-SL	1	BK GN
3P1 3PR		10	W-SL SL-W	3 2	GN R
FG	5 31	10	R-BL	4	Ϋ́
FG FG	6	12	BL-R	1	BK
4PT	32	13	R-O	3	GN
4PR	7	14	0-R	2	R
FG	33	15	R-GN	4	Ϋ́
FG	8	16	GN-R	i	BK
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
FG	35	19	R-SL	4	Υ
FG	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
FG	37	23	BK-O	4	Y
FG	12	24	O-BK	1	BK
7PT	38	25	BK-GN	3	GN
7PR	13	26	GN-BK	2 4	R Y
FG FG	39 14	27 28	BK-BR BR-BK	1	Y BK
8PT	40	29	BK-SL	3	GN
8PR	40 15	29 30	SL-BK	2	R R
FG	41	31	Y-BL	4	Ϋ́
FG	16	32	BL-Y	1	BK
Caller ID	Amphenol	MDF "66"	25-Pair	RJ11	Jack
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1T	42	33	Y-0	2	GN
1R	17	34	0-Y	1	R
2T	43	35	Y-GN	2	GN
2R	18	36	GN-Y	1	R
3T	44	37	Y-BR	2	GN
3R	19	38	BR-Y	1	R
4T	45	39	Y-SL	2	GN
4R	20	40	SL-Y	1	R

Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio; Class 24 Caller ID/ANI Conversion Data.

Chapter 9 CO Line installation

Installing the IX-044 Card and IX-400 Caller ID Module

The IX-044 card consists of four single-line (SUBS-2) ports and four digital station (PSUB-1) ports. Four caller ID trunk (CITK) ports may be added to the IX-044 with the addition of an IX-400 daughterboard.

Important! When configured **without** an IX-400 caller ID trunk daughterboard, the IX-044 card may be installed in any IX-CMM Common Module card slot. However, when the IX-400 caller ID trunk daughterboard is utilized, the IX-044 card **must** be installed in IX-CMM Common Module card slot 1. This card was designed to be utilized in the IX-CMM Common Module to take advantage of the unique additional highway structure of the IX-CMM. If the IX-044 card is installed in any IX-EXPMM, IX-CM, or IX-EXPM card slot, it requires two consecutive card slots on the same shelf to operate **without** the IX-400 and three consecutive card slots on the same shelf to operate **with** the IX-400.

Single-Line Station (SUBS-2) Ports. The four SUBS-2 ports are terminated on ports 1-4 of the card slot (physical ports 97-100 of card slot 1). They interface analog station terminal devices to the IX-CMM Common Module.

Digital Station (PSUB-1) Ports. The four PSUB-1 ports are terminated on ports 9-12 of the card slot (physical ports 105-108 of card slot 1). They interface ADIX digital station terminals to the IX-CMM Common Module.

Each PSUB-1 circuit on the IX-044 card is connected to an ADIX digital telephone or DSS unit using #22/24 AWG one-pair twisted cable. If a busy bypass unit is used with an ADIX digital telephone, #22/24 AWG two-pair twisted cable is required. The loop limit of ADIX digital station terminals is 1000 feet. The loop limit can be extended using star repeaters.

IX-400 Caller ID Daughterboard (CITK Caller ID Trunk Ports)

The IX-400 daughterboard interface central office/PBX circuits that provide caller ID service to the IX-CMM Common Module. The IX-400 daughterboard will also support central office loop start trunks. The IX-400 Caller ID Trunk daughterboard is connected to CN1 and CN2 on the IX-044 card. When connected to the IX-044 card, the four CITK ports are terminated on ports 113-116 of card slot 1.

Important: When the IX-400 daughterboard is utilized on the IX-044 card, the IX-044 card **must** be installed in IX-CMM card slot 1.

Physical Port Mapping Table (IX-CMM)

Card Installed In IX-CMM Slot	SLT Ports	Digital Station Ports	Caller ID Ports
1	097-100	105-108	113-116
2	001-004	129-132	N/A
3	009-012	137-140	N/A
4	017-020	145-148	N/A
5	025-028	153-156	N/A

Preparation

CAUTION! Set switch MBSW1 to the MB position and wait until MBLED1, MBLED2, and MBLED3 start flashing before removing or inserting a circuit card while the system is powered up.

1. Determine the IX-CMM or IX-CM card slot in which you will install the IX-044 card (IX-400 daughterboard).

2. Set **both** SW1 and SW2 on the IX-044 card according to the following table:

Card Position	SW1	SW2
IX-CMM Slot 1	SLOT 1	SLOT 1
IX-CMM Slot 2-5	SLOT 2-5	SLOT 2-5
Any other cabinet (IX-EXPMM,	SLOT 1	SLOT 1
IX-CM, IX-EXPM)		

3. Set trunk attenuation with switches SW101-SW401 located on the IX-400. These switches are numbered in order of the CO line circuits on the card. The factory default setting is 0dB.

Installation

- 1. Plug the card into the card slot determined above. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-044 card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- Cross connect the central office tip and ring to the desired circuits on the IX-8CITK card
 according to the table below. Note: Make sure the polarity of the wires is correct when making
 connections.

Chapter 9 CO Line installation

Single Line	Amphenol	MDF "66"	25-pair	RJ11	l Jack
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
FG	27	3	W-O	4	Y
FG	2	4	O-W	1	BK
2T	28	5	W-GN	3	GN
2R FG	3 29	6 7	GN-W W-BR	2 4	R Y
FG FG	4	8	BR-W	1 1	BK
3T	30	9	W-SL	3	GN
3R	5	10	SL-W	2	R
FG	31	11	R-BL	4	Ϋ́
FG	6	12	BL-R	1	BK
4T	32	13	R-O	3	GN
4R	7	14	O-R	2	R
FG	33	15	R-GN	4	Ϋ́
FG	8	16	GN-R	1	BK
Digital Station	Amphenol	MDF	СМ	RJ11	l Jack
Ports	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
FG	35	19	R-SL	4	Υ
FG	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
FG FG	37 12	23	BK-O O-BK	4	Y BK
7PT	38	24 25	BK-GN	1	GN
7PT 7PR	13	25 26	GN-BK	3 2	R R
FG	39	27	BK-BR	4	Ϋ́
FG	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
FG	41	31	Y-BL	4	Υ
FG	16	32	BL-Y	1	BK
	Amphenol	MDF "66"	25-pair	RJ11	Jack
CITK	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1CT	42	33	Y-0	2	GN
1CR	17	34	O-Y	1	R
2CT	43	35	Y-GN	2	GN
2CR	18	36	GN-Y	1	R
3CT	44	37	Y-BR	2	GN
3CR	19	38	BR-Y	1	R
4CT	45	39	Y-SL	2	GN
4CR	20	40	SL-Y	1	R

Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio; Class 24 Caller ID/ANI Conversion Data.

Installing DID Lines (IX-4DITK)

DID trunks are terminated to the IX-4DITK card which contains four DID trunk interface circuits. Either the IX-DCDCA or IX-DCDCB additional power supply is required on the shelf where this card is installed. If DTMF address signals are sent from the CO an IX-4RCVS daughterboard must be connected to the IX-4DITK card. See **Section 4 – Component Description** for detailed information on the IX-4DITK and IX-4RCVS cards.

Preparation

CAUTION! Set switch SW1 to the MB position and wait until the MB LED starts flashing before removing or inserting a circuit card while the ADIX is powered up.

- 1. Set line loss with switches SW101-SW401. These switches are numbered in order of the CO line circuits on the card. The factory default setting is 0dB.
- 2. Set the impedance of each circuit to 600 Ohms or 900 Ohms using switches SW102 SW402.
- 3. Connect an IX-4RCVS daughterboard to the ECONN and DCONN connectors on the IX-4DITK card if the DID trunk receives DTMF address signals from the CO.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-4DITK card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the central office tip and ring to the desired circuits on the IX-4DITK card according to the table below. **Note:** Make sure the polarity of the wires is correct when making connections.

CO/PBX Line Designation					
	Amph. Pin	Amph. Pin MDF Pin CM Wire RJ11 Jack		Jack	
IX-4DITK	No.	No.	Color	Pin No.	Wire Color
	26	1	W-BL		
NO	1	2	BL-W		
CONNECTION	:	:	:		
	41	31	Y-BL		
	16	32	BL-Y		
1T	42	33	Y-O	2	GN
1R	17	34	O-Y	1	R
2T	43	35	Y-GN	2	GN
2R	18	36	GN-Y	1	R
3T	44	37	Y-BR	2	GN
3R	19	38	BR-Y	1	R
4T	45	39	Y-SL	2	GN
4R	20	40	SL-Y	1	R
	:	:	:		
NO	50	49	V-SL		
CONNECTION	25	50	SL-V		

Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; Class 09 DID Data; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio.

Installing E&M Tie Lines (IX-4EMTK)

E&M tie lines are terminated to the IX-4EMTK card which contains four E&M tie line interface circuits. Either the IX-DCDCA or IX-DCDCB additional power supply is required when this card is used. See **Section 4 – Component Description** for detailed information on the IX-4EMTK card.

Preparation

CAUTION! Set switch SW1 to the MB position and wait until the MB LED starts flashing before removing or inserting a circuit card while the ADIX is powered up.

1. Set each circuit to E&M Type I or Type II using switches SW101-SW401 and SW102-SW402. These switches are numbered in order of the E&M tie line circuits on the card. The factory default setting is Type I. **Note:** Two switches must be set for each circuit.

On Hook/Off Hook Signal States				
Lead	On-Hook Off Hook		On Hook	Off Hook
М	GROUND	-48VDC	OPEN	-48VDC
SB	_	_	-48VDC	-48VDC
Е	-48VDC	GROUND	-48VDC	GROUND
SG	_	_	GROUND	GROUND

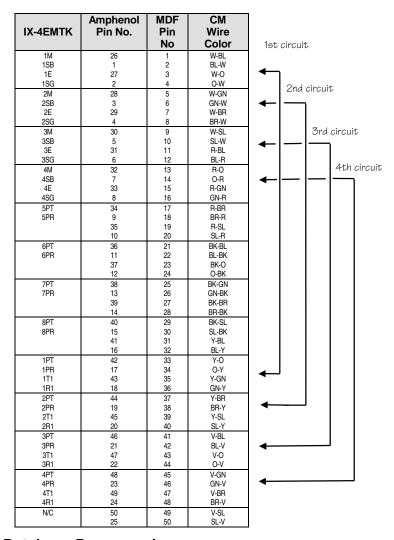
Installation

Note: This card contains mercury relays and should be "tapped down" before installation.

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-4EMTK card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table on the next page.
- 4. Cross connect the term set interface to the desired circuit on the IX-4EMTK card according to the table on the next page.



Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; 04.26 Network Plan; 07.05 Network Access Number; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio; 11.20 E&M On-Hook Detect.

Installing T1 Trunks (IX-T1DTI)

This section describes hardware requirements and installation procedures for terminating T1 trunks to the IX-T1DTI card. See **Section 4 – Component Description** for detailed information on the IX-T1DTI card.

Hardware Requirements

- One IX-T1DTI card for each T1 pipe (24 channels)
- One IX-PLLU Clock Card installed in the system (Not required with IX-CPU16M)
- System software version 4.1/5.1 or higher
- One external CSU per T1 pipe
- One IX-T1RCV DTMF Receiver Card for each IX-T1DTI card that requires DTMF signal receiving capability. DTMF signaling is used with DNIS, DID, E&M tie line, and ANI T1 trunks

Running Cable

At least two cables (not provided with the IX-T1DTI card) must be prepared before installation. Before cutting the cable inspect the installation site to determine the exact length of the cable. Keeping the cable length to a minimum is important to avoid a bipolar violation error caused by dispersion and interference. The following cable is recommended when connecting T1 circuits:

- Use a high-speed data cable.
- Specify that you are connecting 1.544 mega-bps digital transmission line.
- Confirm that it is a two-pair shielded cable.
- Never use telephone cabling.
- Never use a multiple conductor cable that contains more than two-pair.
- Choose high-quality connectors.

Important: There are two types of T1 lines – hot and dry. A hot T1 line transmits electrical power to drive the CSUs. The voltage may be as high as 220 VDC. A dry T1 line does not contain VDC. Handle all T1 lines with proper precaution for your safety.

- Layout the ADIX, CSU, and telephone company jack in order to keep cable distance to a minimum.
- Never run T1 cables with other lines, i.e., AC power lines, telephone wires, computer cables, etc.
- Do not run cables close to equipment that generates electromagnetic interference.
- Do not run cables close to equipment that radiates electromagnetic (radio) waves.
- Do not exceed the distance limit of 660 feet between the ADIX and CSU.

Preparation

Note: See **Section 4 – Component Description** for detailed instructions on preparing the IX-T1DTI card.

- 1. Set the clock mode of the IX-T1DTI card to either master, slave-primary, slave-backup, or slave-private using Switch S1, positions 1 and 2.
- 2. Set the framing mode and zero code suppression scheme of the IX-T1DTI card using Switch S1, positions 3 and 4.
- 3. Set the digital attenuation of the IX-T1DTI card using Switch S1, position 5.

4. Set the fractional setting of the IX-T1DTI card to either 8, 16, or 24 channels using Switch S1, positions 6 and 7. **Note:** The fractional setting affects card slot usage.

- 5. Enable or disable the blue alarm using Switch S1, position 8.
- 6. Use Switch S2, positions 1, 2, and 3 to enter the distance of the IX-T1DTI card from the CSU.

Installation

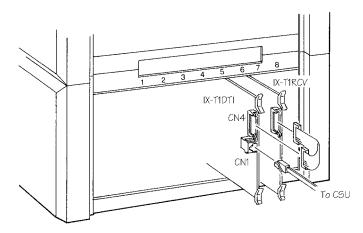


FIGURE 5.9-2 T1 INSTALLATION

- 1. Plug the IX-T1DTI card into card slots 1 or 5 only in the ADIX or the 24-circuit card slot in the ADIX-M.
- 2. If the IX-T1RCV card is required, plug it into card slot 2 or 6 (immediate right of the IX-T1DTI card). Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard. The IX-T1RCV card contains DTMF receivers for channels 1 through 8 of the T1 span. If additional channels require DTMF receivers connect an IX-8ERCV daughterboard into connectors CN1A and CN1B for channels 9 through 16, and connectors CN2A and CN2B for channels 17 through 24.
- 3. Plug the IX-PLLU card into connectors DCONN 1 and DCONN2 on the IX-HWCL or IX-HWCE card. **Note:** The IX-PLLU card is not required if the IX-CPU16M card is used.
- 4. Secure the card stopper bracket with the two screws if no other cards are to be installed.

Line Termination

The T1 line is terminated to three in-house points: Telephone company, CSU, and ADIX. CSU connectors vary depending on the manufacturer. It is important to know the type of connector used when installing.

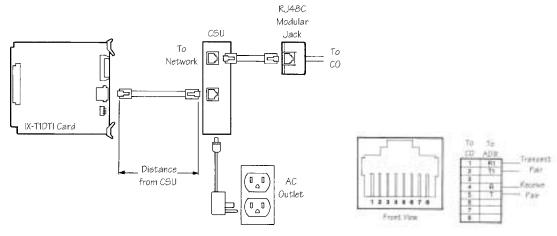


FIGURE 5.9-3 T1 CONNECTION.

ADIX Termination Plug the T1 span into connector CN1 on the IX-T1DTI card. This connection is in accordance with FCC standard DCX-1.

CSU Termination A channel service unit usually comes with two connectors – one for carrier termination and one for equipment termination. Carrier termination is usually marked NETWORK or LINE. Equipment termination is usually marked EQUIPMENT or DTE. With most CSUs either a RJ48C 8-pin modular jack or a DA15S/P 15-pin data connector is used. Confirm and order the proper cables.

Telephone Company Termination The telephone company always terminates with a RJ48C modular jack as required by the FCC. In some cases a SMART JACK (which is a variation of RJ48C and takes the same modular plug) is used.

Database Programming:

01.03 Port Definition; 01.04 Configuration; 01.07 Number of System Trunk Ports; 04.26 Network Plan; 07.05 Network Access Number; Class 09 DID Conversion Data; 11.08 Dial Type (DP or DTMF); 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed; 11.12 Dial Pulse Break Ratio; Class 24 Caller ID/ANI Conversion Data; Class 25 DNIS Conversion Data.

Installing the IX-T1RCV Card

The IX-T1RCV card is required to support T1 applications utilizing DID, ANI, DNIS, or T1 E&M Tie Line features. The ADIX-S and ADIX-M were designed to support an IX-T1DTI card in Card Slot 1 (Physical Ports 97-120) of the IX-CMM common module provided an IX-T1RCV card is not required. Due to the highway architecture of the IX-CMM Common Module, the IX-T1RCV card may not be used with an IX-T1DTI card installed in Card Slot 1 (Physical Ports 97-120) of the IX-CMM common module.

In order for the IX-T1DTI card to operate in any ADIX system, it must be installed in the first card slot of any 32-channel highway. The IX-T1RCV card must be installed in the second slot of the same 32-channel highway. Because IX-CMM card slots 1 and 2 are part of different highways, the IX-CMM will not support the IX-T1RCV card when the IX-T1DTI card is installed in IX-CMM slot 1 (physical ports 97-120). The IX-T1RCV card is supported in an IX-CMM only if the IX-T1DTI card is installed in card slot 2 (physical ports 001-008/highway 0). In this configuration, the IX-T1RCV card is installed in card slot 3 (physical ports 009-016/highway 0) and card slot 4 (physical ports 017-024/highway 0) is not available (unless a fractional T1 setting is used).

The highway architecture of the ADIX-S/M was designed to support cards such as the IX-408 and IX-044. These combination cards maximize port usage by providing station ports and trunk ports from a single card slot. Figure 5.9-4 illustrates the ADIX-S/M highway architecture.

ADIX-S/M Highway Architecture HWY 6 IX-RINGUM 082 IX-EXPMM (2) 193 - 216 HWY 5 IX-RNGUM n49 IX-EXPMM (1) **Q**35 PORTS 161-184 X-DCDCM MF NR2 HWY 3 IX-RNGUM IX-CPU16M IX-PWSM PORTS 097-120 IX-CMM X-DCDCM

FIGURE 5.9-4 ADIX-S/M HIGHWAY ARCHITECTURE

When a T1 application requires the IX-T1RCV receiver board, install as listed below:

IX-CMM. Install the IX-T1DTI card in IX-CMM slot 2 (physical ports 001-008). The IX-T1RCV receiver board may then be installed in IX-CMM slot 3 (physical ports 009-016). Card slot 4 (physical ports 017-024) cannot be used.

IX-EXPMM. Install the IX-T1DTI card in IX-EXPMM slots representing physical ports 161-184 (first IX-EXPMM) or physical ports 193-216 (second IX-EXPMM). The IX-T1RCV receiver board may then be installed in IX-EXPMM slot 1 (physical ports 185-192 or 217 to 224 respectively).

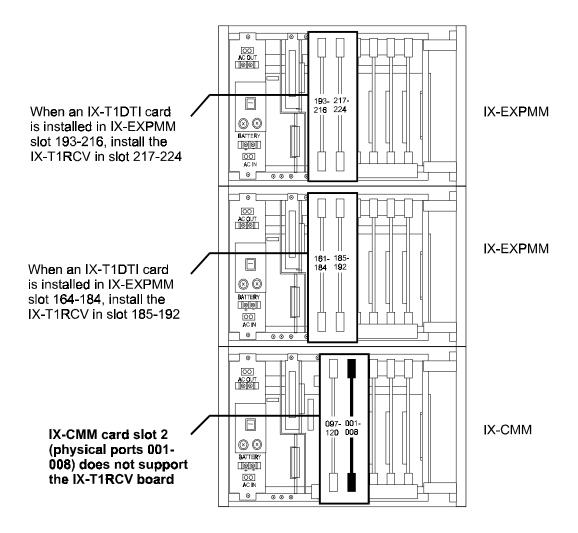


FIGURE 5.9-5 IX-T1RCV BOARD INSTALLATION IN AN IX-CMM/IX-EXPMM

Installing ISDN BRI Subscriber Lines

In order to support ISDN BRI subscriber lines, the ADIX system must meet the following hardware and software requirements:

- ADIX System Software Version 4.75/5.73 or higher, or ADIX ACD software version 2.31.
- One IX-2ICOTB card is required for each two ISDN BRI (2B + D) subscriber lines.
- One IX-PLLU clock card (part number 101250) is required per system. (Not required if IX-CPU16M is installed in the system.)
- One NT1 device is required to interface each ISDN BRI line (2B + D) to the IX-2ICOTB card.
- The table below lists the switch types and protocols supported by the ADIX IX-2ICOTB card:

Switch Type	Protocol Type	Detail Type
DMS-100	National ISDN	Multipoint2
5EES	National ISDN	Multipoint2

■ The ADIX must be installed within the United States. ADIX does not support ISDN BRI installations in Canada.

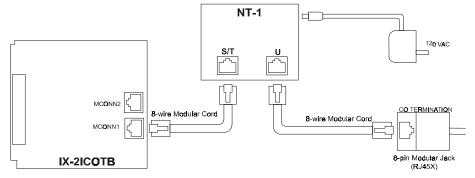


FIGURE 5.9-6 ISDN BRI LINE CONNECTION

Note: Figure 5.8-6 illustrates the typical connection of one ISDN BRI circuit. A separate NT-1 device is required for each ISDN BRI circuit terminated to the IX-2ICOTB card. Use connector MCONN2 for connection of a second ISDN BRI circuit.

Configuring ISDN BRI Lines

Class 01.03 and Class 01.04 are used to identify and configure ISDN lines.

Physical Port Assignment. The table below illustrates physical port mapping of the IX-2ICOTB ISDN BRI card.

Physical Port	Channel	
1	B channel 1 of first ISDN BRI subscriber line	
2	B channel 2 of first ISDN BRI subscriber line	
3	Dummy Station	
4	D channel of first ISDN BRI subscriber line	
5	B channel 1 of second ISDN BRI subscriber line	
6	B channel 2 of second ISDN BRI subscriber line	
7	Dummy Station	
8	D channel of second ISDN BRI subscriber line	

Programming the Protocol Type of the ISDN Carrier. Class 11.73 <TRKLxxx-02> is used to set the ISDN protocol type. Four settings are available, National ISDN, DMS-100, 5ESS, Other. See Section 6 for detailed instructions on programming Class 11.73 <TRKLxxx-02>.

Setting the SPID for BRI. The Service Profile Identifier (SPID) is an eight to twelve digit number that uniquely identifies the ISDN services ordered from the telephone company. This number is designated by the telephone company. For each ISDN BRI line, two SPID numbers are assigned, one for each B channel. Use Class 11.77 to enter the SPID numbers. See page Section 6 for detailed instructions on programming Class 11.77.

Routing ISDN Calls According to ANI or DNIS

The ADIX may be programmed to route calls on ISDN BRI lines according to either the ANI or DNIS digits received with the call.

Note: The ADIX will not support an ANI or DNIS alphanumeric name ID sent by the telephone company over the ISDN BRI line. If this information is received with a call, it will not appear on the station LCD. The ADIX displays only ANI/DNIS digits representing the telephone number.

To use this feature, the ADIX must be enabled to route a call on the specific ISDN trunk according to the ANI or DNIS. Use Class 24.07 —ANI Enabled ISDN Trunk when the ANI digits received with the call on a specific ISDN trunk are to be used for call routing. Use Class 25.07 —DNIS Enabled ISDN Trunk when the DNIS digits received with the call on a specific ISDN trunk are to be used for call routing. If both ANI and DNIS digits are received with the same call, Class 04.70, <NUM 22> determines which data is used to route the call. If the ANI or DNIS conversion table does not contain routing information for the call, or if the trunk is not enabled for ANI in Class 24.07 or DNIS in Class 25.07, the ADIX will route the call according to the following programming:

- Class 11.34 DIL to Hunt Group
- Class 11.32 Ringing Station
- Class 11.26 Attendant Intercept Line
- Class 04.55 True Attendant Position

Call Routing Using ANI. When an incoming call with ANI digits is received on an ISDN trunk, the system first looks to Class 24.07 to determine if the trunk is enabled for ANI call routing. If the ISDN trunk is enabled for ANI, the ADIX will search *Class 24.01* for a match. If a match is found the system searches *Class 24.03* for an alphanumeric ID and *Class 24.02* for a ringing assignment. The ringing assignment can be either a station, master hunt group, ACD group or voice mailbox.

Call Routing Using DNIS. When an incoming call with DNIS digits is received on an ISDN trunk, the system first looks to Class 25.07 to determine if the trunk is enabled for DNIS call routing. If the ISDN trunk is enabled for DNIS, the ADIX will search *Class 25.01* for the DNIS digits received. If a match is found the system searches *Class 25.03* for an alphanumeric ID and *Class 25.02* for a ringing assignment. The ringing assignment can be either a station, master hunt group, ACD group or voice mailbox.

Conditions:

- 1. One IX-2ICOTB card supports two ISDN BRI lines.
- 2. Incoming ISDN calls can be routed according to the ANI or DNIS digits received.
- 3. Class 24.07 must be enabled to allow call routing according to ANI on ISDN lines. Class 25.07 must be enabled to allow call routing according to DNIS on ISDN lines.
- 4. A SPID is required for each B channel on an ISDN BRI line. These numbers, designated by the telephone company, are entered in Class 11.77, <NUM 02>=1.

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 04.70 < NUM 22>; 04.71 Call Coverage/Voice Mail Data; 04.72 < NUM15>; 04.77 Voice Mail/Auto Attendant Packet Codes; 11.73 ISDN Switch Type; 11.74, < NUM 2>=2 Controlling D Channel; 11.77, < NUM> 2=1 SPID1 for BRI; 11.77, < NUM 2>=2 SPID2 for BRI; Class 24, Class 25.

Hardware Required:

ADIX Hardware: IX-2ICOTB, IX-PLLU,

Customer Provided Equipment: NT1 (External Hardware not provided by Iwatsu).

Database Description

The following database items are required to program ISDN BRI subscriber lines.

Class 01

Class.Item	Description	Function
01.03	Port Definition	For ISDN subscriber lines
01.04	Port Configuration	Data settings for ISDN subscriber lines

Class 04

Class.Item	Description	Function
04.70 <num22></num22>	ANI/DNIS Routing Table	Class 24 or 25 Routing table
	Selection	selection.

Class 11

Class.Item	Description	Function
11.08	Dial Type DP/DTMF	Programming Required for D channel signaling
11.73 e2=2	ISDN Protocol Type	Identifies the Protocol Type of the ISDN Carrier. 0=National ISDN, 1=DMS-100, 2=5ESS, 3=other
11.77 e2=1	SPID1 for BRI	Register the first SPID assigned for ISDN BRI trunks.
11.77 e2=2	SPID2 for BRI	Register the second SPID assigned for ISDN BRI trunks.

Class 24

Class.Item	Description	Function
24.07	ANI Enabled ISDN Trunk	Enables call routing via ANI digits received on ISDN subscriber line

Class 25

Class.Item	Description	Function
25.07	DNIS Enabled ISDN Trunk	Enables call routing via DNIS digits received on ISDN subscriber line

Installing ISDN PRI Subscriber Lines

When installing an ISDN PRI line on an ADIX system it is necessary to use a Channel Service Unit (CSU) along with the IX-ICOTP ISDN PRI Line Interface Card. This section provides an overview of the physical connection between the central office, CSU, and IX-ICOTP card.

Connection Overview

Figure 3 illustrates a typical ISDN PRI installation. In the example shown below the Kentrox Tserve II CSU (channel service unit) is used.

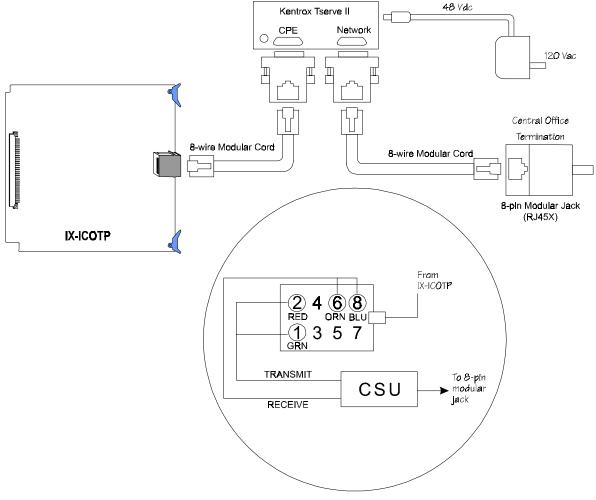


FIGURE 5.9-7 ISDN PRI CONNECTION

IX-ICOTP ISDN PRI Trunk Interface Card

One IX-ICOTP card is required for each ISDN PRI (Primary Rate Interface) line terminated to the ADIX, ADIX-M or ADIX-S systems. The IX-ICOTP card consumes 24 ports, one port for each ISDN PRI channel.

System Capacity

ADIX. A maximum of eight IX-ICOTP cards may be installed in the ADIX. Card location is described later in this bulletin.

ADIX-S and ADIX-M. Each IX-CMM or IX-EXPMM will support a maximum of two IX-ICOTP cards. Card location is described later in this bulletin.

Installation in an ADIX, ADIX-M or ADIX-S Card Slot

The tables below list the card slots in which the IX-ICOTP card may be installed. Unless otherwise noted, the IX-ICOTP card requires three card slots.

ADIX System					
Cabinet	Card Slot	Additional Card Slots Required	Physical Ports		
IX-CM Common Module Shelf 1	1	Card Slots 2 and 3	001-024		
IX-CM Common Module Shelf 2	1	Card Slots 2 and 3	033-056		
IX-CM Common Module Shelf 2	5	Card Slots 6 and 7	065-088		
IX-EXPM Expansion Module 1	1	Card Slots 2 and 3	097-120		
IX-EXPM Expansion Module 1	5	Card Slots 6 and 7	129-152		
IX-EXPM Expansion Module 2	1	Card Slots 2 and 3	161-184		
IX-EXPM Expansion Module 2	5	Card Slots 6 and 7	193-216		
IX-EXPM Expansion Module 3	1	Card Slots 2 and 3	257-280		
IX-EXPM Expansion Module 3	5	Card Slots 6 and 7	289-312		
IX-EXPM Expansion Module 4	1	Card Slots 2 and 3	321-344		
IX-EXPM Expansion Module 4	5	Card Slots 6 and 7	353-376		
IX-EXPM Expansion Module 5	1	Card Slots 2 and 3	385-408		
IX-EXPM Expansion Module 5	5	Card Slots 6 and 7	417-440		
IX-EXPM Expansion Module 6	1	Card Slots 2 and 3	449-472		

ADIX-S and ADIX-M Systems					
Cabinet Card Slot Additional Card Slots Required Physical Ports					
IX-CMM Common Module	1	None	097-120		
IX-CMM Common Module	2	Card Slots 3 and 4	001-024		
IX-EXPMM Expansion Module 1*	1	None	161-184		
IX-EXPMM Expansion Module 1*	3	Card Slots 4 and 5	033-056		
IX-EXPMM Expansion Module 2*	1	None	193-216		
IX-EXPMM Expansion Module 2*	3	Card Slots 4 and 5	065-088		

^{* -} ADIX-M only

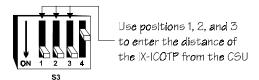
IX-ICOTP Card On Board Settings

Distance From CSU

Switch S3, positions 1, 2, and 3 are used to enter the length of the cable that connects the IX-ICOTP card to the CSU. This setting must be registered on each IX-ICOTP card installed in the system. The maximum distance permitted from the IX-ICOTP card to the CSU is 660 feet.

S3 Switch Selection

Swite	Switch Positions		
1	2	3	Function
ON	ON	ON	Up to 110 feet
ON	ON	OFF	111 to 220 feet
ON	OFF	ON	221 to 330 feet
ON	OFF	OFF	331 to 440 feet
OFF	ON	ON	441 to 550 feet
OFF	ON	OFF	551 to 660 feet



Telephone Company Switch Type

Switch S3, position 4 is used to enter the physical switch type used by the telephone company from whom ISDN PRI service is supplied. Two settings are available: AT&T 5ESS or Other (DMS-100 or DMS-250). This setting must be registered on each IX-ICOTP card installed in the system.

S3 Switch Selection

Function
Other Switch (DMS-
100, DMS-250)
AT&T 5ESS



IX-ICOTP Card Component Description

The IX-ICOTP card interfaces one ISDN PRI (Primary Rate Interface) line to the ADIX. Each ISDN PRI line contains 23 B channels voice and one D channel reserved for signaling.

The IX-ICOTP card consumes 24 ports. In the ADIX, the IX-ICOTP card may only be installed in IX-CM card slot 1 or IX-EXPM card slots 1 and 5. If the IX-ICOTP is installed in IX-CM/IX-EXPM card slot 1, card slot 2 and card slot 3 may not be used. If the IX-ICOTP is installed in IX-EXPM card slot 5, card slot 6 and card slot 7 may not be used. In the IX-CMM (ADIX-S and ADIX-M) this card should be installed in the card slot labeled 097-120. In the IX-EXPMM (ADIX-M only) install the IX-ICOTP in the card slot labeled 161-184 or 193-216.

Configuring the Channel Service Unit

The following information describes the switch settings for a VERILINK 551VST List 2 and the Kentrox T-Serv II Channel Service Unit when connecting an ISDN line to the ADIX IX-ICOTP. The settings listed below are recommended by Iwatsu America. However, there are variations to these settings that may also work.

Note: Each IX-ICOTP card requires a channel service unit.

Verilink 551 VST List 2

Two switches are located on the top of the Verilink:

- \blacksquare Power switch PWR = dry
- \blacksquare Transmit switch XMT = 0 db

There are seven banks of DIP switches on the back of the Verilink. Each bank has eight DIP switches. The switches are listed in reverse order only because this is the way they appear on the back of the Verilink CSU.

Iwatsu Recommended Switch Setting for Verilink						
Switch	Function	ON	OFF			
Switch 7	Equalizer	Position 1	Positions 2 through 8			
Switch 6	Config A	Positions 1 through 5 and 8	Positions 6 and 7			
Switch 5	Config B	Positions 1 through 8				
Switch 4	ES THRES	Positions 6 and 8	Positions 1 through 5 and 7			
Switch 3	FS THRES	Position 5	Positions 1 through 4, 6, 8			
Switch 2	BER THRES	Position 2	Positions 1 and 3 through 8			
Switch 1	CSU UNIT	2 through 7 = on	Position 1			

Note: The CSU must be powered off and then back on for the DIP Switch settings to take effect. Refer to the manual for additional details regarding DIP switch settings.

The following is detailed information on the above settings.

Switch 7 — Equalizer, Extended Range Options

Switch 7 is the distance setting. The example in the above table denotes a CSU that is between 0 and 285 feet from the equipment. See the Verilink manual for further details.

Switch 6 — Configuration A, Signal Processing Options

- Switch 6 DIP 1 = ON = Send received signal to DTE or Span during loopback operation.
- Switch 6 DIP 2 = ON = Receive B8ZS from DTE.
- Switch 6 DIP 3 = ON = Receive B8ZS from Span.
- Switch 6 DIP 4 = ON = Span is ESF.
- Switch 6 DIP 5 = ON = Default to switch configuration on power up.
- Switch 6 DIP 6 = OFF = Not used, always off.
- \blacksquare Switch 6 DIP 7 = OFF = Not used, always off.
- Switch 6 DIP 8 = ON = Loop network signal during keep-alive (ESS Loopback).

Switch 5 — Configuration B, Signal Processing Options

- Switch 5 DIP 1 = OFF = DTE is ESF framed.
- Switch 5 DIP 2 = OFF = Send B8ZS to Span.
- Switch 5 DIP 3 = OFF = Send B8ZS to DTE.
- Switch 5 DIP 4 = OFF = CSU terminates RCV network CRC-6 code and originates new CRC-6 code.
- Switch 5 DIP 5 = OFF = CSU terminates RCV DTE CRC-6 code and originates new CRC-6 code.
- Switch 5 DIP 6 = OFF = pre-12/89 FCC Part 68 Density Enforcement.
- Switch 5 DIP 7 = OFF = Do not poll far-end CSU for alarms.
- Switch 6 DIP 8 = OFF = Not used always off.

Switch 4 — ES THRESH, Switch Options

- Switch 4 DIP 1 = OFF = Not used, always off.
- Switch 4 DIP 2 = OFF = Not used, always off.
- Switch 4 DIP 3 = OFF = Not used, always off.
- Switch 4 DIP 4 = OFF = Not used, always off.
- Switch 4 DIP 5 = OFF = Not used, always off.
- Switch 4 DIP 6 = ON = No. Perf. Rpt. Msg.
- Switch 4 DIP 7 = OFF = Enable Auto config.
- Switch 4 DIP 8 = ON = OSI protocol enabled.

Switch 3 — FS THRESH, Yellow Alarm Transcoding

- Switch 3 DIP 1 = OFF = Not used, always off.
- Switch 3 DIP 2 = OFF = Not used, always off.
- \blacksquare Switch 3 DIP 3 = OFF = Not used, always off.
- Switch 3 DIP 4 = OFF = Not used, always off.
- Switch 3 DIP 5 = ON = Disable network to DTE Yellow Alm. Transcoding.
- Switch 3 DIP 6 = OFF = Not used, always off.
- \blacksquare Switch 3 DIP 7 = OFF = Not used, always off.
- Switch 3 DIP 8 = OFF = Enable DTE to network Yellow Alm. Transcoding.

Switch 2 — BER THRESH, BER Threshold Alarm

Refer to manual for further details of the BER alarm threshold.

- Switch 2 DIP 1 = OFF = DIP 1 through 4 together set this value. As set =
- Switch 2 DIP 2 = ON = 10 to the negative 6^{th} power alarm reset threshold.
- Switch 2 DIP 3 = OFF = This equates differently based on firmware version of CSU
- Switch 2 DIP 4 = OFF = e.g., Version 2.1 = 10 seconds, Version 2.2 = 9.7 seconds
- Switch 2 DIP 5 = OFF = Not used always off.
- Switch 2 DIP 6 = OFF = Not used always off.
- Switch 2 DIP 7 = OFF = Not used always off.
- Switch 2 DIP 8 = OFF = Non latching mode.

Switch 1 — Unit Address Code

- Switch 1 DIP 1 = OFF = Unique address to identify CSU this case is CSU 1
- Switch 1 DIP 2 = ON = DIP 1 through 8 work together to identify the CSU address
- Switch 1 DIP 3 = ON = Refer to manual for settings of more than 1 CSU
- Switch 1 DIP 4 = ON
- Switch 1 DIP 5 = ON
- Switch 1 DIP 6 = ON
- Switch 1 DIP 7 = ON
- Switch 1 DIP 8 = ON

Kentrox T-Serv II

The Kentrox T-Serv II has one eight DIP switch bank. Iwatsu recommends the following settings:

Iwatsu Recommended Switch Setting for Kentrox T-Serv II						
Switch/Dip	Setting	Function	Option			
Switch 1 DIP 1	on	Loopback	Line loop			
Switch 1 DIP2	off	Pulse stuffing	Stuff after 15			
Switch 1 DIP 3	on	QRSS	No logic error			
Switch 1 DIP 4	off	Pulse Density	Enable			
Switch 1 DIP 5	on	Keep Alive	Unframed			
Switch 1 DIP 6	off	Not used				
Switch 1 DIP 7	off	Not used				
Switch 1 DIP 8	off	Not used				

Station Card Installation

This chapter describes the installation process for ADIX station interface cards. Inspect all system components before beginning the installation process.

Station Interface Cards

Each station card has a make busy LED that works in conjunction with the card's make busy switch. The make busy switch is used to disable (make busy) all of the circuits on the card for power-on maintenance. Make busy LED lamp status is listed in the table below:

LED Status	Description
Off	All circuits idle
Steady	Minimum of one circuit busy
Flashing	All circuits idle and made busy (out of service)

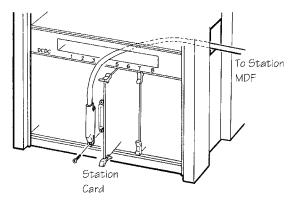


FIGURE 5.10-1 STATION CARD INSTALLATION

Installing the IX-8PSUB Card

The IX-8PSUB card provides eight interface circuits for ADIX key telephones, Versa-Phones, doorphones, attendant consoles, DSS units, and data modules. See **Section 4 – Component Description** for detailed information on the IX-8PSUB card.

Preparation

None.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-8PSUB card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the station terminals to the desired circuit on the IX-8PSUB card according to the table below. **Note:** Make sure the polarity of the wires is correct when making connections.

	Amphenol	MDF	СМ	RJ11	Jack
8PSUB	Pin Number	Pin Number	Wire Color	Pin Number	Wire Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
FG	27	3	W-O	4	Υ
FG	2	4	O-W	1	BK
2PT	28	5	W-GN	3	GN
2PR	3	6	GN-W	2	R
FG	29	7	W-BR	4	Υ
FG	4	8	BR-W	1	BK
3PT	30	9	W-SL	3	GN
3PR	5	10	SL-W	2	R
FG	31	11	R-BL	4	Y
FG	6	12	BL-R	1	BK
4PT	32	13	R-O	3	GN
4PR	7	14	O-R	2	R
FG	33	15	R-GN	4	Υ
FG	8	16	GN-R	1	BK
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
FG	35	19	R-SL	4	Υ
FG	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2 4	R
FG	37	23	BK-O		Υ
FG	12	24	O-BK	1	BK
7PT	38	25	BK-GN	3	GN
7PR	13	26	GN-BK	2	R
FG	39	27	BK-BR	4	Υ
FG	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
FG	41	31	Y-BL	4	Y
FG	16	32	BL-Y	1	BK
NO	42	33	Y-0	3	GN
CONNECTION	17	34	0-Y	2	R
↓	. ↓	. ↓	↓		. ↓
N/O	50	49	V-SL	3	GN
CONNECTION	25	50	SL-V	2	R

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 01.06 Number of System Station Ports; 10.02 Station Number; Class 10.

Installing the IX-CNFBOX-1 Card

The IX-CNFBOX-1 card may be installed in any available ADIX, ADIX-M, or ADIX-S universal card slot. The ports of the card must be defined in Class 01.03 as loop start trunks. Follow the steps below to install the card in the system.

Preparation

Installing One IX-CNFBOX-1 Card

1. Set all switches, strapping jacks and potentiometers as desired.

Installing 2 to 5 IX-CNFBOX-1 Cards

- 1. Set all switches, strapping jacks and potentiometers as desired.
- 2. Set switch SW3 to indicate the total number of IX-CNFBOX-1 cards connected in serial.
- 3. Connect each IX-CNFBOX-1 card using Connector CN3

Connecting External Devices

Signal Input

External signal sources, such as the output of a microphone amplifier, may be connected to CN4 or CN5 on the IX-CNFBOX-1 card. The input signal level may be adjusted using VR141. The adjustable range of the amplifier gain is from 0 dB to 25 dB. A typical input signal level is -6 dBm. The default is 0 db.

Signal Output to Amplifier.

An external amplifier may be connected to the IX-CNFBOX-1 card for output of the conference call. This device may be connected to either CN5 or CN6. If connected, SW4 must be set to the Output to Amplifier position. The output impedance is $600~\Omega$. Using Potentiometer VR151, the output level, may be continuously adjusted within the range of 0 dB to 25 dB to adjust the level. The default level is 0 dB.

Note: If an amplifier is connected to CN5, Strapping Jack J5 must be moved from the Input setting (default) to the Output setting.

Signal Output to Monitor.

External speakers may be connected to CN5 or CN6 for output of the conference call. The maximum driving power for an 8-ohm speaker is approximately 0.3 W. The output level cannot be adjusted.

Connector Function Change from Input to Output

The function of the connectors CN4 and CN5 may be changed from the input pins (EXI) to the output pins (EXO). This change is made by the strap J5. The default function is the input pin.

Installing the IX-8DSUB Card

The IX-8DSUB card provides eight interface circuits for ZT-D and ZT-S telephones. See **Section 4 – Component Description** for detailed information on the IX-8DSUB card.

Preparation

None.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-8DSUB card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the two-pair cables from the ZT-D or ZT-S key telephones to the desired circuit on the IX-8DSUB card according to the table below. **Note:** Make sure the polarity of the wires is correct when making connections.

	Amphenol	MDF	CM	RJ11	Jack
IX-8DSUB	Pin No.	Pin	Wire	Pin No.	Wire
		No.	Color		Color
1PT	26	1	W-BL	3	GN
1PR	1	2	BL-W	2	R
1DT	27	3	W-O	4	Υ
1DR	2	4	O-W	1	BK
2PT	28	5	W-GN	3	GN
2PR	3	6	GN-W	2	R
2DT	29	7	W-BR	4	Υ
2DR	4	8	BR-W	1	BK
3PT	30	9	W-SL	3	GN
3PR	5	10	SL-W	2	R
3DT	31	11	R-BL	4	Υ
3DR	6	12	BL-R	1	BK
4PT	32	13	R-O	3	GN
4PR	7	14	O-R	2	R
4DT	33	15	R-GN	4	Υ
4DR	8	16	GN-R	1	BK
5PT	34	17	R-BR	3	GN
5PR	9	18	BR-R	2	R
5DT	35	19	R-SL	4	Y
5DR	10	20	SL-R	1	BK
6PT	36	21	BK-BL	3	GN
6PR	11	22	BL-BK	2	R
6DT	37	23	BK-O	4	Y
6DR	12	24	O-BK	1	BK
7PT	38	25	BK-GN	3	GN
7PR	13	26	GN-BK	2	R
7DT	39	27	BK-BR	4	Y
7DR	14	28	BR-BK	1	BK
8PT	40	29	BK-SL	3	GN
8PR	15	30	SL-BK	2	R
8DT	41	31	Y-BL	4	Y
8DR	16	32	BL-Y	1	BK
NO	42	33	Y-0	3	GN
CONNECTION	17	34	0-Y	2	R
↓					. ↓
NO	50	49	V-SL	3	GN
CONNECTION	25	50	SL-V	2	R

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 01.06 Number of System Station Ports; 10.02 Station Number; Class 10.

Installing the IX-8SUBS-2 Card

The IX-8SUBS-2 card provides eight interface circuits for on-premise single-line telephones. This card requires an IX-RNGU ring generator. See **Section 4 – Component Description** for detailed information on the IX-8SUBS-2 card.

Preparation

Note: This procedure is required for the IX-8SUBS and IX-8SUBS-1 cards only. The IX-8SUBS-2 has eight DTMF receivers on board.

- 1. Mount the IX-4RCVS to connectors DCONN1/ECONN1 on the IX-8SUBS card if DTMF (2500 type) SLTs are connected to one or more of the first four circuits of the card.
- 2. Mount the IX-4RCVS to connectors DCONN2/ECONN2 on the IX-8SUBS card if DTMF (2500 type) SLTs are connected to one or more of the second four circuits of the card.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-8SUBS-2 card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the SLTs to the desired circuit on the IX-8SUBS-2 card as follows:

No. Color Cc	
No. Color	ire
1R	lor
277 3 W-O 4 2 4 O-W 1 28 5 W-GN 3 29 7 W-BR 4 4 8 BR-W 1 31 30 9 W-SL 3 31 11 R-BL 4 6 12 BL-R 1 47 32 13 R-O 3 48 16 GN-R 1 51 33 15 R-GN 4 8 16 GN-R 1 51 34 17 R-BR 3 8 16 GN-R 1 51 34 17 R-BR 3 51 19 R-SL 4 10 20 SL-R 1 61 36 21 BK-BL 3 61 GR-R 1 61 GR-	iN
2	R
2T 28 5 W-GN 3 2R 3 6 GN-W 2 29 7 W-BR 4 4 8 BR-W 1 3T 300 9 W-SL 3 3R 5 10 SL-W 2 31 11 R-BL 4 6 12 BL-R 1 4T 32 13 R-O 3 4R 7 14 O-R 2 33 15 R-GN 4 8 16 GN-R 1 5T 34 17 R-BR 3 5R 9 18 BR-R 2 35 19 R-SL 4 10 20 SL-R 1 6T 36 21 BK-BL 3 6T 37 23 BK-O 4 12 24 O-BK 1	Y
2R 3 6 GN-W 2 4 8 BR-W 1 1 3T 30 9 W-SL 3 3 1 11 R-BL 4 6 12 BL-R 1 1 4 GN-R 2 33 15 R-GN 4 8 16 GN-R 1 1 5T 34 17 R-BB 35 19 R-SL 4 10 20 SL-R 1 10 20 SL-R 1 10 20 SL-R 1 1 10 20 SL-R 1 1 10 20 SL-R 1 1 1 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 1 22 GN-BK 2 GN-BK 2 13 GN-BK 2 12 GN-BK 2 13 GN-BK 2 12 GN-BK 2 13 GN-BK 2 12 GN-BK 2 13 GN-BK 2 14 GN-BK 2 14 GN-BK 2 15 GN-BK 2	3K
29 7 W-BR 4 BR-W 1 3T 30 9 W-SL 3 3R 5 10 SL-W 2 31 11 R-BL 4 6 12 BL-R 1 4T 32 13 R-O 3 4R 7 14 O-R 2 33 15 R-GN 4 8 16 GN-R 1 5T 34 17 R-BR 3 5R 9 18 BR-R 2 35 19 R-SL 4 10 20 SL-R 1 6T 36 21 BK-BL 3 6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2	iN
4 8 BR-W 1 3T 30 9 W-SL 3 3R 5 10 SL-W 2 31 11 R-BL 4 6 12 BL-R 1 4R 7 14 O-R 2 333 15 R-GN 4 8 16 GN-R 1 5T 34 17 R-BR 3 5R 9 18 BR-R 2 35 19 R-SL 4 10 20 SL-R 1 6T 36 21 BK-BL 3 6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7T 38 25 BK-BR 2 39 27 BK-BR </td <td>R</td>	R
3T 30 9 W-SL 3 3R 5 10 SL-W 2 31 11 R-BL 4 6 12 BL-R 1 4T 32 13 R-O 3 4R 7 14 O-R 2 33 15 R-GN 4 8 16 GN-R 1 5T 34 17 R-BR 3 5F 19 R-SL 4 10 20 SL-R 1 10 20 SL-R 1 6T 36 21 BK-BL 3 6T 36 21 BK-BL 3 6T 36 21 BK-BL 3 7T 38 25 BK-O 4 12 24 O-BK 1 7T 38 26 GN-BK 2 39 27 BK-BR 4	Y
3R 5 10 SL-W 2 31 11 R-BL 4 4 6 6 12 BL-R 1 1 8 4 9 9 14 9 15 R-SL 4 1 1 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3K
31 11 R-BL 4 1 1	iN
31	R
4T 32 13 R-O 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Y
4R 7 14 O-R 2 333 15 R-GN 4 8 16 GN-R 1 5T 34 17 R-BR 3 9 18 BR-R 2 35 19 R-SL 4 10 20 SL-R 1 6T 36 21 BK-BL 3 6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 GN-BK 2 7R 13 26 GN-BK 2 39 27 BK-BR 4	3K
33 15 R-GN 4 GN-R 1 1 5 GN-R 1 1 5 GN-R 1 1 5 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 6 GN-R 1 1 7 GN-R 1 3 GN-R 1	iN
8 16 GN-R 1 5T 34 17 R-BR 3 5R 9 18 BR-R 2 35 19 R-SL 4 10 20 SL-R 1 6T 36 21 BK-BL 3 6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	R
8 16 GN-R 1 5T 34 17 R-BR 3 5R 9 18 BR-R 2 35 19 R-SL 4 10 20 SL-R 1 6T 36 21 BK-BL 3 6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	Υ
5R 9 18 BR-R 2 19 R-SL 4 10 SL-R 1 10 SL-R 1 1	3K
5R 9 18 BR-R 2 19 R-SL 4 10 SL-R 1 1	iN
35 19 R-SL 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R
10 20 SL-R 1 6T 36 21 BK-BL 3 6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	Y
6R 11 22 BL-BK 2 37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	šK
6R 11 22 BL-BK 2 37 23 BK-O 4 0-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	iN
37 23 BK-O 4 12 24 O-BK 1 7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	R
7T 38 25 BK-GN 3 7R 13 26 GN-BK 2 39 27 BK-BR 4	Y
7R 13 26 GN-BK 2 39 27 BK-BR 4	3K
7R 13 26 GN-BK 2 39 27 BK-BR 4	iN
	R
14 28 BB-BK 1	Y
	3K
	iN
	R
41 31 Y-BL 4	Y
	K
↓ ↓ ↓ ↓	Ų.
	iN
CONNECTION 25 50 SL-V 2	R

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 01.06 Number of System Station Ports; 10.02 Station Number; Class 10.

Installing the IX-408 Card

For information on installing the IX-408 card see Chapter 8 — Trunk Card Installation.

Installing the IX-044 Card

For information on installing the IX-044 card see Chapter 8 — Trunk Card Installation.

Installing the IX-8SUBM-2 Card

NOTE: FOR INFORMATION ON THE IX-8SUBM-3 and IX-8SUBS-3 please refer to Section 4.

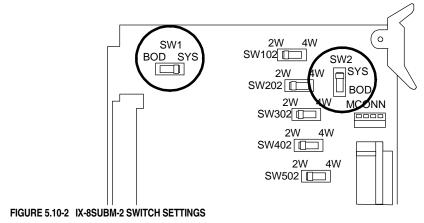
The IX-8SUBM-2 card provides eight interface circuits for on-premise single-line telephones with message lamps. This card requires +90 VDC to light the message waiting lamps. This additional power can be supplied using either the IX-DCDCA optional power supply or by connecting an IX-PMMSG power supply to the MCONN connector on the card. An IX-RNGU ring generator is also required for the shelf in which the card is installed. This card allows for either two-wire or four-wire SLT connection. See **Section 4 – Component Description** for detailed information on the IX-8SUBM-2 card.

Preparation

Installing the IX-8SUBM-2 When Using the System Power Supply

The IX-8SUBM-2 card is factory set for use with the IX-DCDCA or IX-MSGPW system power supply.

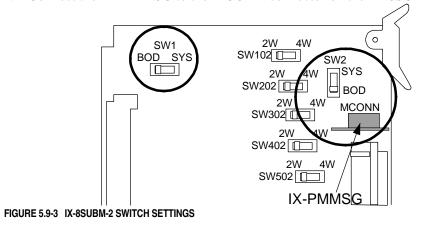
- 1. Make sure that the IX-DCDCA or IX-MSGPW is installed on the same shelf where the IX-8SUBM-2 card(s) are installed.
- 2. Make sure that the SW1 and SW2 switches are set to SYS as illustrated below.



Installing the IX-8SUBM-2 When Using the IX-PMMSG On-Board Power Supply

Configure the IX-8SUBM-2 card as instructed below for use with the IX-PMMSG power supply.

- 1. Set both SW1 and SW2 to the **BOD** setting.
- 2. Connect the IX-PMMSG to the MCONN connector on the IX-8SUBM-2 card.



Single-Line Telephone Compatibility

Each station circuit of the IX-8SUBM-2 card supplies 80 to 90.5 VDC from the IX-DCDCA or IX-MSGPW and 91 to 94 VDC from the IX-PMMSG to light the SLT message lamps. The message waiting telephones connected to this card must be equipped with neon lamps that can light at 80 volts DC. The station message lamp current must not exceed 1 mA per circuit. An industry standard telephone that meets these specifications is ITT model 250044-MBA.

Important: Some telephone models require over 100 VDC to turn on the message lamps. Make sure of the voltage requirements of the telephone model before purchasing.

The IX-8SUBM-1 card interfaces station ports to up to eight on-premises single-line telephones with message lamps. Unlike the previous version of this card (IX-8SUBM), the IX-8SUBM-1 has eight DTMF receivers on board. With the IX-8SUBM card, if 2500-type SLTs are used, one or two IX-4RCVS DTMF receiver daughterboards must be mounted on board. The message lamp must be a neon lamp. Either an IX-DCDCA or IX-MSGPW power supply installed in the DCDC card slot on the same shelf as the IX-8SUBM-1 card, or an external power supply connected to the MCONN connector is required to light the message lamps. SLTs must can be star connected to the ADIX common module or expansion modules using either one-pair or two-pair (twisted or quad) #24 AWG wire (IX-8SUBM supports only 2-pair connection). The loop resistance of single-line telephones is fixed at 600 Ohms (including SLT resistance). An IX-RNGU additional power supply is required provide 90 VAC for SLT ringing.

Note: When connecting an IX-4RCVS receiver board to an IX-8SUBM card, use DCONN1 and ECONN1 for the first four physical ports and DCONN2 and ECONN2 for the last four physical ports.

Installation

1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.

2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-8SUBM-2 card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect the single-line telephones with message lamps to the desired circuit on the IX-8SUBM-2 card according to the table below.

Four-Wire Connection					
	RJ11 Jack				
8SUBM-1	Amph Pin No.	MDF Pin No.	CM Wire Color	Pin No.	Wire Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
1L	27	3	W-O	4	Υ
1G	2	4	O-W	1	BK
2T	28	5	W-GN	3	GN
2R	3	6	GN-W	2	R
2L	29	7	W-BR	4	Y
2G	4	8	BR-W	1	BK
3T 3R	30 5	9 10	W-SL SL-W	3 2	GN R
3L	31	11	R-BL	4	Υ
3G	6	12	BL-R	1	BK
4T	32	13	R-O	3	GN
4R	7	14	O-R	2	R
4L	33	15	R-GN	4	Y
4G	8	16	GN-R	1	BK
5T	34	17	R-BR	3	GN
5R	9	18	BR-R	2	R
5L	35	19	R-SL	4	Υ
5G	10	20	SL-R	1	BK
6T	36	21	BK-BL	3	GN
6R	11	22	BL-BL	2	R
6L	37	23	BK-O	4	Υ
6G	12	24	O-BK	1	BK
7T	38	25	BK-GN	3	GN
7R	13 39	26	GN-BK BK-BR	2 4	R Y
7L 7G	39 14	27 28	BR-BK	1	Y BK
7G 8T	40	28	BK-SL	3	GN
8R	40 15	30	SL-BK	2	GN R
8L	41	31	Y-BL	4	Ϋ́
8G	16	32	BL-Y	1	BK
†	42	33	Y-0	N/C	:
N/C	16	34	0-Y	:	:
1	:	:	:	:	:
1	:	:	:	:	:
	50	49	V-SL	:	:
	25	50	SL-V	:	:

Two-Wire Connection						
	RJ11 Jack					
8SUBM-1	Amph Pin No.	MDF Pin No.	CM Wire Color	Pin No.	Wire Color	
1T 1R	26 1 27 2	1 2 3 4	W-BL BL-W W-O O-W	3 2 4 1	GN R Y BK	
2T 2R	28 3 29 4	5 6 7 8	W-GN GN-W W-BR BR-W	3 2 4 1	GN R Y BK	
3T 3R	30 5 31 6	9 10 11 12	W-SL SL-W R-BL BL-R	3 2 4 1	GN R Y BK	
4T 4R	32 7 33 8	13 14 15 16	R-O O-R R-GN GN-R	3 2 4 1	GN R Y BK	
5T 5R	34 9 35 10	17 18 19 20	R-BR BR-R R-SL SL-R	3 2 4 1	GN R Y BK	
6T 6R	36 11 37 12	21 22 23 24	BK-BL BL-BL BK-O O-BK	3 2 4 1	GN R Y BK	
7T 7R	38 13 39 14	25 26 27 28	BK-GN GN-BK BK-BR BR-BK	3 2 4 1	GN R Y BK	
8T 8R	40 15 41 16	29 30 31 32	BK-SL SL-BK Y-BL BL-Y	3 2 4 1	GN R Y BK	
N/C	42 16 : : 50 25	33 34 : : 49 50	Y-O O-Y : : V-SL SL-V	N/C : : :		

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 01.06 Number of System Station Ports; 10.02 Station Number; Class 10.

Installing the IX-4SUBL Card

The IX-4SUBL card provides four interface circuits for off-premise single-line telephones. An IX-DCDCA or IX-DCDCB must be installed on the same shelf as this card to provide an additional -48 VDC. This card also requires an IX-RNGU ring generator. See **Section 4 – Component Description** for detailed information on the IX-8SUBM-1 card.

Preparation

- 1. Set the distance selection switch to either S (1640 feet or less), N (1641-9843 feet), or L (greater than 9843 feet) using switch SW101 to SW401. These switches are numbered in order of the station circuits on the card.
- 2. Mount the IX-4RCVS to connectors DCONN1/ECONN1 on the IX-4SUBL card if DTMF (2500 type) SLTs are connected.

Installation

- 1. Plug the card into any universal card slot. Make sure that the card is inserted deep enough for all connector pins to make complete contact with those on the motherboard.
- 2. Secure the card stopper bracket with the two screws if no other cards are to be installed.

MDF Connections

- 1. Plug a 25-pair male amphenol connector into the IX-4SUBL card.
- 2. Route the 25-pair cable through the cable raceway.
- 3. Terminate the 25-pair cable on the MDF according to the table below.
- 4. Cross connect each single-line telephone to the desired circuit on the IX-4SUBL card according to the table below.

	Amphenol	MDF	CM	RJ11	Jack
IX-4SUBL	Pin No.	Pin	Wire	Pin No.	Wire
		No.	Color		Color
1T	26	1	W-BL	3	GN
1R	1	2	BL-W	2	R
	27	3	W-O	4	Y
	2	4	O-W	1	BK
2T	28	5	W-GN	3	GN
2R	3	6	GN-W	2	R
	29	7	W-BR	4	Υ
	4	8	BR-W	1	BK
3T	30	9	W-SL	3	GN
3R	5	10	SL-W	2	R
	31	11	R-BL	4	Y
	6	12	BL-R	1	BK
4T	32	13	R-O	3	GN
4R	7	14	O-R	2	R
	33	15	R-GN	4	Y
	8	16	GN-R	1	BK
\downarrow	↓	↓	↓	↓	\downarrow
N/C	50	49	V-SL	3	GN
	25	50	SL-V	2	R

Database Programming:

01.03 Port Definition; 01.04 Port Configuration; 01.06 Number of System Station Ports; 10.02 Station Number; Class 10.



This chapter describes the installation process for the following ADIX stations:

- Omega-Phone multiline key telephones and related optional equipment
- Versa-Phones and related optional equipment
- Attendant Consoles
- Busy Lamp Field Units
- DSS Units
- Data Modules
- Doorphones
- Single-Line Telephones

Inspect all system components before beginning the installation process.

Installing Omega-Phone Multiline Key Telephones

The ADIX Omega-Phone multiline key telephone models are listed in table below.

Model	Description
IX-12KTD-2	12-button key telephone with LCD
IX-12KTS-2	12-button key telephone, no LCD
IX-24KTD/S (discontinued)	24-button key telephone
IX-16KTD/S (discontinued)	16-button key telephone
IX-8KTD/S	8-button key telephone

The following options may be connected to the ADIX Omega-Phone multiline key telephone models:

Model	Description	Location
IX-12ELK	12-button expansion unit	IX-12KTD/S-2 only
IX-SSPU	Speakerphone	Telephone set motherboard
IX-AUTD	Autodialer	Right side of KT
IX-BPAD	Busy Bypass/Autodialer	Right side of KT
IX-HSAD	Headset Adapter	Right side of KT`
IX-LRSP	Loud Ringer External Speakerphone	Right side of KT
IX-SNHD	-SNHD Noise Canceling Handset Replaces standard handset	
IX-SHHA	Amplified Handset	Replaces standard handset

Assembly

ADIX Omega-Phone IX-12KT-2 key telephone components are assembled as illustrated in figure 5.10-1.

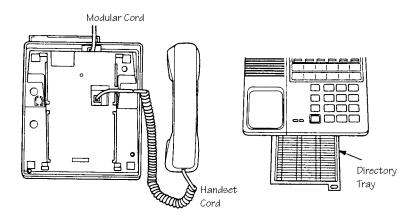


FIGURE 5.11-1 ADIX TELEPHONE COMPONENTS

Connection

ADIX key telephones are connected to station cable as listed in the following tables:

Jack Pin	Wire Color	Designation	Description
3	Green	1T	For KT
2	Red	1R	For KT
4	Yellow	2T	For IX-BPAD
1	Black	2R	For IX-BPAD

Chapter 11 Station Installation

Labeling

Remove the plastic key sheet cover by bending slightly. If desired, remove the label shipped with the telephone and replace with either the IX-12KT-2 Key Label (Part Number 107861) or IX-24KT-2 Key Label (Part Number 107861). Use the ADIX Keysheet Designer V5.1A (Part Number 109202) to enter data and print on these key labels.

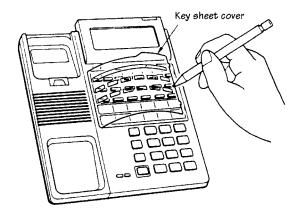


FIGURE 5.11-2 ADIX DIGITAL KT KEY SHEET COVER

Installing the IX-12ELK 12-Key Expansion Unit.

The IX-12ELK adds 12 multipurpose buttons to IX-12KTD-2 and IX-KTS-2 telephones.

- 1. Remove the key label and plastic covering from the IX-12KTD-2 or IX-KTS-2 telephone.
- 2. Remove the plate covering the area reserved for the IX-12ELK by removing the screw.
- 3. Snap the IX-12ELK in place by inserting the left side first and then pushing down the right side.
- 4. Using the screw that you removed in step 2, screw the IX-12ELK into place as illustrated below.

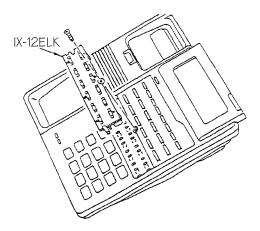


FIGURE 5.11-3 IX-12ELK INSTALLATION

Programming

14.01/15.01 Key Assignment.

Chapter 11 Station Installation

Installing Optional Equipment

When optional equipment is connected to an ADIX Omega-Phone a connection or an adjustment to the KTs circuit board may be required. figure 5.10-4 illustrates the ADIX KT internal components.

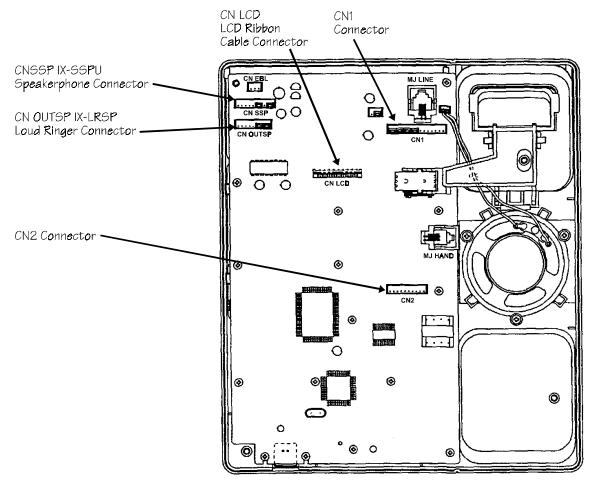


FIGURE 5.11-4 ADIX 12KT-2 SERIES INTERNAL CIRCUIT BOARD

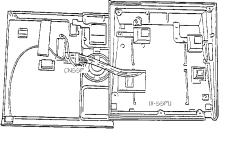
Station Speakerphone Unit

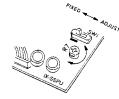
A built-in speakerphone is standard with the IX-12KTD-2 and IX-12KTS-2 telephones. For IX-24KTD/S, IX-16KTD/S and IX-8KTD/S models the IX-SSPU may be added. The station internal speakerphone card provides an ADIX KT with full hands-free operation on CO/PBX lines. This option is not available for Versa-Phones.

Installation

- 1. Remove the screws from the bottom housing to open the key telephone.
- 2. Remove the two strapping jacks from connector CNSSP on the station circuit card.
- 3. Plug the IX-SSPU harness into the CNSSP plug on the station circuit card.
- 4. If volume adjustment is required, turn switch SW1 to the right position (to the mark SW1) and adjust potentiometer R7 as illustrated in figure 5.10-5.

IX-24KTD/S, IX-8KTD/S





IX-12KTD/S-2

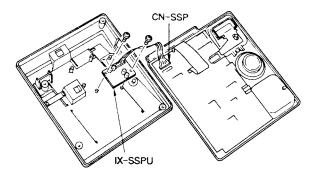


FIGURE 5.11-5 IX-SSPU CONNECTION AND ADJUSTMENT

Programming

None.

Chapter 11 Station Installation

Autodialer Unit Installation

The IX-AUTD station autodialer unit is attached to an ADIX key telephone. It provides 16 autodial keys.

Installation

- 1. Remove the screws from the bottom housing to open the key telephone.
- 2. Pull up the two stopper tabs of the cutout cover at the right side of the station lower housing and remove the cover.
- 3. Feed the IX-AUTD cord through the cutout.
- 4. Plug the female connector from the IX-AUTD cord into connector CN2 on the station circuit card (upper housing).
- 5. Close the telephone housing.
- 6. Attach the IX-AUTD to the station lower housing with the three screws provided with the IX-AUTD.

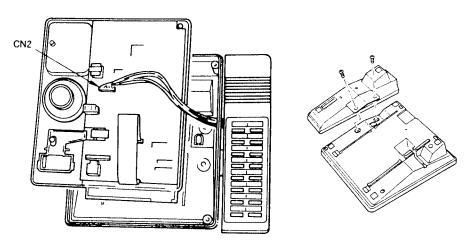


FIGURE 5.11-6 IX-AUTD INSTALLATION

Programming

10.12 Key Assignment; 14.01 Flexible Key Assignment.

Loud Ringer/External Speakerphone Installation

The IX-LRSP unit is attached to the ADIX key telephone and provides an interface to an external speakerphone and loud ringing bell.

Installation

- 1. Remove the screws from the bottom housing to open the key telephone.
- 2. Pull up the two stopper tabs of the cutout cover on the right side of the station lower housing and remove the cover.
- 3. Feed the IX-LRSP cord through the cutout.
- 4. Remove the two strapping jacks from connector CN OUTSP on the station circuit card.
- 5. Plug the IX-LRSP connector cord into connector CN OUTSP on the station circuit card.
- 6. Attach the IX-LRSP to the station lower housing with four screws provided with the IX-LRSP.
- 7. Unplug the speaker wire from station circuit card connector CN SSP.
- 8. Remove the four screws connecting the speaker to the KT.
- 9. Remove the speaker and replace it with the speaker provided with the IX-LRSP.
- 10. Plug the speaker wire into CN SSP on the station circuit card.

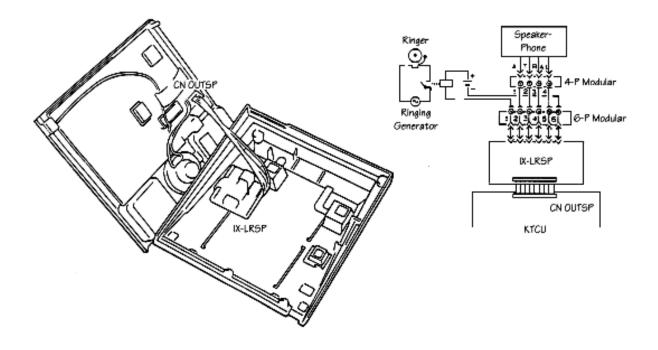


FIGURE 5.11-7 IX-LRSP INSTALLATION

Programming

None.

Busy Bypass/Autodialer Unit Installation

The IX-BPAD provides off-hook voice announce capability for an ADIX Omega-Phone. This unit also has 16 autodial buttons. The IX-BPAD requires one IX-8PSUB port.

Installation

- 1. Remove the screws from the bottom housing to open the key telephone.
- 2. Pull up the two stopper tabs of the cutout cover on the right side of the station lower housing and remove the cover.

Connection

When the IX-BPAD is used, a two-pair twisted cable must be connected the associated KT. Connect the yellow and black leads to a second IX-8PSUB port to provide a second voice channel.

- 1. Feed the IX-BPAD cord through the cutout.
- 2. Remove four strapping jacks from connector CN1 on the station circuit card.
- 3. Plug the two female connectors of the IX-BPAD cord into connectors CN1 and CN2 on the station circuit card.
- 4. Close the telephone housing.
- 5. Attach the IX-BPAD to the station lower housing with the screws provided with the IX-BPAD.

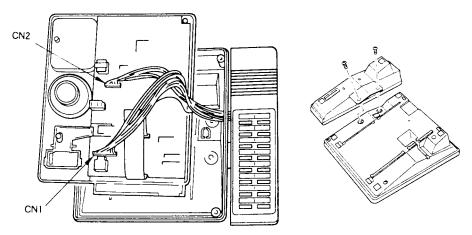


FIGURE 5.11-8 IX-BPAD INSTALLATION

Programming

01.03 Port Definition; 01.04 Configuration; 10.03 Station Distance; 10.12 Key Assignment; 14.01 Key Assignment

Station Headset Adapter/Autodialer Unit Installation

Note: The IX-12KTD-2 and IX-12KTS-2 telephones do not support the IX-PHSAD.

The IX-PHSAD provides electrical hookswitch bypass for connection of a multiconductor jacket-type headset in place of the standard handset. This unit also has 16 autodial buttons.

Installation

- 1. Remove the five screws from the bottom housing to open the key telephone.
- 2. Pull up the two stopper tabs of the cutout cover on the right side of the station lower housing and remove the cover.
- 3. Feed the IX-PHSAD cord through the cutout.
- 4. Remove four strapping jacks from connector CN1 on the station circuit card.
- 5. Plug the female connector from the IX-PHSAD cord into connector CN1 on the station circuit card.
- 6. Close the telephone housing.
- 7. Attach the IX-PHSAD to the station lower housing with the three screws provided with the IX-PHSAD.

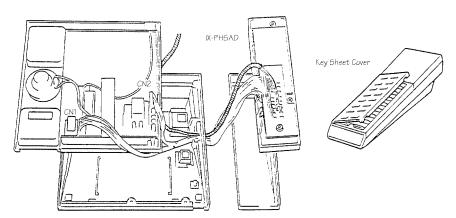


FIGURE 5.11-9 IX-PHSAD INSTALLATION

Wiring

- 1. Open the IX-PHSAD by loosening the two screws.
- 2. Connect jack-set JS-180 (Plantronics) spade terminals to the terminals on the IX-HSCU card (inside of the IX-PHSAD) following the color coding on the board.
- 3. Close the IX-PHSAD.

Programming

10.12 Key Assignment; 14.01 Flexible Key Assignment.

Station Pedestal/Wall Mount Unit Installation

The IX-STPD station pedestal is used to either increase the angle of or wall mount an ADIX Omega-Phone.

Note: For heavy duty use an optional handset hanger (IX-HSHG) can be installed in place of the standard hanger.

Installation – Pedestal

- 1. Insert the front two tabs into the holes in the telephone base
- 2. Insert the two rear tabs as shown in figure 5.11-10.

Installation – Wall mount

- 1. Mount the station pedestal on the wall using the two screws.
- 2. Pull up the handset hook from the center of the station upper cradle and reinsert it in the slot in an upside-down position as shown in figure 5.11-10.
- 3. Insert the two top tabs into the back of the key telephone, then insert the two bottom tabs as shown in figure 5.11-10.

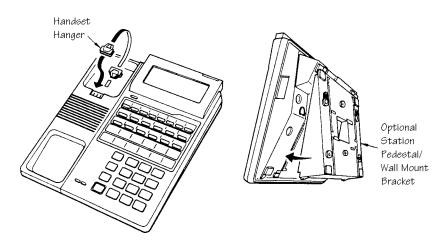


FIGURE 5.11-10 IX-STPD INSTALLATION

Optional Handset Installation

An optional station noise canceling handset (IX-SNHD) or station amplified handset (IX-SHHD) can be connected to an ADIX Omega-Phone.

Installation

- 1. (IX-SSHD ONLY) Remove the five screws from the bottom housing to open the key telephone. Change the position of strapping jack CNSW from 1-2 to 2-3.
- 2. Unplug the handset cord from the standard handset and plug it into the optional handset.

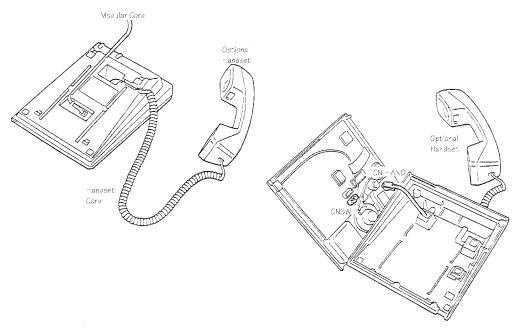


FIGURE 5.11-11 OPTIONAL HANDSET INSTALLATION

Extending the Station Loop Limit (IX-4 LSREPU)

Installing the IX-4LSREPU Card

The IX-4LSREPU card is a four-port star repeater unit. It is used to extend the maximum distance from the ADIX system to the ADIX digital key telephone. Each IX-4LSREPU card may be used to extend the loop limit of four digital telephones. One IX-4LSREPU card port will extend the maximum station distance up to 2000 feet from the ADIX system. A second IX-4LSREPU card port will extend the station distance to a maximum of 8500 feet from the ADIX system. Depending on the configuration of the IX-4LSREPU, a 24 VDC local power source may be required.

The IX-4LSREPU card may be used in any ADIX, ADIX-M, or ADIX-S system. At a remote location, it may be placed in an IX-CM or IX-CMM common module and operates without a CPU card. Additionally, the IX-4LSREPU offers several advantages over the IX-SREP Star Repeater:

- Uses the system power supply (Dependent on configuration IX-PWSS, IX-PWSM, IX-PWS100, IX-PWS200, IX-PWSS, IX-PWSM) instead of requiring a individual power supply.
- Each card supports up to four digital station ports.

Installation

Below are diagrams and instructions for extending the station loop limit to 2000, 7500, and 8500 feet from the ADIX system. Each of these installations requires different switch settings for the individual IX-4LSREPU circuits. A 24VDC local power source is also required as explained below.

Extending the Station Loop Limit to 2000 Feet

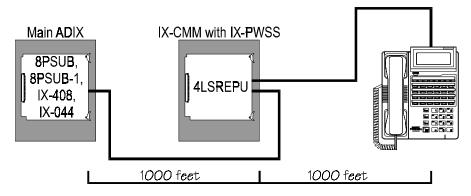
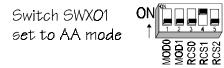


FIGURE 5.11-12

Setting the Synchronization Mode. The IX-4LSREPU synchronization mode required for extending the station loop limit to 2000 feet is asynchronous to asynchronous (AA). The synchronization mode is set using switch SWx01 of the specific circuit. The AA mode is programmed by setting switch SWx01 as follows:

SWx01 Setting AA Mode

Switch Position	Function
MODO (bit 1)	OFF
MOD1 (bit 2)	OFF
RCSO (bit 3)	OFF
RCS1 (bit 4)	ON
RCS2 (bit 5)	OFF



Local Power Requirement. The IX-4LSREPU unit requires local power (24 VDC) when extending the station loop limit to 2000 feet. The local power source may be the IX-PWSS, IX-PWSM, IX-100PWS or IX-200PWS. Switch SWx02 and SWx03 must be set to 3 to indicate that 24 VDC is being supplied by the local power supply. The required SWx02

and SWx03 switch settings are listed in the table below.

Switch SWx02	Switch SWx03
3 = Local Power	3 = Local Power
Enable	Enable

Switch SWXO2 and SWXO3
Local Power
Enable/Disable
1 = Disable
3 = Enable
SWXO3 SWXO3

Extending the Station Loop Limit to 7500 Feet

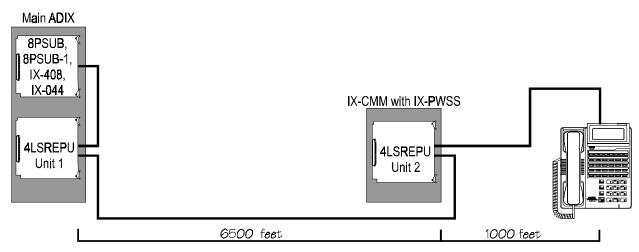
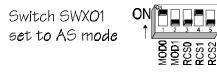


FIGURE 5.11-13

Setting the Synchronization Mode. Each of the circuits on the two IX-4LSREPU units used to extend the station loop limit to 7500 feet require a different synchronization mode setting. The synchronization mode required for IX-4LSREPU unit 1 is asynchronous to synchronous (AS). The synchronization mode required for IX-4LSREPU unit 2 is synchronous to asynchronous (SA). The synchronization mode is set using switch SWx01 of the specific IX-4LSREPU circuit. The AS and SA modes are programmed by setting switch SWx01 as follows:

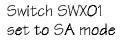
SWx01 Setting Unit 1 = AS Mode

Switch Position	Function
MODO (bit 1)	ON
MOD1 (bit 2)	OFF
RCSO (bit 3)	OFF
RCS1 (bit 4)	ON
RCS2 (bit 5)	OFF



SWx01 Setting Unit 2 = SA Mode

Switch Position	Function
MODO (bit 1)	OFF
MOD1 (bit 2)	ON
RCSO (bit 3)	OFF
RCS1 (bit 4)	ON
RCS2 (bit 5)	OFF





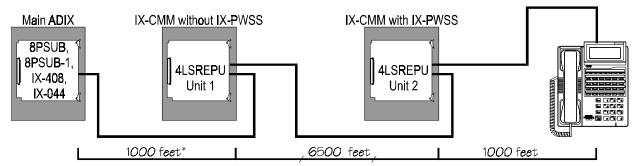
Local Power Requirement. When extending the station loop limit to 7500 feet, the specific circuit of IX-4LSREPU unit 2 requires local power (24 VDC). The local power source may be the IX-PWSS, IX-PWSM, IX-100PWS or IX-200PWS. IX-4LSREPU unit 1 does not require local power. Set SWx02 and SWx03 on each specific IX-4LSREPU circuit as listed in the tables below:

IX-4LSREPU Unit 1	
Switch SWx02 Switch SWx03	
1 = Local Power	1 = Local Power
Disable	Disable

IX-4LSREPU Unit 2	
Switch SWx02	Switch SWx03
3 = Local Power	3 = Local Power
Fnable	Enable

Switch SWXO2 and SWXO3
Local Power
Enable/Disable
1 = Disable
3 = Enable
SWXO3 SWXO3

Extending the Station Loop Limit to 8500 Feet



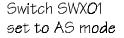
^{* =} Maximum distance from IX-8PSUB to IX-4SLREPU Unit 1 is 500 ft. Maximum distance from IX-8PSUB-1, IX-408 or IX-044 card to IX-4SLREPU Unit 1 is 1000 feet.

FIGURE 5.11-14

Setting the Synchronization Mode. Each of the circuits on the two IX-4LSREPU units used to extend the station loop limit to 8500 feet require a different synchronization mode setting. The synchronization mode required for IX-4LSREPU unit 1 is asynchronous to synchronous (AS). The synchronization mode required for IX-4LSREPU unit 2 is synchronous to asynchronous (SA). The synchronization mode is set using switch SWx01 of the specific IX-4LSREPU circuit. The AS and SA modes are programmed by setting switch SWx01 as follows:

SWx01 Setting Unit 1 = AS Mode

Switch Position	Function
MODO (bit 1)	ON
MOD1 (bit 2)	OFF
RCSO (bit 3)	OFF
RCS1 (bit 4)	ON
RCS2 (bit 5)	OFF





SWx01 Setting Unit 2 = SA Mode

Switch Position	Function
MODO (bit 1)	OFF
MOD1 (bit 2)	ON
RCSO (bit 3)	OFF
RCS1 (bit 4)	ON
RCS2 (bit 5)	OFF

Switch SWXO1
set to SA mode



Local Power Requirement. When extending the station loop limit to 8500 feet, the specific circuit of IX-4LSREPU unit 2 requires local power (24 VDC). The local power source may be the IX-PWSS, IX-PWSM, IX-100PWS or IX-200PWS. IX-4LSREPU unit 1 does not require local power. Set SWx02 and SWx03 on each specific IX-4LSREPU circuit as listed in the tables below:

IX-4LSREPU Unit 1	
Switch SWx02	Switch SWx03
1 = Local Power	1 = Local Power
Disable	Disable

IX-4LSREPU Unit 2	
Switch SWx02 Switch SWx03	
3 = Local Power	3 = Local Power
Enable	Enable



Setting the IESW Switch

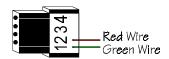
The IESW switch must always be set to IN24. This is the middle position.

Note: External power source connection is not supported by the IX-4LSREPU.

Wiring

Single-pair wiring is required for each X-4LSREPU circuit. This wire must be configured as illustrated below.

Connector Hole Number	Wire Color	IX-8PSUB Position
1	green	PR
2	red	PT
3	yellow	Ground
4	black	Ground



The drawing below illustrates the proper connection of a digital station port to the IX-4LSREPU Circuit 1 SREP1 IN and Circuit 1 SREP1 OUT connectors.

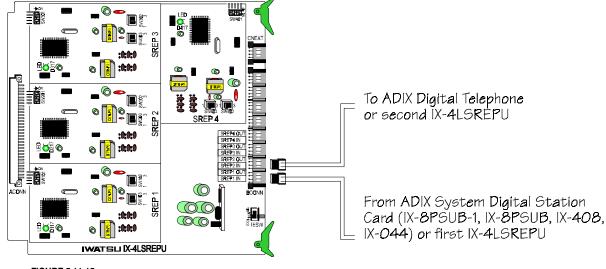


FIGURE 5.11-15

Important: Improper connection of the wires may cause damage to the IX-4LSREPU card.

IX-4LSREPU BCONN Connector Pin Assignment

Pin Number	Function	Description
32	Ground	
31	Ground	
30	SREP4 OUT-2	Circuit 4, Wire 2, Out to Digital Telephone or 2 nd IX-4LSREPU
29	SREP4 OUT-1	Circuit 4, Wire 1, Out to Digital Telephone or 2 nd IX-4LSREPU
28	Ground	
27	Ground	
26	SREP4 IN-2	Circuit 4, Wire 2, From PSUB port or 1st IX-4LSREPU
25	SREP4 IN-1	Circuit 4, Wire 1, From PSUB port or 1st IX-4LSREPU
24	Ground	
23	Ground	
22	SREP3 OUT-2	Circuit 3, Wire 2, Out to Digital Telephone or 2nd IX-4LSREPU
21	SREP3 OUT-1	Circuit 3, Wire 1, Out to Digital Telephone or 2nd IX-4LSREPU
20	Ground	
19	Ground	
18	SREP3 IN-2	Circuit 3, Wire 2, From PSUB port or 1st IX-4LSREPU
17	SREP3 IN-1	Circuit 3, Wire 1, From PSUB port or 1st IX-4LSREPU
16	Ground	
15	Ground	
14	SREP2 OUT-2	Circuit 2, Wire 2, Out to Digital Telephone or 2nd IX-4LSREPU
13	SREP2 OUT-1	Circuit 2, Wire 1, Out to Digital Telephone or 2nd IX-4LSREPU
12	Ground	
11	Ground	
10	SREP2 IN-2	Circuit 2, Wire 2, From PSUB port or 1st IX-4LSREPU
9	SREP2 IN-1	Circuit 2, Wire 1, From PSUB port or 1st IX-4LSREPU
8	Ground	
7	Ground	
6	SREP1 OUT-2	Circuit 1, Wire 2, Out to Digital Telephone or 2 nd IX-4LSREPU
5	SREP1 OUT-1	Circuit 1, Wire 1, Out to Digital Telephone or 2nd IX-4LSREPU
4	Ground	
3	Ground	
2	SREP1 IN-2	Circuit 1, Wire 2, From PSUB port or 1st IX-4LSREPU
1	SREP1 IN-1	Circuit 1, Wire 1, From PSUB port or 1st IX-4LSREPU

Extending the Station Loop Limit (IX-SREP)

One IX-SREP star repeater can be used to extended the loop limit of an ADIX digital station to 1500 feet from the ADIX KSU. Two IX-SREP star repeaters can be used to extended the loop limit of an ADIX digital station to 8000 feet from the ADIX KSU. The IX-SRPWS star repeater power supply is required to supply local power to the IX-SREP to drive the ADIX digital station. One IX-SRPWS supplies enough power for two IX-SREPs.

Connection

The diagram below illustrates star repeater connection.

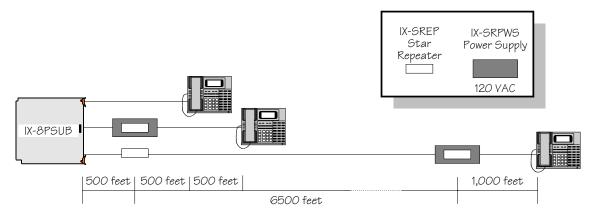


FIGURE 5.11-16 EXTENDING THE STATION LOOP LIMIT

IX-SREP On-Board Settings

Switch SW1 is used to register the IX-SREPs position in the loop.

	Switch Position				
Condition	1	2	3	4	5
IX-SREP at 500 feet connected to	off	off	off	on	off
station terminal					
IX-SREP at 500 feet connected to	on	off	off	on	off
second IX-SREP					
Second IX-SREP at 7,000 feet	off	on	off	on	off
connected to station terminal					

Switches SW2 and SW3 are used to register if the IX-SREP is directly connected to an IX-SRPWS power supply.

Condition	SW	SW
	2	3
Not connected to IX-SRPWS	1	1
Connected to IX-SRPWS	3	3

Assembly

Figure 5.11-17 illustrates mounting of the IX-SREP inside the IX-SRPWS. The IX-SREP can be mounted directly to the wall if the IX-SRPWS is not required.

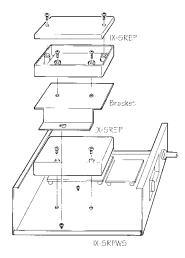


FIGURE 5.11-17 IX-SREP/IX-SRPWS ASSEMBLY

Wiring

IX-SREP with IX-SRPWS Figure 5.11-18 illustrates the wire connections of the IX-SREP to the IX-SRPWS. Three connections are required:

- CN1 INPUT Connection to the IX-8PSUB or first IX-SREP.
- CN1 OUTPUT Connection to ADIX digital station.
- FG Connection to the frame ground.

Note: The repeater must be connected to earth ground.

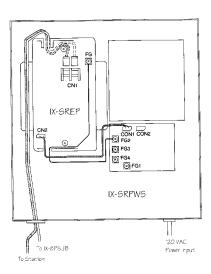


FIGURE 5.11-18 IX-SREP/IX-SRPWS WIRING

IX-SREP without IX-SRPWS When the IX-SREP is not mounted inside the IX-SRPWS (two star repeater setup) three connections are required:

- CN1 INPUT Connection to the IX-8PSUB.
- CN1 OUTPUT Connection to the second IX-SREP/IX-SRPWS.
- FG Connection to the frame ground.

Note: The repeater must be connected to earth ground.

Installing IX-MKT Digital Key Telephones

The ADIX IX-MKT is a simplified key telephone. Optional hardware for this model is listed below:

- IX-VTPD Station Pedestal/Wall Mount Unit
- IX-HSHG Heavy Duty Handset Hanger
- IX-SNHD and IX-SHHD Optional Handsets
- IX-SSPU Speakerphone unit

Assembly

IX-MKT components are assembled as illustrated below.

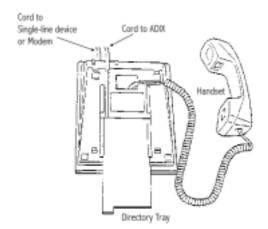


FIGURE 5.11-19 ADIX IX-MKT ASSEMBLY

Connection

The IX-MKT telephone is connected to station cable from the IX-8PSUB or IX-16PSUB card (and optionally the IX-8SUBS-3) as listed in the following table.

Jack Pin	Wire Color	Designation	Description
3	Green	1T	For PSUB Port
2	Red	1R	For PSUB Port
4	Yellow	2T	For SUBx Port
1	Black	2R	For SUBx Port

Connect a modem or single-line telephone to the single-line/modem jack on the back of the IX-MKT as follows.

Jack Pin	Wire Color	Designation	Description
3	Green	1T	For Modem/SLT
2	Red	1R	For Modem/SLT
4	Yellow	2T	Not Used
1	Black	2R	Not Used

Programming

01.03 Port Definition (0-1-0); 10.12 Key Assignment; 14.01 Key Assignment.

Labeling

Remove the key cover sheets as illustrated below. Use the ADIX Key sheet Designer V5.1A (Part Number 109202) to enter data and print on these key labels.

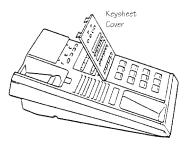


FIGURE 5.11-20 IX-MKT KEYSHEET COVER

Installing Optional Equipment

Station Pedestal/Wall Mount Unit Installation

The IX-VTPD station pedestal is used to either wall mount or increase the angle of the IX-MKT.

Note: For heavy duty use an optional handset hanger (IX-HSHG) can be installed in place of the standard hanger.

Installation — Pedestal

- 1. Insert the front two tabs into the holes in the telephone base
- 2. Insert the two rear tabs as shown in figure 4.

Installation — Wall mount

- 1. Mount the station pedestal on the wall using the two screws.
- 2. Pull up the handset hook from the center of the station upper cradle and reinsert it in the slot in an upside-down position as shown in figure 4.
- 3. Insert the two top tabs into the back of the key telephone, then insert the two bottom tabs as shown in figure 05.11-21.

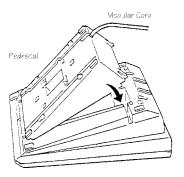


FIGURE 5.11-21 IX-VTPD INSTALLATION

Optional Handset Installation

An optional station noise canceling handset (IX-SNHD) or station-amplified handset (IX-SHHD) can be connected to an IX-MKT.

Installation

- 1. (IX-SSHD ONLY) Remove the four screws from the bottom housing to open the key telephone. Change the position of strapping jack CNSW from 1-2 to 2-3.
- 2. Unplug the handset cord from the standard handset and plug it into the optional handset.

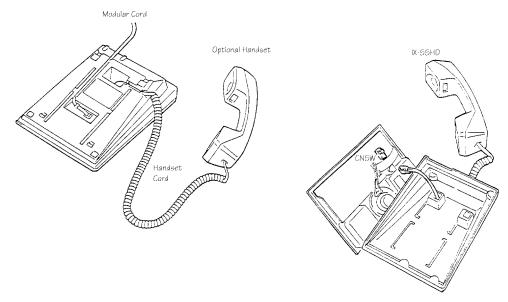


FIGURE 5.11-22 OPTIONAL HANDSET INSTALLATION

Station Speakerphone Unit

A IX-SSPU Speakerphone unit may be added to the IX-MKT. The station internal speakerphone card provides the IX-MKT with full hands-free operation on CO/PBX lines.

Installation

- 1. Remove the screws from the bottom housing to open the telephone.
- 2. Attach the IX-SSPU to the bottom housing with the screws provided as illustrated in Figure 6.
- 3. Remove the two strapping jacks from connector CNSSP on the station circuit card.
- 4. Plug the IX-SSPU harness into the CNSSP plug on the station circuit card.
- 5. If speakerphone adjustment is required, turn switch SW1 to the right position (to the mark SW1) and adjust potentiometer R7 as illustrated in figure 6.

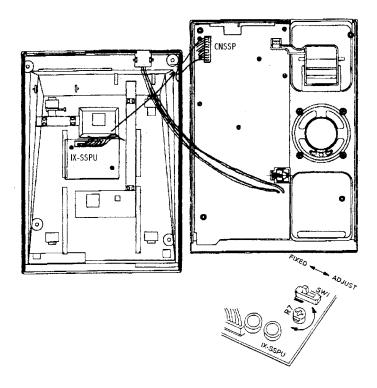


FIGURE 5.11-23 IX-SSPU CONNECTION AND ADJUSTMENT

Programming

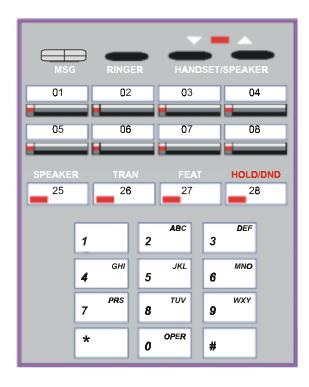
None.

Programming the IX-MKT Key Assignment

At system default, the key pattern assigned to the IX-MKT telephone does not match the key layout of the telephones. For software versions 6.30 and higher, use default pattern 7 (14.01) and change the key pattern assignment in Class 10.12 for each IX-MKT. If your software version is before 6.30, you must create a key pattern in Class 14.01 for each IX-MKT and change the key pattern assignment in Class 10.12 for each IX-MKT telephone in order for the IX-MKT telephone to function properly.

Class 14 Item 01 – Key Assignment

Key Layout for IX-MKT



Default Key Pattern 7 for IX-MKT (Software Version 6.30 and higher)

Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)
01	FLOAT	003-063
02	FLOAT	003-063
03	PARK	055-000
04	ICM	042-000
05	FORWARD	038-000
06	ADD	025-000
07	MESSAGE	050-000
08	SPEED	071-000
25	SPEAKER	070-000
26	TRAN	078-000
27	FEAT	037-000
28	HOLD/DND	102-000

Programming the Green LED on the Display Indicator Lamp

You may associate the green LED on the display indicator lamp of an IX-MKT with the programming of a multipurpose key. For example, at default this button is associated with the message waiting key. Whenever there is a message waiting, the green LED on the display indicator lamp will flash green. In software versions 4.62/5.62 or higher, the programming for the display indicator lamp may be changed using Class 10.75, Element 1 as explained on the next page.

Installing Versa-Phones

ADIX Versa-Phones are simplified key telephones. Optional hardware for this model is listed below:

- IX-VTPD Station Pedestal/Wall Mount Unit
- IX-HSHG Heavy Duty Handset Hanger
- IX-SNHD and IX-SHHD Optional Handsets

Assembly

ADIX Versa-Phone components are assembled as illustrated below.

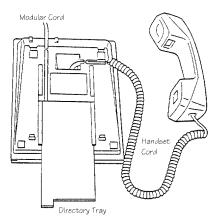


FIGURE 5.11-24 ADIX VERSA-PHONE ASSEMBLY

Connection

ADIX Versa-Phones are connected to station cable from the IX-8PSUB card as listed in the following table:

Jack Pin	Wire Color	Designation	Description
1	Green	1T	T
2	Red	1R	R
3	Yellow	2T	
4	Black	2R	

Labeling

Remove the key cover sheets as illustrated below. Use the ADIX Keysheet Designer V5.1A (Part Number 109202) to enter data and print on these key labels.

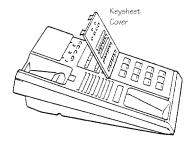


FIGURE 5.10-25 ADIX VERSA-PHONE KEYSHEET COVER

Programming

01.03 Port Definition; 10.12 Key Assignment; 14.01 Key Assignment.

Station Pedestal/Wall Mount Unit Installation

The IX-VTPD station pedestal is used to either wall mount or increase the angle of the Versa-Phone.

Note: For heavy duty use an optional handset hanger (IX-HSHG) can be installed in place of the standard hanger.

Installation — Pedestal

- 3. Insert the front two tabs into the holes in the telephone base
- 4. Insert the two rear tabs as shown in figure 5.11-21.

Installation - Wall mount

- 4. Mount the station pedestal on the wall using the two screws.
- 5. Pull up the handset hook from the center of the station upper cradle and reinsert it in the slot in an upside-down position as shown in figure 5.11-21.
- 6. Insert the two top tabs into the back of the key telephone, then insert the two bottom tabs as shown in figure 5.11-21.

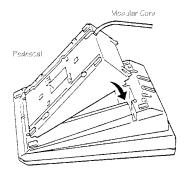


FIGURE 5.11-26 IX-VTPD INSTALLATION

Optional Handset Installation

An optional station noise canceling handset (IX-SNHD) or station amplified handset (IX-SHHD) can be connected to an ADIX Versa-Phone.

Installation

- 3. (IX-SSHD ONLY) Remove the five screws from the bottom housing to open the key telephone. Change the position of strapping jack CNSW from 1-2 to 2-3.
- 4. Unplug the handset cord from the standard handset and plug it into the optional handset.

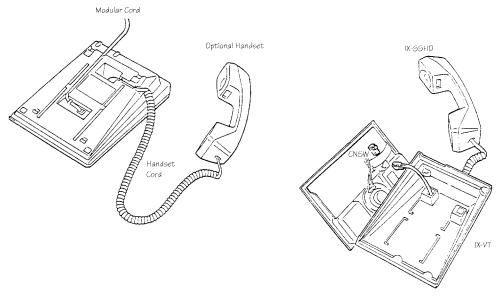


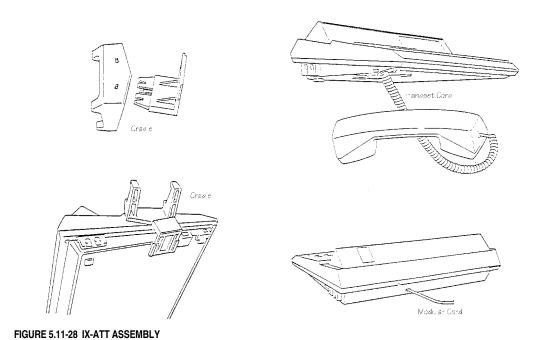
FIGURE 5.11-27 OPTIONAL HANDSET INSTALLATION

Installing the IX-ATT

The IX-ATT attendant console provides a PBX-style attendant position for efficient call processing. The attendant console is equipped with 30 DSS keys, 24 programmable feature keys, soft function keys, and a 4-line x 40-character LCD. The ADIX can accommodate up to eight IX-ATTs or DSS units. Each IX-ATT requires two IX-8PSUB ports.

Assembly

- 1. Assemble the handset cradle for left or right hand operation.
- 2. Insert the cradle into the slot at the bottom of the IX-ATT.
- 3. Plug in the handset and modular cord.



Installation

Connect the IX-ATT as follows:

Jack Pin	Wire Color	Designation	Description
1	Green	1T	Channel
2	Red	1R	1
3	Yellow	2T	Channel
4	Black	2R	2

Labeling

Remove the key cover sheets as illustrated below. Use the ADIX Keysheet Designer V5.1A (Part Number 109202) to enter data and print on these key labels.

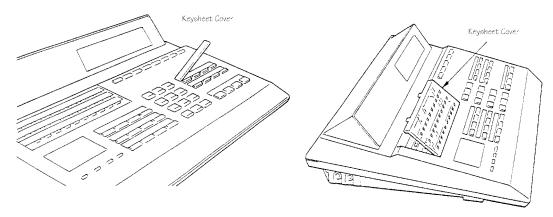


FIGURE 5.11-29 IX-ATT KEYSHEET COVERS

Programming

01.03 Port Definition; 01.04 Configuration (Physical ports corresponding to Channels 1 and 2, and BLF unit if installed); 10.12 Key Assignment; 15.01 Attendant Key Assignment.

Installing the IX-BLF Busy Lamp Field

The IX-BLF busy lamp field is connected to the IX-ATT. It provides 200 status indicator lamps. The BLF must be defined and configured using the station logical port of the associated attendant console. The BLF pattern must be created under the same pattern number as that used for the associated attendant console.

Assembly

- 1. Remove the two hole covers at the top of the IX-ATT using a small screwdriver.
- 2. Mount the BLF unit on top of the IX-ATT by inserting the two BLF tabs into the holes.
- 3. Plug in the modular cord.

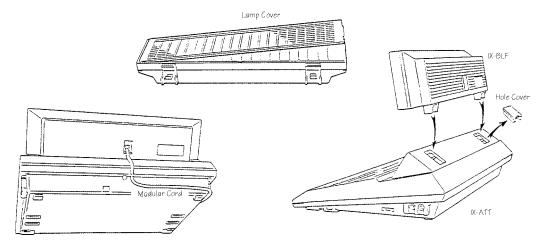


FIGURE 5.11-30 IX-BLF ASSEMBLY

Connection

Connect the IX-ATT/BLF modular cord to an IX8PSUB port as follows:

Jack Pin	Wire Color	Designation	Description
1	Green	DT	Channel
2	Red	DR	3
3	Yellow		
4	Black		

Programming

01.03 Port Definition; 01.04 Configuration; 16.01 BLF Assignment.

Installing an IX-DSS Unit

The IX-DSS combined with a key telephone provides a simplified attendant position. Both the IX-DSSA and IX-DSSB have 50 direct station selection keys with indicator LEDs. The IX-DSSA has an additional 20 programmable feature keys. The DSS unit must be defined and configured using the station logical port of the associated KT. The KT+DSS position must be assigned an attendant key pattern.

Assembly

The IX-DSS unit is assembled as illustrated below:

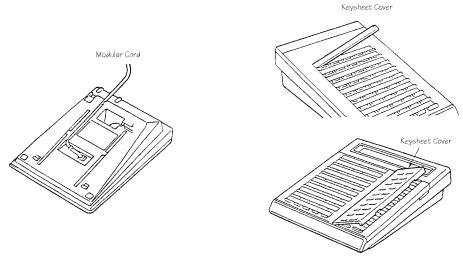


FIGURE 5.11-31 IX-DSS ASSEMBLY

Installation

Connect the DSS unit to the cable from the IX-8PSUB card as listed below:

Jack Pin	Wire Color	Designation	Description
1	Green	DT	
2	Red	DR	
3	Yellow		
4	Black		

Programming

01.03 Port Definition; 01.04 Configuration; 10.12 Key Assignment; 15.01 Attendant Key Assignment

Station Pedestal/Wall Mount Unit (IX-STPD)

Installation – Pedestal

Insert the front two tabs into the holes in the DSS base, then insert the two rear tabs as illustrated in figure 5.11-32.

Installation — Wall mount

- 1. Mount the station pedestal (IX-STPD) on the wall using the two screws.
- 2. Insert the top two tabs on the back of the DSS, then insert the two bottom tabs as shown in figure 5.11-32.

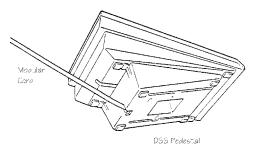


FIGURE 5.11-32 IX-DSS WALL MOUNTING

Installing a Doorphone

The IX-DDPH doorphone is connected to the ADIX through an IX-8PSUB port in the same manner as a digital station. It provides for hands-free intercom operation to call a designated station or group of stations. An IX-DDPH station must be defined in *Class 01.03*. Doorphone ringing assignment and tone must be defined in *Classes 10.57 and 10.59*.

Connection

The IX-DDPH is connected to the station cable from the IX-8PSUB as follows:

Jack Pin	Wire Color	Designation	Description
1	Green	Т	
2	Red	R	
3	Yellow		
4	Black		

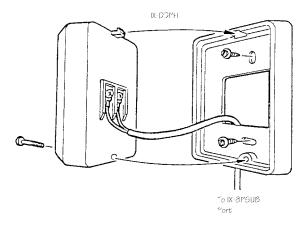


FIGURE 5.11-33 IX-DDPH CONNECTION

Programming

01.03 Port Definition; 10.57 Doorphone Ringing; 10.59 Doorphone Tone.

Installing IX-COMLINK

Installation typically requires one hour, but is also dependent on the installation time for the application software utilized. (Please consult the manual provided with the application software.)

Before attempting to install IX-COMLINK it is very important that you have a basic understanding of computer hardware and software, as well as an understanding of the ADIX system. This manual does not cover the installation of the Computer Telephony application, please consult the manual provided with the software.

Your computer must have the following features to install the IX-COMLINK successfully:

PC Requirements

- Microsoft® Windows® 3.11 or Windows® 95 Operating System.
- A 486 or higher Microprocessor.
- Follow Microsoft® recognized RAM requirements. For Windows® 3.11 a minimum of 4MB of RAM (8MB recommended). For Windows® 95 a minimum of 8MB of RAM (16MB recommended). Additional RAM may be required for your Computer Telephony application.
- A 3.5 inch floppy disk drive.
- At least 1MB of free hard disk space for IX-COMLINK drivers. Additional hard disk space is required for your Computer Telephony application.
- Color Monitor with at least 480 x 640 Resolution.
- An RS232C COM port.

ADIX Requirements

- ADIX Software Versions 4.71/5.71 or higher.
- An IX-8PSUB-1, IX-408, or IX-044 card digital station port.
- 24 AWG twisted-pair cable to establish the connection between the ADIX system and the IX-COMLINK location.

Power Supply Requirements

The IX-COMLINK consumes the same amount of power as an ADIX digital telephone. An IX-COMLINK operating with an ADIX digital telephone connected, consumes the same amount of power as two ADIX digital telephones. The chart below lists the maximum number of IX-COMLINK units and digital telephones the system power supply will support.

System Capacity for ADIX-S and ADIX-M1

SYSTEM	ADIX-S	ADIX-M		
Power Supply	IX-PWSS	IX-PWSM	IX-PWSM	IX-PWSM
Expansion Modules	0	0	1	2
Universal Card Slots	5	5	11	17
Number of Ports ²	52	72	136	200
Digital Station Ports ³	24	32	80	120

System Capacity for ADIX¹

Power Supply	IX-100PWS	IX-200PWS		
Expansion Modules	0	1	2	6
Universal Card Slots	12	20	28	56
Number of Ports ²	96	160	224	448
Digital Station Ports ³	88	152	200	400

NOTES:

- This table lists the maximum quantity supported for each component type. The combined total number of ports for each system is limited
 to the figures listed in the "Number of Ports" category of this table. The capacities listed are based on the total number of card slots
 available, software restrictions and the power consumption of each component. It is recommended to use the ADIX Power Calculator
 Program to determine the exact power supply required.
- 2. The combined number of Station, Trunk, and Misc ports may not exceed the number of ports listed in this category.
- 3. The total number of ADIX digital telephones and IX-COMLINK units combined may not exceed the numbers listed in this category.

Connecting the IX-COMLINK to the Computer

- Connect the DB9 female /DB9 female serial cable (provided with IX-COMLINK) from an available serial port on your PC to the connector on the rear panel of IX-COMLINK labeled PC.
 Note: Certain PC models have a DB25 serial connector. These PCs require a DB9/DB25 converter which is not provided with IX-COMLINK. The maximum cable length between the IX-COMLINK and the PC is 10 feet.
- OPTIONAL MODEM CONNECTION: Plug one end of a telephone line into the PC modem
 jack labeled LINE or TELCO. Plug the other end of that line into the MODEM connector located
 on the rear panel of IX-COMLINK.
- 3. OPTIONAL PC SOUND CARD CONNECTION: If the PC is equipped with a sound card, plug the LINE OUT jack on the Sound Card to the LINE IN jack located on the rear panel of IX-COMLINK. Plug the LINE IN jack on the Sound Card to the LINE OUT jack located on the rear panel of IX-COMLINK. Note: The computer telephony software application must support the operation of the LINE IN /LINE OUT jacks.

Note: The line impedance of the IX-COMLINK LINE IN and LINE OUT jacks is as follows: LINE IN input impedance = 50 K LINE OUT output impedance = 1 K

4. OPTIONAL SPEAKER CONNECTION: To connect PC speakers, plug the cable from the PC speakers to the LINE OUT jack located on the rear panel of the IX-COMLINK. Note: Only amplified speakers may be connected directly to IX-COMLINK.

Connecting an ADIX Digital Telephone to the IX-COMLINK

1. Connect an ADIX Digital Telephone to the KT jack located on the rear panel of IX-COMLINK.

Note: The ADIX Digital Telephone must be plugged into the KT jack before connecting the IX-COMLINK to the wall jack or the telephone may not work.

Connecting the IX-COMLINK to the ADIX

1. Connect a digital station port from either an IX-8PSUB-1, IX-408, or IX-044 card to the IX-COMLINK KSU jack.

- 2. The LED on the rear panel of the IX-COMLINK will light to indicate IX-COMLINK is active. Confirm that the selected primary communication device is operational.
- 3. If the primary communication device is not operational, confirm all connections and unplug the line cord connected to the IX-COMLINK KSU connector, then reconnect it.

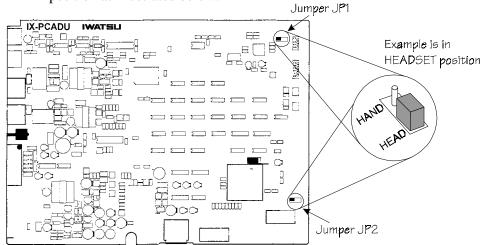
Connecting the IX-CTH/C Handset with Cradle and Hookswitch

- 1. Unplug the IX-COMLINK by removing the line cord connected to the KSU connector.
- 2. Connect the 6 conductor line cord provided with the IX-CTH/C from the bottom of the cradle to the HANDSET jack located on the front panel of IX-COMLINK. By default, the IX-COMLINK is configured with the HANDSET connector enabled. **Important:** Jumper JP1 and JP2 must be in the HAND position (factory setting) in order for the IX-CTH/C to operate.
- 3. Replace the line cord for the KSU connector removed in step 1.

Note: The HANDSET and HEADSET connectors cannot be used simultaneously.

Connecting a Headset

- 1. If you are connecting a headset to the HEADSET jack you must first enable the HEADSET jack. This is done by changing Jumpers JP1 and JP2 to the HEAD position. By default, IX-COMLINK is configured with the HANDSET connector enabled and the HEADSET connector disabled.
- 2. Unplug the IX-COMLINK by removing the line cord connected to the KSU connector.
- 3. Unscrew the four screws on the base of the IX-COMLINK. Remove the top of IX-COMLINK.
- 4. Locate Jumper JP1 and Jumper JP2 on the circuit board. Change **both** of these jumpers to the HEAD position as illustrated below:



- 5. Replace the IX-COMLINK top cover and the four screws removed in step 3.
- 6. Connect the headset to the HEADSET jack located on the front panel of IX-COMLINK.
- 7. Replace the line cord for the KSU connector removed in step 2.

Note: The HANDSET and HEADSET connectors cannot be used simultaneously.

ADIX Database Settings

The following program is recommended when using IX-COMLINK:

- Class 10.08 Off-Hook ICM. Set to 1 to allow off-hook ICM.
- Key Pattern (Class 10.12, 14.01, 15.01) key 25=Speaker, key 26=Transfer, key 27=Feature, key 28=Hold/DND. Also recommended for some applications are ICM, SPEED and ADD.

Note: The IX-COMLINK does not support the use of the HEADSET key. If a headset is required, it must be connected to the HEADSET connector and used without a KT.

- Class 10.24 Enable system speed access. The programming in this item must match the value of the "SwitchDialOnConv" line in the PCKTADPT.INI file.
- Class 10.28 Enable dial on conversation. The programming in this item must match the value of the "SwtchSystemSpeed=1" line in the PCKTADPT.INI file.
- Class 10.33 Disable Forced Optimized Routing. This item must be disabled for any port connected to an IX-COMLINK. The IX-COMLINK utilizes the access codes programmed in Class 11.02 to access the CO trunks in the ADIX system and Class 10.33 disables the access codes. IX-COMLINK does not support optimized routing.
- Class 11.02 Trunk access numbers for outgoing calls. The trunk access number(s) programmed in Class 11.02 must match the value in the "Trunk 1~200" lines in the PCKTADPT.INI file. (Example Trunk 1=101, Trunk 1=102.)

ADIX System and Station Feature Limitations.

The IX-COMLINK unit and SPI were designed to support most ADIX system features. However, some features are not available. Consult the lists below and the Computer Telephony Application Compatibility Chart at the end of this bulletin for information on the features compatible with IX-COMLINK. The computer telephony application may provide a solution for features not supported by IX-COMLINK.

The following features are not supported by IX-COMLINK:

- The HEADSET key feature in Class 14 and Class 15. If a headset is required, it must be connected to the HEADSET connector and used without a KT.
- The ACD system features. The IX-COMLINK cannot be used to handle calls as an ACD Agent.

The following features are not supported when using the IX-COMLINK without an ADIX Digital Telephone:

- Receiving page announcements
- ICM Callback
- Call Coverage
- Trunk Queuing
- Timed Trunk Queuing
- Time Reminder
- Wake-up Call

Running the Installation Program

Once your IX-COMLINK is connected, you need to run the Installation program to load the necessary driver files.

WARNING: Before running the IX-COMLINK SPI Installation program, back-up the TELEPHON.INI file in your c:\windows directory. The installation program modifies this file to accommodate the IX-COMLINK.

- 1. Insert the Installation Disk in your PC floppy disk drive.
- 2. From the Start Menu, choose Run.
- 3. Type a:\setup. (Substitute your correct floppy disk drive letter for a:.)
- 4. The Setup Screen will be displayed. Make sure that the COM Port, Baud Rate, Line Name, Phone Name, and Phone Number are correct according to the following conditions:

COM Port. Make sure the COM port correctly matches the COM port to which IX-COMLINK is connected.

Baud Rate. Use a baud rate between 9600 and 38400.

Line Name. At default the line name will be IWATSU PC-KT Line Device. This field will not affect operation.

Phone Number. At default the phone number will be (Ext No.). This field will not affect operation.

Phone Name. At default the phone name will be IWATSU PC-KT Line Device. This field will not affect operation.

- 5. Click OK to close the Setup window.
- 6. The installation is now complete.
- 7. Remove the IX-COMLINK SPI Installation Disk from the disk drive.

Editing the SPI Configuration after Install

After completing the installation procedure, the following procedure may be used to confirm or change the configuration.

- 1. From the Start Menu choose Settings then Control Panel.
- 2. Double click the Telephony icon and choose the Telephony Drivers tab.
- 3. Click the Add button and select "Iwatsu PC-KT SP" as the driver.
- 4. Click the Setup button. Make sure that the COM Port, Baud rate, Line Name, Phone Name and Phone Number are correct according to the following conditions:

COM Port. Make sure the COM port correctly matches the COM port to which IX-COMLINK is connected.

Baud Rate. Use a baud rate between 9600 and 38400.

Line Name. At default, the line name will be IWATSU PC-KT Line Device. This field will not affect operation.

Phone Number. At default the phone number will be (Ext No.). This field will not affect operation.

Phone Name. At default the phone name will be IWATSU PC-KT Line Device. This field will not affect operation.

5. Click OK then select Close to close the Control Panel.

Editing the PCKTADPT.INI File

After completing the installation procedure, a new file — PCKTADPT.INI — is created in your c:\windows directory. This file contains parameters and instructions for the IX-COMLINK. Certain lines in the PCKTADPT.INI file may need editing depending on how your ADIX system is configured. The table below lists each line of the PCKTADPT.INI file and how it affects operation.

All telephony applications must be closed in order to edit the PCKTADPT.INI file. If you are using Windows Dial-Up Networking, you must restart your computer to effect any changes to the file.

Important: Back-up the PCKTADPT.INI file by copying it to a different directory before making any changes.

PCKTADPT.INI File Contents

The table below lists the contents of the PCKTADPT.INI file.

Item (values in this column are default)	Change Permitted YES/NO	Description
[Pckt adaptor]	NO	File header
Version=1.00.004	NO	Version of SPI driver
Port=COM1	NO	Use Telephony Configuration Window to Change.
Rate=19200	NO	Use Telephony Configuration Window to Change.
Adaptor-KT=1.00	NO	IX-COMLINK ROM Version.
Adaptor-DSS1=	NO	Not supported
Adaptor-DSS2=	NO	Not supported
Adaptor-DSS3=	NO	Not supported
Adaptor-DSS4=	NO	Not supported
RingDevice=Buzzer	Yes	Ringing device without KT Buzzer: a buzzer in IX-COMLINK rings headset: a ringer in headset rings Note that "RingPattern" and "RingFrequency" are ignored if "headset" is selected.
RingPattern=22	Yes	Ringing pattern of the IX-COMLINK buzzer 0: no ringing 1: all time ringing 2: 0.1on/0.1off/0.1on/1.7off 3: 0.1on/0.1off/0.1on/0.1off/0.1on/1.5off 4: 0.1on/0.1off/0.1on/0.1off/0.1on/0.1off/0.1on/3.3off 5: 0.1on/0.1off/0.1on/0.1off/0.1on/0.1off/0.1on/1.3off 6: 0.2on/3.8off 7: 0.2on/0.2off/0.2on/1.4off 8: 0.2on/0.2off/0.2on/0.2off/0.2on/0.2off/0.2on/2.6off 9: 0.3on/0.2off/0.3on/0.1off/0.3on/2.9off 10: 0.3on/0.2off 11: 0.4on/0.2off/0.4on/3off 12: 0.5on/0.5off 13: 1.0on/1.0off 14: 0.3on/0.3off/0.3on/1.1off 15: 1.2on/2.8off 16: 0.1on/0.1off/0.1on/0.1off/0.1on/3.5off 17: 0.2on/0.1off/0.2on/0.1off/0.2on/0.1off/0.2on/2.9off 18: 0.3on/0.2off/0.3on/0.2off/0.3on/0.2off/0.3on/2.2off 19: 0.1on/0.1off/0.1on/0.7off/0.1on/0.1off/0.1on/2.7off 20: 0.2on/0.8off/0.2on/2.8off 21: 0.5on/3.5off 22: 1.0on/3.0off 23: 2.0on/2.0off

	Change	
Item (values in this column are default)	Permitted YES/NO	Description
RingFrequency=1	Yes	Ringing frequency of the buzzer
		0:400 Hz
		1 : 500 Hz 2 : 667 Hz
		3:800 Hz
		4:1000 Hz
		5 : 1333 Hz
		6: 1600 Hz
		7:2000 Hz
RingOnConvDevice=Buzzer	Yes	Ringing device during conversation without KT
		Buzzer : IX-COMLINK buzzer rings Headset : headset rings
		Note "RingOnConvPattern" and "RingOnConvFrequency" are
		ignored if "headset" is selected.
RingOnConvPattern=0	Yes	values are the same as "RingPattern"
J T		The buzzer rings even if Protected Station (Class 10.44) is set.
RingOnConvFrequency=1	Yes	values are same as "RingFrequency"
Tone1=	NO	Not supported
Tone2=	NO	Not supported
Tone3=	NO	Not supported
Tone4=	NO	Not supported
Tone5= Tone6=	NO NO	Not supported Not supported
SingleCall=	Yes	0 = Application handles resetting of the call
Sirigie Cali-	163	1 = SPI handles resetting of the call
		(Set to 1 for ACT!2, Set to 0 for ACT!3)
NullTermination	Yes	0 = SPI does add null character to the end of the Provider Name,
		Line Name, and Phone Name strings. (Default Setting)
		1 = SPI adds null character to the end of the Provider Name,
		Line Name, and Phone Name strings. In most cases, this should
DialBeforeDialTone	Yes	be set to 1. 0 = SPI will not accept digits before dial tone status
DiaiBeroreDiaiTone	163	1 = SPI will accept digits before dial tone status. In most cases,
		this should be set to 1 in order to use features such as Transfer
		and Conference.
DummyStatesOnError=1	NO	
PseudoExternalCallerID=	Yes	1 : for PhoneMax (Must be set to 1 when PhoneMax Is used)
0 5 1 17	110	: other applications
Switch=IX	NO	It is set automatically.
SwitchName=ADIX	NO NO	It is set automatically. It is set automatically. "i" is key number. "k" is key function. "I" is
ButtonId i=k,I	NO	key sub-function.
SwitchMessageWait=	NO	Not supported
SwitchSystemSpeed=1	Yes	1 : allow system speed dial
	100	: do not allow
SwitchDialOnConv=	Yes	1 : allow dial on conversion
		: do not allow
SwitchBargeIn=	NO	Not supported
SwitchForward=	NO	Not supported
SwitchDoNotDisturb=	NO	Not supported
SwitchOverrideCall=	NO	Not supported
SwitchFeatDial=1 SwitchHotLine=	NO Yes	Not supported 1: Prime line is set
SWITCHINGTHE	162	: is not set
DialUnhold=	NO	Not Used
DialPickupGroup=	NO	Not Used
DialPickupExt=	NO	Not Used
Terminal=IX-KT	NO	It is set automatically (SW1 at side panel)

Chapter 11 Station Installation

Item (values in this column are default)	Change Permitted YES/NO	Description		
Device=Headset	NO	It is set automatically (Jumpers in the adapter)		
LineName=IWATSU PC-KT line	NO	Use Telephony Configuration Window to Change.		
device				
LineAddress=(Ext No.)	NO	Use Telephony Configuration Window to Change.		
Forward=	NO	It is set automatically		
DoNotDisturb=	NO	It is set automatically		
PickUpGroup=	NO	It is set automatically		
PickUpExt=	NO	It is set automatically		
Conference=1	NO	It is set automatically		
Hold=1	NO	It is set automatically		
Transfer=1	NO	It is set automatically		
CampOn=	NO	It is set automatically		
CallBack=	NO	It is set automatically		
Intrude=	NO	It is set automatically		
Message=	NO	It is set automatically		
Park=	NO	It is set automatically		
GenerateDigitesInternal=1	NO	It is set automatically		
GenerateDigitesExternal=1	NO	It is set automatically		
NumParkAddress=60	NO	It is set automatically		
PhoneName=IWATSU PC-KT	NO	Use Telephony Configuration Window to Change.		
phone device				
Trunk1=	Yes	The trunk access number must be entered manually. This value		
~		should match programming in Class 11.02 of the ADIX		
Trunk200=		database.		

Chapter 11 Station Installation

Installing Single-Line Telephones

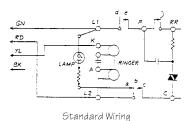
Both DP and DTMF SLTs can operate many of the ADIX features. Some internal rewiring is required for SLTs with message lamps. The following hardware is required depending on the type of SLT being installed:

Type of SLT	Hardware Required		
500-Type, on premises	IX-8SUBS-2, IX-RNGU/IX-RNGU-M		
2500-Type, on premises	IX-8SUBS-2, IX-RNGU, (IX-4RCVS if IX-8SUBS, -1 is used)		
500-Type with message lamp, on premises	IX-8SUBM-1, IX-DCDCA or external power source, IX-RNGU		
2500-Type with message lamp, on premises	IX-8SUBM-1, IX-DCDCA or external power source, IX-RNGU, (IX-4RCVS if		
	IX-8SUBM is used)		
500-Type, off premises	IX-4SUBL, IX-DCDCA/IX-DCDCB, IX-RNGU/IX-RNGU-M		
2500-Type, off premises	IX-4SUBL, IX-4RCVS, IX-DCDCA/IX-DCDCB, IX-RNGU/IX-RNGU-M		

Installation - (SLT with Message Lamp Only)

- The IX-8SUBM-1 supports both one-pair and two-pair wire connection of SLTs with message lamps.
- The IX-8SUBM requires two cable pairs: one pair for tip and ring, and one pair for the message lamp. Rewiring on the SLT varies depending on the manufacturer and model.
- Most SLTs have the message lamp connected across the tip and ring lines while on-hook.
- Remove the two lamp leads, including the resistor, and connect it to the second pair of modular cords (black and yellow).

Jack Pin	Wire Color	Designation	Description
1	Green	Т	
2	Red	R	
3	Yellow	L1	
4	Black	L2	



After Rewiring

FIGURE 5.11-34 SLT WIRING

Optional Feature Installation (ADIX)

System Hardware Requirements

This chapter provides installation instructions for optional system features. Optional features include customer-provided devices connected through shared resource interface cards installed in the ADIX. The table below lists the hardware required for optional features.

Feature	Hardware Required		
Music-On-Hold	Internal Source: IX-HWCL/IX-HWCE/IX-CPU16M		
	External Source: IX-MISC+IX-EDCTU		
Background Music	Internal Source: IX-HWCL/IX-HWCE/IX-CPU16M		
	External Source: IX-MISC+IX-EDCTU		
Paging/Zone Page	IX-MISC+IX-EDCTU		
Loud Ringer			
Night Ringer			
Remote Control			
Night Switch			
Remote CO Forwarding	IX-4TRAN		
DISA	IX-RCVPM with IX-4RCVC, or IX-RMPU		
Modem Pooling	Internal: IX-RCVPM, IX-12/24PMD		
-	External: IX-EMDIF		
System Announcement	IX-MSGU, IX-CMSG, IX-EMCH		
SMDR Printer	IX-SCIF, IX-HCIF, or IX-EVDIF		
PC Programming			
Remote Programming	IX-RMPU		

Installing the IX-MISC Card and IX-EDCTU Board

Most customer provided devices for optional features are terminated to the IX-EDCTU board which is controlled by the IX-MISC card. This section describes installation procedures for both these pieces. For information on IX-MISC card settings see **Section 4 – Component Description**.

IX-MISC Card

The IX-MISC card uses system ports for the following input/output functions:

- External MOH Source Connection
- External BGM Source Connection
- Paging Zones
- Remote Control Relays
- Sensor Inputs

The table below lists the default function of each circuit on the IX-MISC card:

Port	Function		
1	Page Zone 1		
2	BGM Source		
3	MOH Source		
4	Relay Control		
5	Sensor Input		
6*	Page Zone 2		
7*	Page Zone 3		
8*	Page Zone 4		

^{*} Circuits 6-8 can also be used for sensor input

Preparation

- 1. Set the option switches on the IX-MISC card according to the desired function.
- Set SW2 to either 4-wire or 2-wire depending on the type of paging amplifier used.
- 3. Set SW3 to USED if BGM through paging amplifiers is desired. If not, set to UNUSED.
- 4. Set SW5-SW8 to select either SENSOR INPUT or RELAY CONTROL OUTPUT for circuits 5 through 8 on the IX-MISC.
- 5. Set SW9-SW12 to output BGM through page zones 1-4 as desired.
- 6. Using a screwdriver, adjust VR1 and VR2 to set the BGM and MOH output volumes.

Installation

- Plug the IX-MISC card into the far right universal slot of any common/expansion module shelf.
 Make sure the card is inserted deep enough for all of the connector pins to make complete
 contact with those on the motherboard.
- 2. Install the IX-EDCTU, as described in the IX-EDCTU installation procedure.
- 3. Secure the card stopper with the two screws, if no other cards are to be installed.

IX-EDCTU Board

The IX-EDCTU is a connecting panel with phono jacks and screw terminals to connect various external devices. The IX-EDCTU can only be installed on the far right of any common/expansion module shelf. The table below lists the IX-EDCTU termination points.

IX-EDCTU Termination and Signals			
Label	Description		
MOH IN	Input for Music on Hold		
BGM IN	Input for Background Music		
MOH-C	MOH Control Contact		
BGM OUT	Output BGM through P.A. Amplifier		
PAGE IN	Audio output to P.A. Amplifier (2 wire) (Two-way page only)		
PAGE C	P.A. Amplifier Control Contact		
PAGE OUT	Audio Output to P.A. Amplifier (4 wire)		
L1/-	Flex. Contact No.1		
L2/-	Flex. Contact No.2		
L3/-	Flex. Contact No.3		
L4/-	Flex. Contact No.4		
L5/SENS1/-	Flex. Contact No.5/Sensor Input No.1		
L6/SENS2/-	Flex. Contact No.6/Sensor Input No.2		
L7/SENS3/-	Flex. Contact No.7/Sensor Input No.3		
L8/SENS4/-	Flex. Contact No.8/Sensor Input No.4		
ZONE PA/BGM IN	Zone Page BGM Input		
ZONE IN	Zone Page Speaker Input		
ZONE 1/-	Page Speaker Zone 1 Speaker Output		
ZONE 2/-	Page Speaker Zone 2 Speaker Output		
ZONE 3/-	Page Speaker Zone 3 Speaker Output		
ZONE 4/-	Page Speaker Zone 4 Speaker Output		

Installation

- 1. Position the IX-EDCTU in the space on the right front of the common module/expansion module shelf (to the right of the IX-MISC card). The metal bracket must be to the right.
- 2. Attach the IX-EDCTU to the cabinet with the screws provided.
- 3. Plug one end of the flat cable provided with the IX-EDCTU into the connector on the unit. Plug the opposite end into connector DCONN on the IX-MISC.

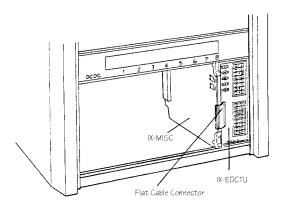


FIGURE 5.12-1 IX-MISC/EDCTU INSTALLATION

Relay Contacts

Most applications require a slave relay if the application circuit power exceeds the control circuit contact ratings. Install a slave relay with a protective diode IN4002 (or equivalent) across the coil, and an external power source conforming to the slave relay operating parameters. Figure 5.12-2 illustrates a standard relay connection with circuit protection and power source. Do not exceed the following internal relay contact specifications when these terminals are used:

■ Control Relay Contact Ratings: 24 VDC, 1 Amp

■ Audio Jacks Input Sensitivity: 0 to 1 Volt

■ Input Impedance: 600 Ohms

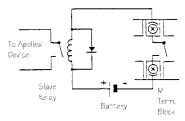


FIGURE 5.12-2 SLAVE RELAY ON DISTRIBUTION PANEL

Programming Music On Hold (MOH)

The ADIX can be programmed to play music on hold using either the internal MOH source or an external MOH source. The internal music on hold source is contained in the IX-HWCL, IX-HWCE, or IX-CPU16M card and is pre-programmed in the factory. You can choose the melody using an on-board switch. If you choose instead to use an external music on hold source, it must be connected to the IX-EDCTU board or the IX-HWCL/IX-HWCE card. An AM/FM tuner or tape player is commonly used as an external MOH source.

External MOH Connection through the IX-MISC/IX-EDCTU

- 1. Connect the output terminal from the MOH source to the MOH IN terminal located on the IX-EDCTU distribution panel.
- 2. The MOH amplifier is switched on and off via a control relay. Connect the MOH amplifier control relay to the MOH C+/- screw terminal bus on the IX-EDCTU.

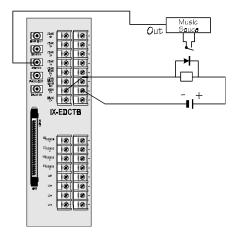


FIGURE 5.12-3 WIRING FOR AN EXTERNAL MOH SOURCE (IX-MISC/IX-EDCTU)

External MOH Connection with IX-HWCL/IX-HWCE

1. (IX-HWCL) Connect the output of the customer provided music source to the MOH jack on the IX-HWCL card as illustrated in figure 5.12-4.

- 2. (IX-HWCE) Connect the output of the customer provided music source to the MOH jack on the IX-HWCE. (**Note:** This is a standard phono jack.)
- 3. Wire the MOH source control to screw terminals MTM/MTC on the IX-HWCL.

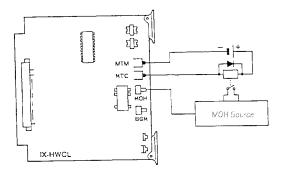


FIGURE 5.12-4 WIRING FOR AN EXTERNAL MOH SOURCE (IX-HWCL)

Note: The MTM/MTC terminals provide MOH control and are normally open. The contact closes when a CO line is placed on hold.

Programming

- 1. Access the programming mode from a DSS unit, programming KT or PC Programmer. Go to *Class 02 Item 03 Music On Hold Source Selection*.
- 2. Set the data field to **1 External Music on Hold Source** and press [ENTER].
- (For IX-MISC/IX-EDCTU Connection Only) Define the MOH input port in Class 04.05 MOH Input Port

Note: If MOH is connected through the IX-MISC, MOH cannot be provided through the highway card.

Programming Background Music

The ADIX provides a background music (BGM) interface to external P.A. system speakers and KT station speakers. BGM can be input to the IX-HWCL/IX-HWCE or IX-MISC/EDCTU. Standard phono jacks are used to connect the BGM source.

Connection

- 1. Connect the output terminal from the BGM source to the BGM IN terminal located on the IX-HWCL/IX-HWCE card or IX-EDCTU distribution panel.
- 2. Adjust the BGM volume with the potentiometer BGM-VR on the IX-HWCL/IX-HWCE or VR1 on the IX-MISC.

Programming

The BGM input must be identified in Class 04.03 – BGM Input Port. Default = highway card.

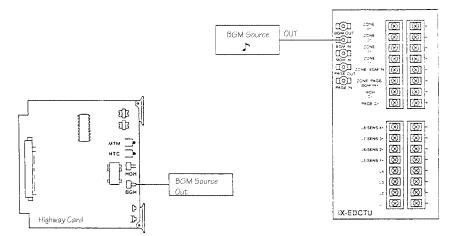


FIGURE 5.12-5 BGM WIRING.

BGM Through All Speakers/External Paging

External BGM can be played through all paging speakers (non-zone) when the speaker is idle, or through individual zones when the zone is idle.

BGM Through All Speakers

- 1. Access the programming mode from a DSS unit, programming KT or PC Programmer. Go to Class 04 Item 03 BGM Input Port. Set the BGM input port to be equal to the second circuit on the IX-MISC card.
- 2. Go to *Class 04 Item 04 BGM Output Port*. Enter either the miscellaneous logical port of the BGM source (second circuit on the IX-MISC), or the miscellaneous logical port number of Page Zone 1 (first circuit on the IX-MISC).
- 3. Connect the BGM source output and page amplifier to the IX-EDCTU as illustrated in figure 5.11-6.
- 4. Reset the system to effect the programming changes.

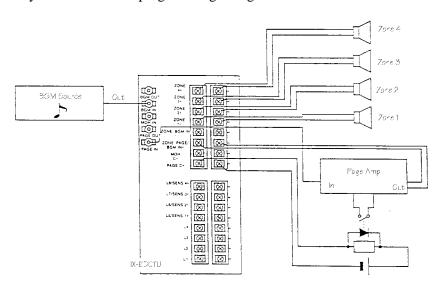


FIGURE 5.12-6 BGM THROUGH ALL SPEAKERS WIRING

BGM Through Individual Paging Zones

Follow the steps below to route BGM, using the IX-EDCTU, to up to four external zone outputs. You can enable or disable BGM for each zone by setting strapping jacks for ZONE1 through ZONE4 on the IX-MISC card.

- 1. Install the BGM source.
- 2. Change strapping jack switch SW3 on the IX-MISC to the BGM AMP position. This will cause BGM to be present at the BGM OUT jack.
- 3. Connect the external amplifier input to the BGM OUT jack.
- 4. Connect the speaker output of the external amplifier to the ZONE BGM IN+ screw terminals on the IX-EDCTU.
- 5. Reset the system to effect the programming changes.

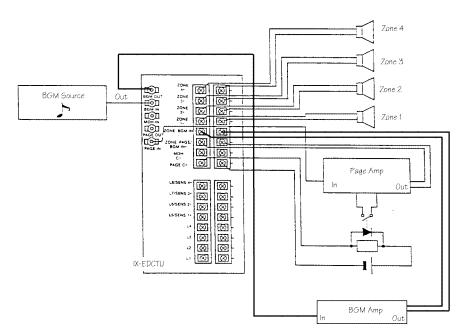


FIGURE 5.12-7 BGM THROUGH INDIVIDUAL PAGING ZONES

Programming the System for External Paging

This section describes the various external paging applications compatible with the ADIX.

Paging Through a P.A. System

The IX-MISC and IX-EDCTU must be installed to interface a P.A. system to the ADIX.

Connection

1. Set the SW2 strapping jack on the IX-MISC card to either the **2-WIRES** (left) or **4-WIRES** (right) position.

Note: When the IX-MISC card is set to **2-WIRES**, page audio is output to the PAGE IN jack on the IX-EDCTU. When the IX-MISC card is set to **4-WIRES**, page audio is output to the PAGE OUT jack on the IX-EDCTU.

- 2. Do one of the following:
 - If the SW2 strapping jack on the IX-MISC card is set to **2-WIRES**, connect the audio input/output terminal of the paging amplifier to the PAGE IN jack on the IX-EDCTU.
 - If the SW2 strapping jack on the IX-MISC is set to **4-WIRES**, connect the input terminal to the PAGE IN jack and the output terminal to the PAGE OUT jack on the IX-EDCTU.
- 3. Connect the page amplifier power control relay (SLAVE) to PAGE C+ and screw terminals on the CON1 bus of the IX-EDCTU.

Programming

The PA miscellaneous logical port must be assigned to a page group in Classes 07.04 and 08.04.

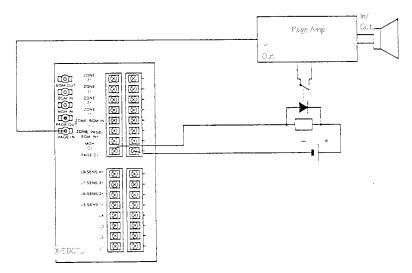


FIGURE 5.12-8 PAGING THROUGH A P.A. AMPLIFIER

Zone Paging

The optional IX-MISC and IX-EDCTU cards must be installed to interface a zone P.A. system to the ADIX system.

P.A. Amplifier Wiring

- 1. Connect the audio input/output terminal of the paging amplifier to the PAGE IN jack located on the IX-EDCTU panel.
- 2. Connect the page amplifier power control relay (SLAVE) to PAGE C+ and screw terminals on the CON1 bus of the IX-EDCTU.
- 3. Connect the page amplifier output for P.A. zone speakers to ZONE PAGE/BGM screw terminals on the CON1 bus of the IX-EDCTU.

Zone Speaker Connection

- 1. Connect the P.A. zone speakers (1 through 4) to ZONE 1 through ZONE 4 screw terminals on the CON1 block of the IX-EDCTU.
- 2. Figures 5.12-6 and 5.12-7 illustrate the relay connections for the P.A. system including the page amplifier, BGM amplifier, and zone speakers.

Programming

Assign the BGM output port. Enter the miscellaneous logical port of the BGM source (second circuit on the IX-MISC) in $Class\ 04.03 - BGM\ Output\ Port$.

Two-Way Paging

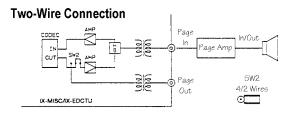
The ADIX can be connected to two-way talk-back paging amplifiers. Either a two-wire or four-wire talk-back amplifier can be used. The two-wire connection reduces the P.A. input sensitivity because of the hybrid circuit inserted in the input.

Setup and Programming

1. Set the SW2 strapping jack on the IX-MISC card to either the **2-WIRES** (left) or **4-WIRES** (right) position.

Note: When the IX-MISC card is set to **2-WIRES**, page audio is output to the PAGE IN jack on the IX-EDCTU. When the IX-MISC card is set to **4-WIRES**, page audio is output to the PAGE OUT jack on the IX-EDCTU.

- 2. Do one of the following:
 - If the SW2 strapping jack on the IX-MISC card is set to **2-WIRES**, connect the audio input/output terminal of the paging amplifier to the PAGE IN jack on the IX-EDCTU.
 - If the SW2 strapping jack on the IX-MISC is set to **4-WIRES**, connect the input terminal to the PAGE IN jack and the output terminal to the PAGE OUT jack on the IX-EDCTU.
- 3. Connect the page amplifier power control (SLAVE) to the PAGE C (+) and (-) screw terminal bus CON1 on the IX-EDCTU



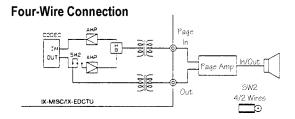


FIGURE 5.12-9 TWO-WAY PAGE WIRING

External Ringer

Individual incoming CO lines can be assigned to activate an external loud ringer connected to the IX-EDCTU panel.

Connection

- 1. Connect the ringer and ringing generator through slave relays to L1 through L8 (corresponding to the relay numbers 1 to 8) assigned through database programming.
- 2. The relay connections for day and night mode ringing are the same. The day and night mode ringing function is determined by database programming.

Programming

Relay numbers and functions must be assigned in *Classes 11.28 – UNA Relay Number and 11.35 – Loud Ringer Relay*. The lines to ring at loud ringers must also be specified.

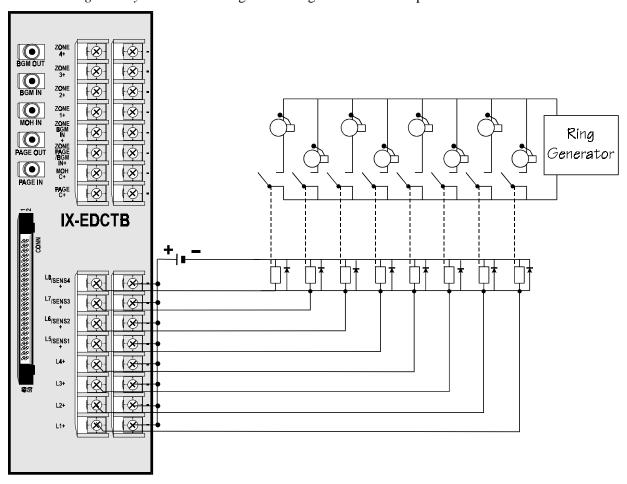


FIGURE 5.12-10 EXTERNAL RINGER WIRING

Remote Control

Flexible relays on the IX-EDCTU board can be used to control a customer provided device such as an electric door lock.

- Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to
 Class 04 Item 35 MISC Function Port and program the miscellaneous logical port location of
 the relays and the relay numbers on the IX-MISC card to be used for remote control
 applications.
- 2. Go to *Class 04 Item 36 MISC Relay Timer* and program the length of time the relays will operate for.
- 3. Go to *Class 04 Item 37 MISC Function* and program the type of relays you are using.
- 4. Go to *Class 14 Item 01 Flexible Key Assignment* and/or *Class 15 Item 01 Attendant Key Assignment* and program a [REMOTE] key to operate the remote control application.
- 5. Connect the device to be controlled through slave relays to L1 through L8 on the IX-EDCTU (corresponding to relay numbers 1 to 8 assigned above) as illustrated in figure 5.11-11.

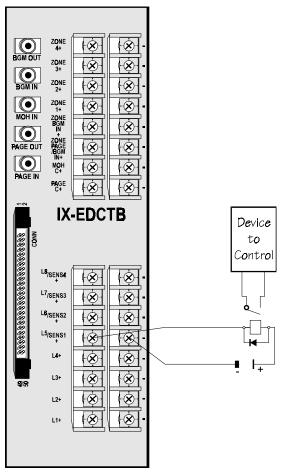


FIGURE 5.12-11 REMOTE CONTROL WIRING

Night Mode Switch

A universal night switch can be installed to manually switch the system into night mode.

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 04 Item 31 Night Mode Start Time and program the automatic night mode start time if desired. The default setting is **0 No Automatic Switching**.
- 2. Go to *Class 04 Item 35 MISC Function Port* and program the miscellaneous logical port location of the sensor on the IX-MISC card and the sensor number which will be used as a night mode switch.
- 3. Go to *Class 04 Item 37 MISC Function* and program the sensor type.
- 4. Connect a push-on/push-off or toggle type switch to SENS1 through SENS2 on the IX-EDCTU board corresponding to the sensor numbers assigned in the programming as illustrated in figure 5.12-12.

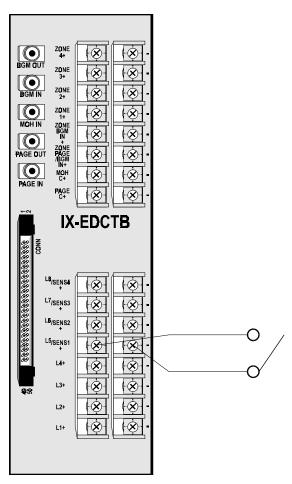


FIGURE 5.12-12 NIGHT MODE SWITCH

Remote CO Forwarding/Conference

The IX-4TRAN card is required for remote CO forwarding. This card also required for trunk-to-trunk conferences and outgoing calls through DISA if disconnect detection (other than loop open signal from the central office) is required. This card contains four conference circuits and provides line tone supervision to detect disconnect as well as automatic gain control of the CO level for each line engaged.

Planning

Determine the number of IX-4TRAN cards needed for the expected forwarding call traffic.

Installation

Install the card in any one of the universal card slots.

Programming

01.03 Port Definition; 04.43 Remote CO Forward Incoming Group; 04.44 Remote CO Forward Outgoing Group

DISA

The DISA feature requires the IX-RCVPM with the IX-4RCVC DTMF receiver card, or the IX-RMPU.

Planning

Determine the number of IX-4RCVC cards needed for the expected DISA call traffic. If an IX-RMPU card is installed, it must be included in the count (4 DISA receivers/IX-RMPU).

Installation

- 1. Connect the IX-4RCVC card(s) on the connectors A1 and B1 and/or the connectors A2 and B2 on the IX-RCVPM card.
- 2. Install the IX-RCVPM card in any one of the universal card slots.

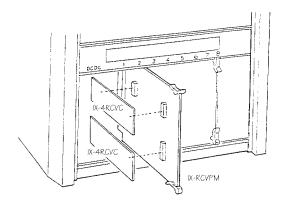


FIGURE 5.12-13 DISA RECEIVER INSTALLATION.

Programming

01.03 Port Definition; 01.04 Configuration; 11.25 DISA Line.

System Announcements

The IX-MSGU card provides two channels for synthesized messages for system announcements. Two more channels can be added by mounting the IX-EMCH module. Custom message recording capability can be added by mounting the IX-CMSG on the card.

Preparation

- Plug the IX-CMSG/IX-CMSG-1 daughterboard into connectors CN1 and CN2 on the IX-MSGU card.
- 2. If four message channels are required connect an IX-EMCH daughterboard to connectors CN3, CN4, and CN5 on the IX-MSGU card
- 3. Insert the IX-MSGU card in an unused common module or expansion module universal card slot.
- 4. Two quick-connection type connectors are provided with the IX-MSGU card. Using the table below as a guide, insert the four conductors of the cable into holes 1 through 4 making sure to match the correct wire color.

Connector Hole Number	Wire Color	IX-8PSUB Position
1	green	PR
2	red	PT
3	yellow	Not Used
4	black	Not Used



- 5. When the connection is complete install the connector cover by firmly pressing it on the connector base.
- 6. Plug the cable into connectors CH1 and CH2 on the IX-MSGU card.
- 7. Connect the opposite end of the cable to the MDF at tip and ring (PT and PR), where the IX-8PSUB house cable is terminated.
- 8. Access the database programming mode and go to *Class 01.03 Port Definition*. Define the IX-8PSUB port as a message channel.

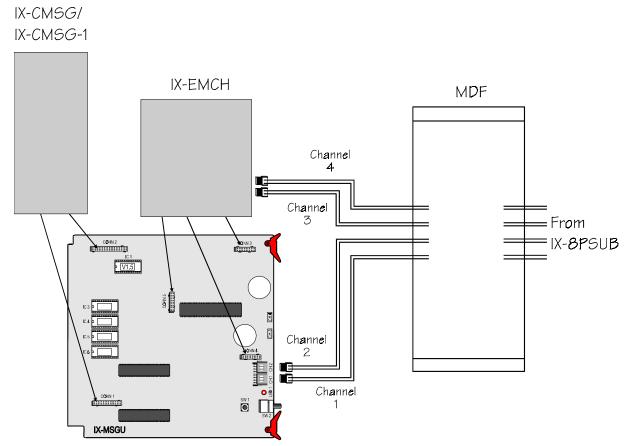


FIGURE 5.12-14 IX-MSGU CONNECTION.

SMDR and PC Programmer Installation

The IX-SCIF card provides two RS232C serial communication ports. Use the serial ports to connect a PC programmer terminal and SMDR reporting terminal.

Preparation

1. Set switch S2 on the IX-SCIF card as listed in the table below:

Switch SW2 Settings for the SMDR (PRN) and RPC (PC) Ports				
Position (Port)	On	OFF		
1 (PRN)	Activate Printer Initialize *	Disable Printer Initialize		
2 (PRN)	Flow Control On DTR/DTR (x-on/x-off)	Flow Control Off DTR Only		
3 (PRN)	Test Mode**	Normal Mode		
4 (PRN)	8-Bit Data, No Parity Check	7-Bit Data, Even Parity Check		
5 (PRN)	300 bps Data	1200 bps Data		
6 (PC)	PC Programming Activation	Not used (disables PC programming)		
7 (PC)	8-Bit Data, No Parity Check	7-Bit Data, Even Parity Check		
8 (PC) 1200 bps Data		4800 bps Data		

^{* -} Only required for IBM printers. (Sends ASCII codes "ESC" + "@". The decimal equivalent is 27 and 64.).

TEST START
0123456789

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz

TEST END

PC/Printer Pinout						
E/DCONN Pin	25 Pin Cable	9 Pin Cable	IX-SCIF Function		PC/PRN Function	
1	2	3	RxD	Receive Data	TxD	Transmit Data
2	3	2	TxD	Transmit Data	RxD	Receive Data
3	4	8	CTS	Clear To Send	RTS	Request To Send
5	5	7	RTS	Request To Send	CTS	Clear To Send
7	6	9	DTR	Data Terminal Ready	DSR	Data Set Ready
12	7	5	SG	Signal Ground	SG	Signal Ground
10	20	4	DSR	Data Set Ready	DTR	Data Terminal Ready
9	8	1	CD	Carrier Detect	CD	Carrier Detect

- 2. Install the IX-SCIF card in the SIF slot.
- 3. Connect a serial cable from the PC programming terminal to the connector marked PC on the IX-SCIF card.
- 4. Connect a serial cable from an SMDR printer to the connector marked PRN on the IX-SCIF card.

^{** -} The following printer test pattern is output when the printer is connected and this switch is on:

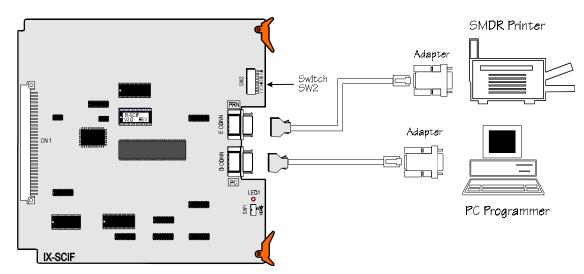


FIGURE 5.12-15 SMDR AND PC PROGRAMMING TERMINAL CONNECTION

Optional Feature Installation (ADIX APS, S, M)

Programming Music On Hold (MOH)

The ADIX-S/M System can be programmed to play music on hold using either the internal MOH source or an external MOH source. The internal music on hold source is contained in the IX-CPU16M card and is pre-programmed in the factory. You can choose one of eight melodies to play. If you choose instead to use an external music on hold source, it must be connected to the EXCN and RCN modular jacks on the IX-CPU16M card. An AM/FM tuner or tape player is commonly used as an external MOH source.

Setup

Set the MDYSW switch on the IX-CPU16M card (figure 5.13-1) to select the desired melody. See **Section 4 – Component Description** for switch settings.

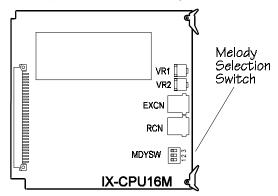


FIGURE 5.13-1 MDYSW SWITCH ON THE CPU16M CARD

Installation and Programming

- 1. Access the programming mode from a DSS unit, programming KT or PC Programmer. Go to Class 02 Item 03 Music On Hold Source Selection.
- 2. Set the data field to **1 External Music on Hold Source** and press [ENTER].
- 3. Connect the output from the MOH source to the green and yellow wires of a modular jack.
- 4. Plug the output from the modular jack into the EXCN modular jack on the IX-CPU16M card using an industry standard base cord as illustrated in figure 5.13-2.
- 5. Connect the output from the source control relay to the green and black (make contact) or green and red (break contact) wires of a second modular jack.

6. Plug the output from the modular jack into the RCN modular jack on the IX-CPU16M card.

Note: The MOH contacts on the RCN are normally open. The contacts close when a CO line is placed on hold.

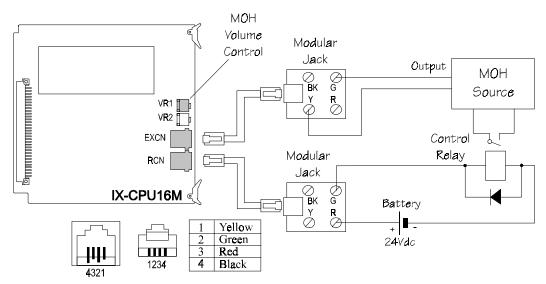


FIGURE 5.13-2 WIRING FOR AN EXTERNAL MOH SOURCE

Programming Background Music

The ADIX-S/M System provides a background music (BGM) interface to external P.A. system speakers and KT station speakers. BGM can be input using either the EXCN modular jack on the IX-CPU16M card or the 50-pin Amphenol connector on the IX-EDVIF card.

BGM Input Through the IX-CPU16M Card

The EXCN modular jack on the IX-CPU16M is used for BGM input.

Programming and Connection

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to *Class 04 Item 03 BGM Input Port*.
- 2. Make sure the data field is set to **0**.
- 3. Connect the output from the BGM source to the red and black wires of a modular jack.
- 4. Plug the output from the modular jack into the EXCN modular jack on the IX-CPU16M card as illustrated in figure 5.13-3.
- 5. Turn potentiometer VR2 on the IX-CPU16M to adjust the BGM volume. Clockwise to increase, counterclockwise to decrease.
- 6. Press [FEAT] + [6][2] from a KT to turn on BGM. Press [FEAT] + [0][6][2] to turn off BGM.

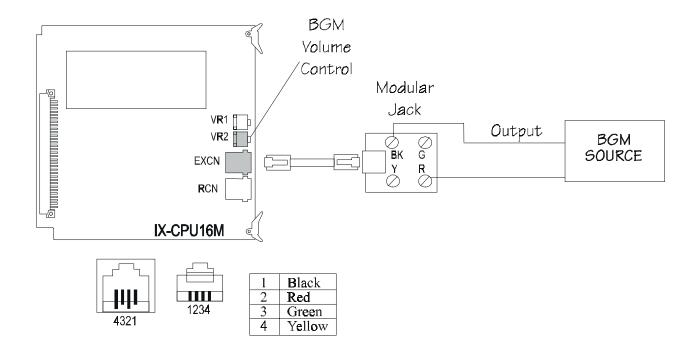


FIGURE 5.13-3 BGM WIRING

Playing BGM Through All Speakers and External Paging

External BGM can be played through all paging speakers (non-zone) when the speaker is idle, or through individual zones when the zone is idle.

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 04 Item 03 BGM Input Port. Set the BGM input port to be equal to the second miscellaneous port on the IX-EDVIF card—002.
- 2. Go to *Class 04 Item 04 BGM Output Port*. Enter either the miscellaneous logical port of the BGM source (second circuit on the IX-EDVIF), or the miscellaneous logical port number of Page Zone 1 (first circuit on the IX-EDVIF). Either of these data entries will cause BGM output through the page circuit (pin 1 and 2, PAGE IN, on the punchdown block).
- 3. Connect the BGM source output and page amplifier to the punchdown block as illustrated in figure 5.12-4.
- 4. Connect the output from the punchdown block to the 50-pin Amphenol connector on the IX-EDVIF card.

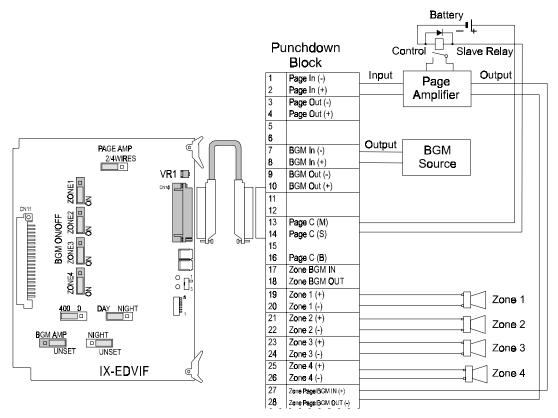


FIGURE 5.13-4 BGM THROUGH ALL SPEAKERS WIRING

Playing BGM Through Individual Paging Zones

Follow the steps below to route BGM, using the IX-EDVIF interface, to up to four external zone outputs. You can enable or disable BGM for each zone by setting strapping jacks for ZONE1 through ZONE4 on the IX-EDVIF card.

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 04 Item 03 BGM Input Port.
- 2. Set the BGM input port to be equal to the second miscellaneous port on the IX-EDVIF card—**002** and press [ENTER].
- 3. Go to *Class 04 Item 04 BGM Output Port*. Enter either the miscellaneous logical port number of the BGM source (second circuit on the IX-EDVIF), or the miscellaneous logical port number of Page Zone 1 (first circuit on the IX-EDVIF). Either of these data entries will cause BGM output through the page circuit (pin 1 and 2, PAGE IN, on the punchdown block).
- 4. Make sure the BGM AMP strapping jack on the IX-EDVIF card is in the RIGHT position. This will cause BGM to output to pins 9 and 10 BGM OUT on the punchdown block.
- 5. Connect the BGM external amplifier input to pins 9 and 10 BGM OUT on the punchdown block as illustrated in figure 5.13-5.
- 6. Connect the speaker output of the external amplifier to pins 17 and 18 ZONE BGM IN on the punchdown block as illustrated in figure 5.13-5. Connect the output from the punchdown block to the 50-pin Amphenol connector on the IX-EDVIF card.

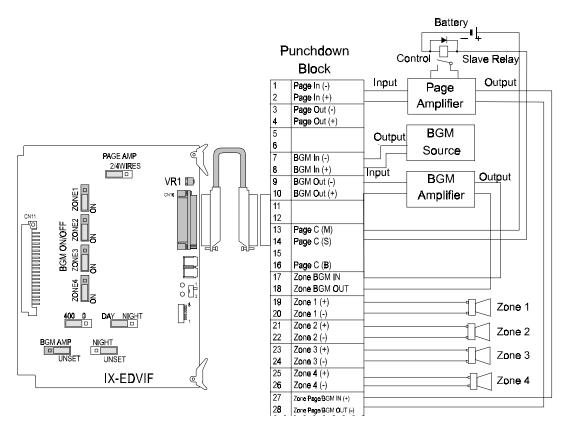


FIGURE 5.13-5 BGM THROUGH INDIVIDUAL PAGING ZONES

Programming the System for External Paging

This section describes the various external paging applications compatible with the ADIX-S/M System.

Paging Through a P.A. System

The IX-EDVIF card and a punchdown block must be installed to interface a P.A. system to the ADIX-S/M System. The IX-EDVIF can be installed in any universal slot on the IX-CMM or IX-EXPMM units. Connect the

IX-EDVIF card to the punchdown block using a 26.12-pair Amphenol cable.

Setup and Programming

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 08 Item 04 Page Group Station/Zone.
- 2. Create the desired paging groups. Press [ENTER] to save.
- 3. Go to Class 07 Item 04 Page Group Access Number.
- 4. Program a page group access number for each page group. Press [ENTER] to save.
- 5. Set the PAGE AMP strapping jack on the IX-EDVIF card to either the **2-WIRES** (left) or **4-WIRES** (right) position.

Note: When the IX-EDVIF card is set to **2-WIRES**, the PAGE IN pins on the punchdown block become a two-way path. When the IX-EDVIF card is set to **4-WIRES**, paging voice is sent out through the PAGE OUT pins on the punchdown block while talk-back voice is received through the PAGE IN pins.

- 6. Do one of the following:
 - If the PAGE AMP strapping jack on the IX-EDVIF card is set to **2-WIRES**, connect the audio input/output terminal of the paging amplifier to pins 1 and 2, PAGE IN, located on the punchdown block.
 - If the PAGE AMP strapping jack on the IX-EDVIF is set to **4-WIRES**, connect the input terminal to pins 1 and 2, PAGE IN and the output terminal to pins 3 and 4, PAGE OUT located on the punchdown block.
- 7. Connect the page amplifier power control relay (SLAVE) to the PAGE CONTROL (+) and (-) pins on the punchdown block as illustrated in figure 5.13-6.

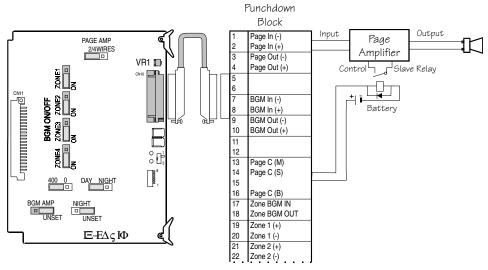


FIGURE 5.13-6 PAGING THROUGH A P.A. AMPLIFIER

Zone Paging

The IX-EDVIF card and a punchdown block must be installed to interface to a zone P.A. system. The IX-EDVIF card can be installed in any universal slot on the IX-CMM or IX-EXPMM units. Connect the IX-EDVIF card to the punchdown block using a 25-pair Amphenol cable.

Setup and Programming

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 08 Item 04 Page Group Station/Zone.
- 2. Create the desired paging groups. Press [ENTER] to save.
- 3. Go to Class 07 Item 04 Page Group Access Number.
- 4. Program a page group access number for each page group. Press [ENTER] to save.
- 5. Set the PAGE AMP strapping jack on the IX-EDVIF card to either the **2-WIRES** (left) or **4-WIRES** (right) position.

Note: When the IX-EDVIF card is set to **2-WIRES**, the PAGE IN pins on the punchdown block become a two-way path. When the IX-EDVIF card is set to **4-WIRES**, paging voice is sent out through the PAGE OUT pins on the punchdown block while talk-back voice is received through the PAGE IN pins.

- 6. Do one of the following:
 - If the PAGE AMP strapping jack on the IX-EDVIF card is set to **2-WIRES**, connect the audio input/output terminal of the paging amplifier to pins 1 and 2, PAGE IN, located on the punchdown block.
 - If the PAGE AMP strapping jack on the IX-EDVIF is set to **4-WIRES**, connect the input terminal to pins 1 and 2, PAGE IN and the output terminal to pins 3 and 4, PAGE OUT located on the punchdown block.
- 7. Connect the page amplifier power control relay (SLAVE) to the PAGE CONTROL (+) and (-) pins on the punchdown block as illustrated in figure 5.13-7. (Not required in all installations.)
- 8. Connect the page amplifier output for P.A. zone speakers to the ZONE PAGE/BGM (+) and (-) pins on the punchdown block as illustrated in figure 5.13-7.

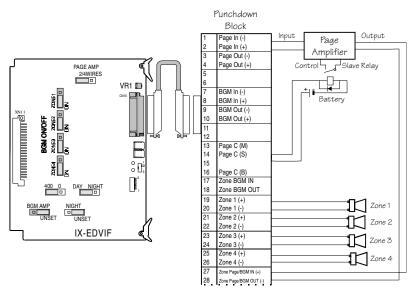


FIGURE 5.13-7 ZONE PAGING WIRING

To connect the zone speakers:

- 1. Connect the P.A. zone speakers (1 through 4) to the ZONE 1 through ZONE 4 pins on the punchdown block.
- 2. Figure 5.12-7 illustrates the relay connections for the P.A. system including the page amplifier, BGM amplifier, and zone speakers.

Two-Way Paging

The ADIX-S/M System can be connected to two-way talk-back paging amplifiers. Either a two-wire or four-wire talk-back amplifier can be used. The two-wire connection reduces the P.A. input sensitivity because of the hybrid circuit inserted in the input.

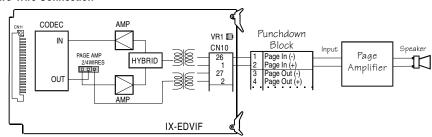
Setup and Programming

1. Set the PAGE AMP strapping jack on the IX-EDVIF card to either the **2-WIRES** (left) or **4-WIRES** (right) position.

Note: When the IX-EDVIF card is set to **2-WIRES**, the PAGE IN pins on the punchdown block become a two-way path. When the IX-EDVIF card is set to **4-WIRES**, paging voice is sent out through the PAGE OUT pins on the punchdown block while talk-back voice is received through the PAGE IN pins.

- 2. Do one of the following:
 - If the PAGE AMP strapping jack on the IX-EDVIF card is set to **2-WIRES**, connect the audio input/output terminal of the paging amplifier to pins 1 and 2, PAGE IN, located on the punchdown block.
 - If the PAGE AMP strapping jack on the IX-EDVIF is set to **4-WIRES**, connect the input terminal to pins 1 and 2, PAGE IN and the output terminal to pins 3 and 4, PAGE OUT located on the punchdown block.
- 3. Connect the page amplifier power control (SLAVE) to the PAGE CONTROL (+) and (-) pins on the punchdown block (figure 5.13-8). (Not required in all installations.)

Two-Wire Connection



Four-Wire Connection

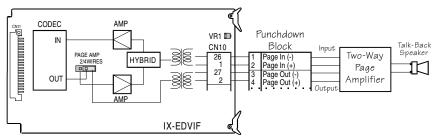


FIGURE 5.13-8 TWO-WAY PAGE WIRING

External Ringer

Individual incoming CO lines can be assigned to activate an external loud ringer connected to the punchdown block. The ringer can be set as either a day ringer or a night ringer.

To set up an external ringer:

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to *Class 04 Item 35 MISC Function Port* and program the miscellaneous logical port location of the relays and the relay numbers on the IX-EDVIF card to be used for external ringing.
- 2. Go to Class 04 Item 37 MISC Function and program the type of relays you are using.
- 3. Go to *Class 11 Item 35 Loud Ringer Relay Number* and program the relay to activate when there is an incoming call on the desired CO lines.
- 4. Go to *Class 11 Item 28 UNA Relay Number* and program the desired relay to activate when there is an incoming call on a UNA line. UNA Lines are programmed in Class 11.27.
- 5. Connect the ringer and ringing generator through slave relays to L1 through L4 on the punchdown block (corresponding to relay numbers 1 to 8 assigned above) as illustrated in figure 5.13-9.

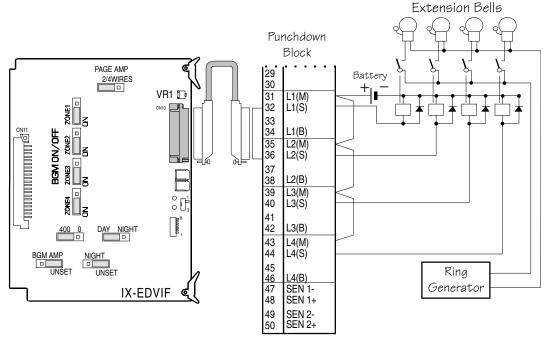


FIGURE 5.13-9 EXTERNAL RINGER WIRING

Remote Control

Flexible relays on the IX-EDVIF card can be used to control a customer provided device such as an electric door lock.

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 04 Item 35 MISC Function Port and program the miscellaneous logical port location of the relays and the relay numbers on the IX-EDVIF card to be used for remote control applications.
- 2. Go to *Class 04 Item 36 MISC Relay Timer* and program the length of time the relays will operate for.
- 3. Go to *Class 04 Item 37 MISC Function* and program the type of relays you are using.
- 4. Go to *Class 14 Item 01 Flexible Key Assignment* and/or *Class 15 Item 01 Attendant Key Assignment* and program a [REMOTE] key to operate the remote control application.
- 5. Connect the device to be controlled through slave relays to L1 through L4 on the punchdown block (corresponding to relay numbers 1 to 8 assigned above) as illustrated in figure 5.13-10.

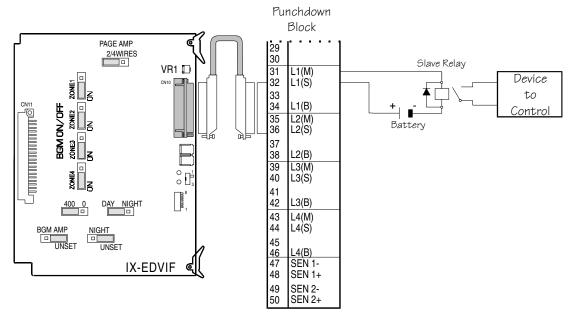


FIGURE 5.13-10 REMOTE CONTROL WIRING

Night Mode Switch

A universal night switch can be installed to manually switch the system into night mode.

- 1. Access the programming mode from a DSS unit, programming KT, or PC Programmer. Go to Class 04 Item 31 Night Mode Start Time and program the automatic night mode start time if desired. The default setting is **0 No Automatic Switching**.
- 2. Go to *Class 04 Item 35 MISC Function Port* and program the miscellaneous logical port location of the sensor on the IX-EDVIF card and the sensor number which will be used as a night mode switch.
- 3. Go to *Class 04 Item 37 MISC Function* and program the sensor type.
- 4. Connect a push-on/push-off or toggle type switch to SENS1 through SENS2 on the punchdown block corresponding to the sensor numbers assigned in the programming as illustrated in figure 5.13-11.

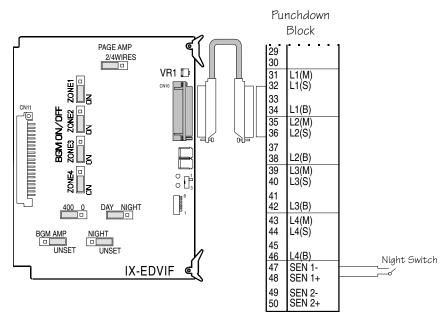


FIGURE 5.13-11 NIGHT MODE SWITCH

Station Message Detail Recorder

A printer connected to the RS232C port (PRN) on the IX-EDVIF card can print out details of incoming and outgoing calls made through the ADIX-S/M System.

To install a station message detail recorder:

- 1. Set SW2 on the IX-EDVIF card. See **Section 4 Component Description** for more information.
- 2. Plug the attached serial cable into the connector labeled PRN on the IX-EDVIF card as illustrated in figure 5.13-12.
- 3. Plug the other side of the cable into a serial printer. Use an extension cable or DB9 to DB25 conversion connector if necessary.
- 4. Program the SMDR port using *Class 01.03 Port Definition*. Program *Class 04 Items 50, 51, 52, 53 and 54* as required. Refer to **Section 6 Database Programming Guide** for more information on SMDR.

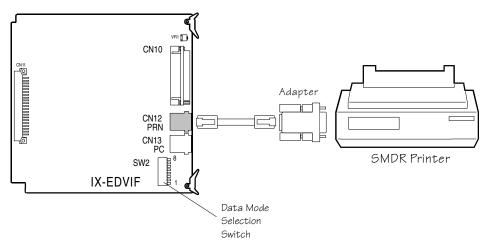


FIGURE 5.13-12 STATION MESSAGE DETAIL RECORDER (SMDR) CONNECTION

On-Site PC Programming

An IBM compatible XT/AT personal computer can be used to program or change the ADIX-S/M database. The IX-EDVIF card is required for serial communication.

- 1. Set SW2 on the IX-EDVIF card. Refer to **Section 4 Component Description** for more information.
- 2. Plug the serial cable into the connector labeled PC on the IX-EDVIF card as illustrated in figure 5.13-13.
- 3. Plug the other side of the cable into the COM1 or COM2 serial port on the PC. Use an extension cable or DB9 to DB25 conversion connector if necessary.
- 4. Program the RS232C port using *Class 01.03 Port Definition*.

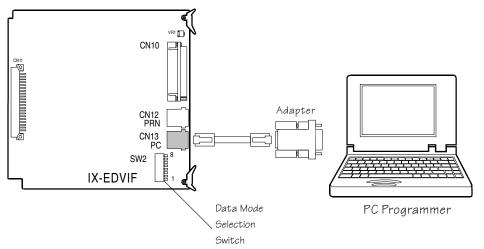


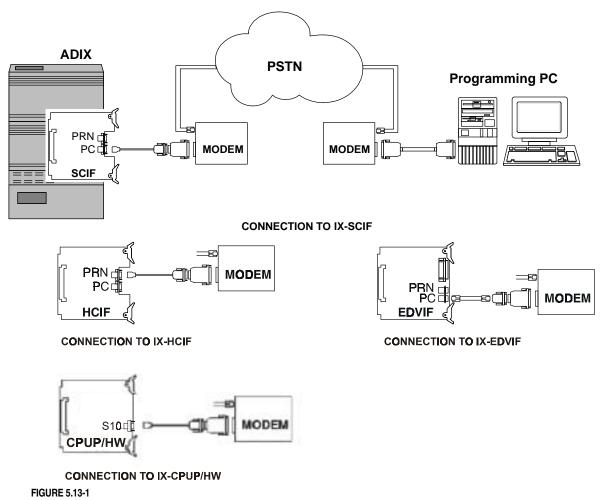
FIGURE 5.13-13 ON-SITE PC PROGRAMMING CONNECTION

Remote ADIX Programming with an External Modem

This section explains how to connect an external modem to the remote programming port of the IX-CPUP/HW, IX-SCIF, IX-HCIF, or IX-EDVIF card.

System Connection

The connection between the ADIX system and the remote programming terminal is illustrated in figure 5.13-1. The setup and operation instructions follow.



ADIX Technical Manual Section 5 Installation Guide

ADIX Local Programming Port Connection

Either an IX-CPUP/HW, IX-SCIF, IX-HCIF or IX-EDVIF card must be installed in the system. Each card's local programming port is identified in the table below:

Card	Use Connector
IX-CPUP/HW	S10
IX-SCIF	PC
IX-HCIF	PRN
IX-EDVIF	PC

Connect the local programming port directly to the modem. Then connect the modem to the telephone line (PSTN).

Remote PC Programmer Connection

The programming PC at the remote location is connected to the PSTN via a modem.

System Setup

Before connecting the local programming port to the modem, make sure that you can perform local programming. This will ensure that the PC programmer and local programming port are configured properly.

Note: It is important to use the correct version of the PC programmer to ensure database integrity.

Required Components

Iwatsu America Engineering used the following components and setup to test remote programming through the local programming port:

- An IX-CPUP/HW card set at 9600 bps.
- ADIX PC Programmer set at 9600 bps at the Remote PC when the IX-CPUP/HW card was tested.
- An ADIX serial interface card (IX-SCIF, IX-HCIF or IX-EDVIF) set at 4800 bps.
- ADIX PC Programmer set at 4800 bps at the Remote PC when the IX-SCIF, IX-HCIF and IX-EDVIF cards were tested.
- Modem at the ADIX side: US Robotics Sportster 14.4.
- Modem at the remote side: US Robotics Sportster 14.4.

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Modem Connection

Wiring

A customized gender changer or modular adapter kit is required to build the connector(s) to interface the ADIX local programming port to the modem. A wiring diagram for each card (IX-CPUP/HW, IX-HCIF, IX-SCIF, or IX-EDVIF) is provided on the next page. In addition, the ADIX-side modem must be enabled for Auto-Answer and disabled for Error Correction and Data Compression. The remote PC modem must be programmed to disable Error Correction, Data Compression and Flow Control.

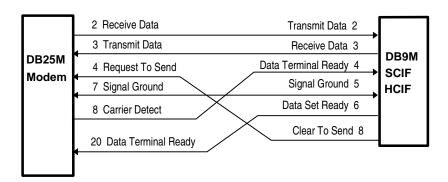


FIGURE 5.13-2A ADAPTER WIRING FOR IX-SCIF AND IX-HCIF DB9F TO MODEM DB25M

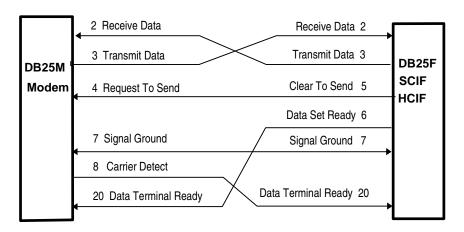


FIGURE 5.13-2B ADAPTER WIRING FOR IX-SCIF AND IX-HCIF DB25M TO MODEM DB25M

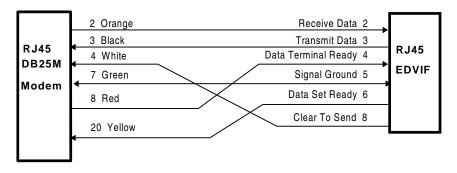


FIGURE 5.13-2C ADAPTER WIRING FOR IX-CPUP/HW AND IX-EDVIF RJ45 TO MODEM RJ45/DB25M

ADIX Technical Manual Section 5 Installation Guide

Programming the Modem

Some modems use a hardware setting (DIP switches) to activate auto-answer mode. Many newer modems require software setup using AT commands. These commands may vary depending on the modem manufacturer. The settings for using the US Robotics modems are listed below.

- 1. Connect a PC with communication software directly to the modem.
- 2. Start the communication software (e.g., Procomm, Telix).
- 3. Send AT command ATS0=1 to set modem to automatically answer calls on the first ring.
- 4. Send AT command **AT&K0** to disable data compression.
- 5. Send AT command AT&M0 to disable error correction.
- 6. Send AT command AT&H0 to disable flow control.
- Send AT command ATE0 to disable local echo.
 (After you enter this command you will no longer see the characters echoed on you screen.)
- 8. Send AT command *ATQ0* to disable result codes.

 (After you enter this command you will no longer see the "OK" response on you screen.)
- 9. Send AT command *AT&W0* to save the settings.
- 10. Connect Modem to the system local programming port.

Caution: If you do not issue the save command, all modem software settings will be lost when the modem power is turned off.

Operation

Calling the Remote System Direct

Start the ADIX PC Programmer from the remote PC.

- 1. Select Communication Functions.
- 2. Select Communication Control.
- 3. Select *Dialing*.
- 4. Enter the speed dial number or press enter and input the telephone number for the modem.
- 5. The modern will automatically go off-hook and dial the telephone number.
- 6. The receiving telephone line rings and the ADIX-side modem will automatically answer.
- 7. Select *Send AT Command* and type "ATO" and press the enter key.
- 8. The two modems will exchange sessions and establish a data connection.
- 9. After you receive a carrier detect indication the remote PC is connected to the ADIX system as if it is directly connected on-site.

Connecting to the Remote System

- 1. Select Communication Functions
- Select Data Linkage.
- 3. The system responds "Data Link Complete."
- 4. You are now connected to the ADIX. You may use any programming/maintenance functions of the ADIX.

Disconnecting from the Remote System

- 1. Select Communication Functions.
- 2. Select *Data Linkage Terminate*.
- 3. The system responds "Link Terminated."
- 4. Select *Communication Control* then select *On-hook*.
- 5. The line is disconnected.

Figure 5.13-3 illustrates the operational sequence of the remote programming operation.

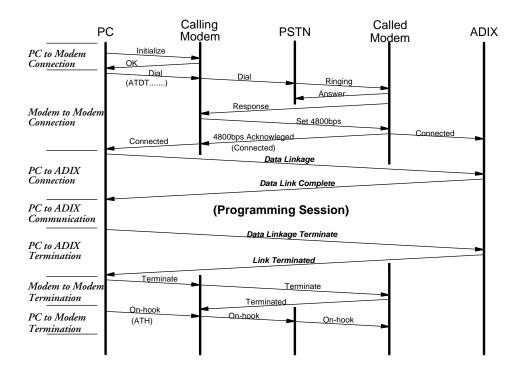


FIGURE 5.13-3 SESSION DIAGRAM FOR REMOTE ADIX PROGRAMMING THROUGH LOCAL PORT

Remote PC Programming

An IBM XT/AT personal computer can program or change the customer's database from a remote service/maintenance center. The IX-RMPU card is required for remote programming through the PSTN.

Preparation

The IX-RMPU switch SW2 must be set to meet the communication speed of the modem installed in the remote PC.

	IX-RMPU SW2 Settings *					
Swi	itch Posi	tion	Modem	Data		
1	2	3	Type	Speed		
ON	ON	ON	V22bis / V22B	2400 bps		
ON	ON	OFF	V21	300 bps		
ON	OFF	ON	V22bis / V22B	1200 bps		
ON	OFF	OFF	V22bis / V22B	2400 bps		
OFF	ON	ON	V22bis / V22B	2400 bps		
OFF	ON	OFF	Bell 212A / 103	300 bps		
OFF	OFF	ON	Bell 212A / 103	1200 bps		
OFF	OFF	OFF	Bell 2400 / 212A / 103	2400 bps		

^{*} SW2, Position 4 is not used.

Wiring

Plug the IX-RMPU card into one of the universal slots (numbered) in the common/expansion module.

Programming

01.03 Port Definition; 02.04 Remote System ID.

If automatic access through DISA is required, DISA programming must also be performed. Refer to **Section 6 – Database Description** for detailed information.

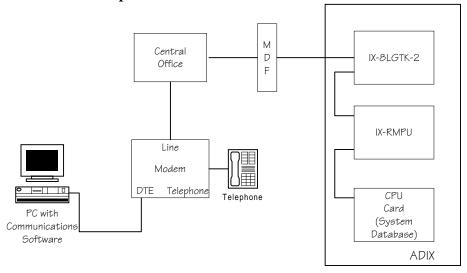


FIGURE 5.13-4 MODEM FOR REMOTE PROGRAMMING

ADIX Technical Manual Section 5 Installation Guide

Programming through IX-RMPU to Remote Attendant Transfer

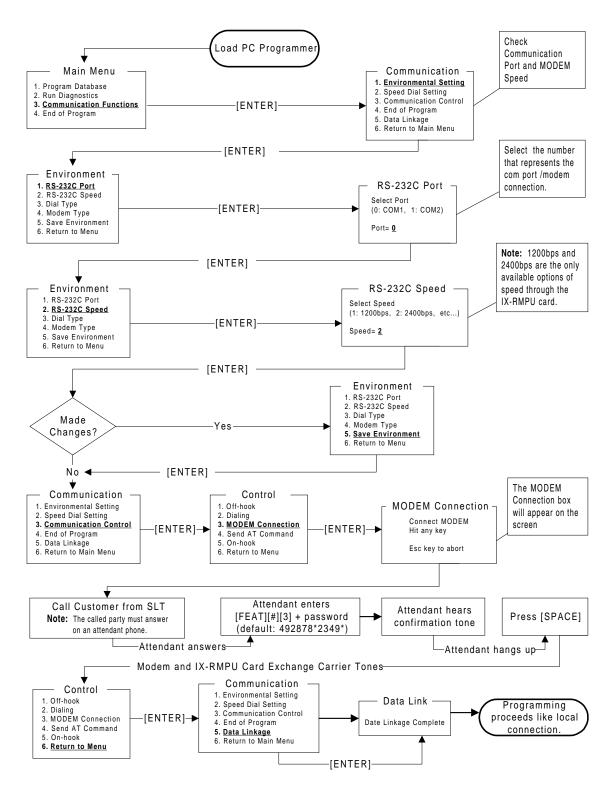


FIGURE 5.13-5 USING SLT TO PROGRAM REMOTELY TO AN ATTENDANT STATION

Remote Programming through IX-RMPU to DISA Line

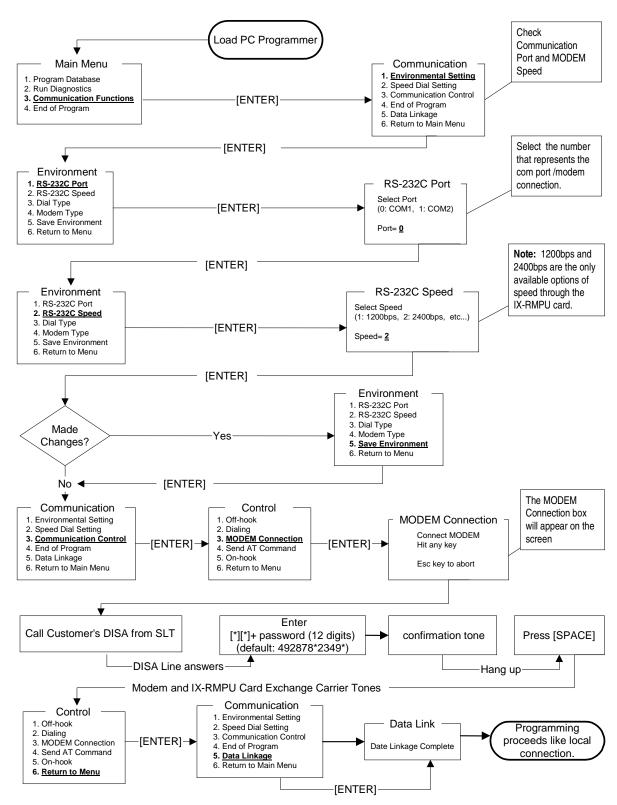


FIGURE 5.13-6 USING SLT TO PROGRAM REMOTELY THROUGH A DISA LINE



Section 6

Database Programming Guide

ntroduction

Section 6 – Database Programming Guide contains detailed information about the supporting software which contains the ADIX database. Chapter 1 – ADIX Programming Fundamentals identifies the database components and provides instructions for accessing the programming mode from a Key Telephone and a Key Telephone plus DSS Unit. Chapter 2 – Database Description provides a detailed description of the classes and items which make up the ADIX database. Chapter 3 – Database Relationships provides a detailed programming description of some complex ADIX features.

Note: It is important that you have a thorough understanding of the ADIX database before you attempt any programming.

ADIX Programming Fundamentals

The ADIX database consists of 30 classes. These classes can be divided into three levels. In most cases, each level of programming is dependent upon the programming in the level above it. Figure 6.1-1 illustrates the basic hierarchy of the seventeen programming classes:

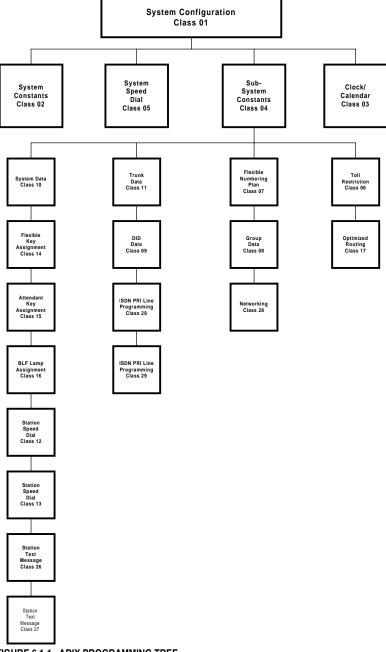


FIGURE 6.1-1 ADIX PROGRAMMING TREE.

Level 1 affects the system configuration. It defines the system size and hardware and software relationships. The classes in level 2 are used to program constants such as system timers and dates which affect system programming variables. The classes in level 3 are used to customize the ADIX to fit a customer's individual needs. The four subgroups in level 3 are Station Data, Trunk Data, Group Data and Toll Restriction.

Database Components

Each *class* in the ADIX database contains a range of programming *items*. Each item can be referenced and displayed by entering its class and item number. Many programming items are further subdivided into elements. For each programming item and element, one or more pieces of data must be entered. For example, the default DSS display for Class 08.01 is as follows:

CI	ass/Item	Element Field	Description	Data Field
	08.01	<grp01></grp01>	Hunt Group - Type (0→1)	0

In Class 08.01, the element field or (e1) refers to the group number. A separate entry must be made in the data field or (d1) for each element.

Many items contain multiple element fields and/or multiple data fields. Each field is separated by a hyphen (-). For example, the default DSS display for Class 09.01 is as follows:

Class/Item	Element Fields e1-e2	Description	Data Fields
09.01	<num1-001></num1-001>	DID Conv.	-

Notice that there are two element fields (e1) and (e2) as well as two data fields (d1) and (d2). Therefore, each combination of elements requires two data entries. In this case element 1 (e1) is used to identify day mode (1) or night mode (2) and element 2 (e2) references a conversion table number between 1 and 200. Data field 1 (d1) is used to enter an incoming number and data field 2 (d2) is used to enter the converted extension number.

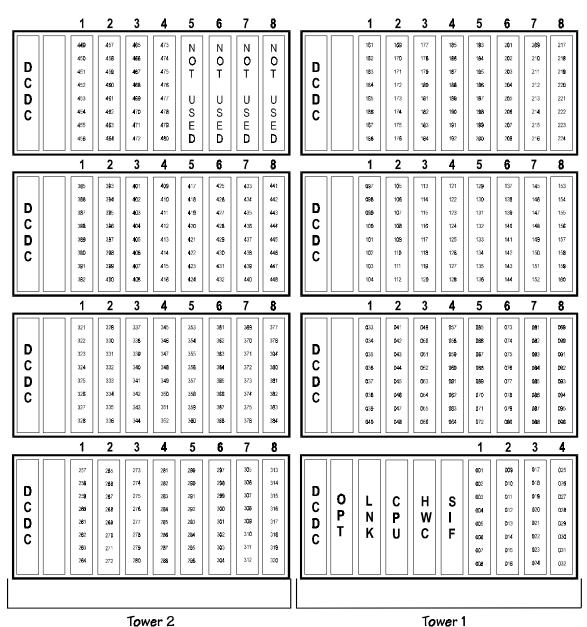
Identifying Physical and Logical Ports

The ADIX uses a system of physical and logical port numbers for identification purposes.

Physical Port Numbers The *physical port number* is a fixed location number corresponding to each circuit contained in a specific card slot on a common module or expansion module. In an IX-CM Common Module, IX-EXPM Expansion Module, and IX-EXPMM Expansion Module each card slot contains eight circuits which are identified by eight physical port numbers. In the IX-CMM Common Module, card slot 1 contains 24 circuits. Card slots 2-5 each contain 12 circuits.

Although a single card slot contains eight, twelve or 24 physical ports, each card does not necessarily contain an equal amount of circuits. For example, If an IX-CM Common Module card slot is occupied by a card with less than eight circuits, the card still consumes eight physical ports. The physical port number does not change by the card or its usage. Figures 6.1-2 and 6.1-3 identifies the physical port locations for the ADIX, ADIX-M and ADIX-S systems.

ADIX PHYSICAL PORT LAYOUT



Tower 2
FIGURE 6.1-2 ADIX PHYSICAL PORT LOCATIONS.

ADIX-S/M PHYSICAL PORT LAYOUT

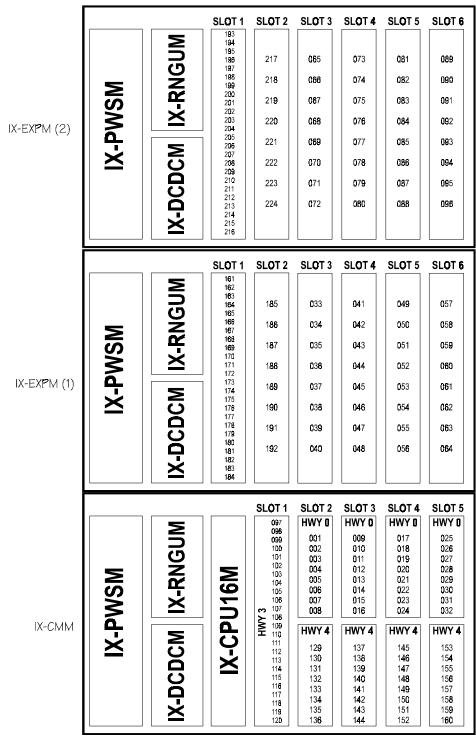


FIGURE 6.1-3 ADIX-S/M PHYSICAL PORT LOCATIONS.

Logical Port Numbers The *logical port number* is a relative number assigned sequentially to each circuit within the following functional groups:

Station Logical Port Numbers

Trunk Logical Port Numbers

Miscellaneous Logical Port Numbers

The logical port number identifies the order in which that type of circuit is installed in the ADIX. For example, if an IX-8PSUB card is installed in IX-CM card slot 1, it occupies physical ports 001 through 008 and is assigned station logical port numbers 001 through 008. If the second IX-CM card slot contains an IX-8GLTK, it occupies physical ports 009 through 016 but is assigned trunk logical ports numbers 001 through 008.

Cards such as the IX-4EMTK and IX-4DITK consume eight physical ports and eight logical ports regardless of the number of ports the card actually provides.

Note: If an IX-SCIF card or IX-HCIF card is installed in the SIF common control slot at the time of system default, it consumes physical ports 225 and 226 in a single-tower ADIX, ADIX-M or ADIX-S system, and 481 and 482 in a double-tower ADIX system. The logical port numbers, however, are always miscellaneous logical port numbers 001 and 002 regardless of the system size. If the IX-SCIF or IX-HCIF card is installed in the SIF common control slot (ADIX only) after system default, its address corresponds to the physical port numbers listed above, however, it is assigned the next available miscellaneous logical port numbers in sequence.

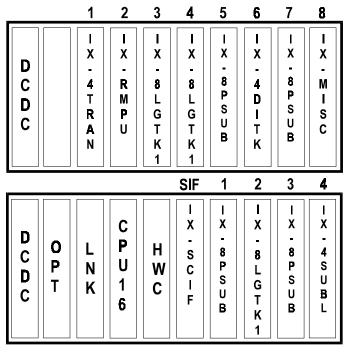
If all the station, trunk and miscellaneous cards are installed at the time of system default the logical port numbers are automatically assigned, except when the port is occupied by the following terminals:

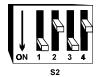
- **DSS Ports** The logical port number must be changed to the same logical port number as the associated key telephone (See *Class 01 Item 03 Port Definition* on page 6-41 for more information).
- **BLF Ports** The logical port number must be changed to the same logical port number as the associated attendant console (See *Class 01 Item 03 Port Definition* on page 6-41 for more information).

The logical port number is one of the most basic parameters used in ADIX database programming. All database programming (Classes 02-17, 24,25), is based on logical port access. Therefore, it is extremely important that numbers within the same functional group are not duplicated.

Physical & Logical Port Number Assignments in a Sample System

Figure 6.1-4 identifies the type of card that occupies each IX-CM card slot.





Switch S2 on the IX-CPU16 card is set for a 224 port system.

FIGURE 6.1-4 SAMPLE ADIX SYSTEM.

Note: The IX-4SUBL, IX-4DITK and IX-4EMTK cards produce virtual station logical ports.

The table below lists the cards installed in the sample system illustrated in figure 6.1-4 in sequence, and the corresponding physical and logical port numbers the card consumes.

Note: Switch S2 is set to indicate a 224 port system. This is the recommended setting for a single-tower system.

Shelf – Card Slot	Card	Physical Ports	Logical Ports
Shelf 1 – SIF	IX-SCIF	225-226	MISCELLANEOUS 001-002
Shelf 1 – 1	IX-8PSUB	001-008	STATION 001-008
Shelf 1 – 2	IX-8LGTK-1	009-016	TRUNK 001-008
Shelf 1 – 3	IX-8PSUB	017-024	STATION 009-016
Shelf 1 – 4	IX-4SUBL	025-032	STATION 017-024 (017-020 = available logical
			ports, 021-024 = virtual station ports).
Shelf 2 – 1	IX-4TRAN	033-040	MISCELLANEOUS 003-010
Shelf 2 – 2	IX-RMPU	041-048	MISCELLANEOUS 011-015 (MISC 011
			corresponds to physical port 041. MISC 012-015
			corresponds to physical ports 045-048.)
Shelf 2 – 3	IX-8LGTK-1	049-056	TRUNK 009-016
Shelf 2 – 4	IX-8LGTK-1	057-064	TRUNK 017-024
Shelf 2 – 5	IX-8PSUB	065-072	STATION 025-032
Shelf 2 – 6	IX-4DITK	073-080	TRUNK 025-028 (available)
			STATION 033-036 (virtual station ports)
Shelf 2 – 7	IX-8PSUB	089-096	STATION 037-044
Shelf 2 – 8	IX-MISC	081-088	MISCELLANEOUS 016-023

ADIX APS Highway Architecture and Physical Port Layout

The ADIX APS system features a unique double highway structure that greatly expands the capacity of each shelf. At maximum capacity, the ADIX APS has fifteen 32-channel two-way highways for a total of 472 universal ports.

IX-CML Highway Architecture

The IX-CML has 5 universal card slots. Card slot 1 provides 24 circuits on one highway. This card slot economically supports the IX-T1DTI T1 Interface Card and IX-ICOTP ISDN PRI Interface Card. IX-CML Slot 1 will also support any of the other ADIX station, trunk and miscellaneous cards.

Card Slots 2 through 5 each provide 16 circuits on two highways. These card slots were designed to support the new IX-16PSUB card as well as all other ADIX station, trunk and miscellaneous cards. However, the IX-T1DTI card and IX-ICOTP card will each require two IX-CML card slots when configured for 24 channels and installed in card slots 2 through 5.

Note: Because IX-CML card slots 1 and 2 are part of different highways, the IX-CML **will not** support the IX-T1RCV card in slot 2 when the IX-T1DTI card is installed in IX-CML slot 1. A T1 card can only be used in slot 2 if DTMF digits are not received from the CO, as in the case of DID, DNIS, and ANI.

IX-EXPML1 and IX-EXPML2 Highway Architecture

The IX-EXPML1 and IX-EXPML2 Expansion Modules each have 6 card slots. The first card slot provides 24 circuits on one highway. The second card slot provides 8 circuits. The first and second card slots are part of the same highway. These card slots economically supports the IX-T1DTI T1 Interface Card and IX-ICOTP ISDN PRI Interface Card. The first card slot in any IX- EXPML*n* will also support any of the other ADIX station, trunk and miscellaneous cards.

The third through the sixth card slots each provide 16 circuits on two highways. These card slots were designed to support the new IX-16PSUB card as well as all other ADIX station, trunk and miscellaneous cards. However, the IX-T1DTI card and IX-ICOTP card will each require two IX-EXPML*n* card slots when configured for 24 channels and installed in the third through sixth card slots.

Note 1: The second card slot in any IX- EXPMLn will not support the IX-16PSUB card.

Note 2: Because the first and second card slots in the IX-EXPML*n* are part of the same highway, the IX-EXPML*n* will support the IX-T1RCV card in the second card slot when the IX-T1DTI card is installed in IX-EXPML*n* the first card slot.

Physical Port Layout

The *physical port number* is a fixed location number corresponding to each circuit contained in a specific card slot on a common module or expansion module. The order of the physical port number is relative to the order of the highway number, with each highway containing 32 physical ports. For example, Physical Ports 001 through 032 are on Highway 0, and Physical Ports 033 through 064 are on Highway 1.

In an IX-CML Common Module, card slot 1 corresponds to 24 physical ports on a single highway. IX-CML Card slots 2 through 5 each correspond to 16 physical ports. However, of these 16 physical ports, 8 are located on one highway, while the remaining 8 are located on a separate highway. For example, IX-CML card slot 2 is associated with 16 physical ports: Physical ports 001 through 008 on Highway 0, and physical ports 129 through 136 on Highway 4.

In an IX-EXPMLn Expansion Module, the first card slot corresponds to 24 physical ports and card the second card slot corresponds to 8 physical ports on the same highway. The third through sixth card slots each correspond to 16 physical ports. Like the IX-CML, of these 16 physical ports, 8 reside on one highway, while the remaining 8 reside on a separate highway. For example, in the first IX-EXPML1 (Shelf 2 of the ADIX APS), card slot 8 is associated with 16 physical ports: Physical ports 033 through 040 on Highway 1, and physical ports 161 through 168 on Highway 5.

Although a single card slot is associated with 8, 16, or 24 physical ports, the circuit card installed does not necessarily contain an equal number of circuits. For example, if an 8-port IX-8SUBM card is installed in IX-CML card slot 2, the card still consumes sixteen physical ports although it only requires eight. The physical port number does not change by the card or its usage. Figure 17 illustrates the

physical port layout and highway architecture of the ADIX APS.

Although a single card slot is associated with 8, 16, or 24 physical ports, the circuit card installed does not necessarily contain an equal number of circuits. For example, if an 8-port IX-8SUBM card is installed in IX-CML card slot 2, the card still consumes sixteen physical ports although it only requires eight. The physical port number does not change by the card or its usage. Figure 17 illustrates the physical port layout and highway architecture of the ADIX APS.

6-11

ADIX APS Highway Architecture

ADIX APS Port Capacity Per Slot

Physical Port Layout HWY 12 409 410 **↓** IX-RNGUM IX-RNGUN IX-PWSL **8** IX-EXPML1 (3rd) PORTS 385-408 13 IX-DCDCM (24)(8) (16) (16) (16)(16)416 72 HWY 11 377 HWY 9 IX-RNGUM IX-RNGUM **8** 37**9** IX-PWSL PORTS 353-376 IX-EXPML2 382 383 384 IX-DCDCM (24)(8)(16) (16) (16) (16)32 HWY 8 281 282 283 HWY 2 IX-RNGUM IX-RNGUM 5 IX-EXPML1 (2nd) PORTS 257-280 285 286 287 IX-DCDCM **9**3 (24)(8)(16)(16) (16)(16)HWY 7 249 250 251 252 252 253 254 255 256 SLOT 6 SLOT 8 IX-RINGUM IX-RNGUM IX-EXPML1 (1st) IX-DCDCM IX-DCDCM **8**5 (16)(24)(8)(16) (16) (16) **9**2 HWY 3 IX-RNGUM IX-PWSL IX-CML IX-DCDCM IX-DCDCM (24)(16) (16) (16) (16)

FIGURE 6.1-5. ADIX APS HIGHWAY ARCHITECTURE AND PHYSICAL PORT LAYOUT

Physical Port Layout for 12-, 16- and 24-Port Cards

The tables in this section give the physical port layout for the IX-16PSUB, IX-T1DTI, IX-ICOTP, IX-408, and IX-044/400 cards. The card slot numbers listed these tables correspond to Figure 6.1-5 on page 6-12.

IX-16PSUB Physical Port Mapping Table

Card Slot	Digital Station Ports 1-8	Digital Station Ports 9-16	Switch Setting SW1 and SW2
1	097-104	105-112	Single Highway (OFF)
2	001-008	129-136	Double Highway (ON)
3	009-016	137-144	Double Highway (ON)
4	017-024	145-152	Double Highway (ON)
5	025-032	153-160	Double Highway (ON)
6	225-232	233-240	Single Highway (OFF)
7	Not Supported	Not Supported	Not Supported
8	033-040	161-168	Double Highway (ON)
9	041-048	169-176	Double Highway (ON)
10	049-056	177-184	Double Highway (ON)
11	057-065	185-192	Double Highway (ON)
12	257-264	265-272	Single Highway (OFF)
13	Not Supported	Not Supported	Not Supported
14	065-072	193-200	Double Highway (ON)
15	073-080	201-208	Double Highway (ON)
16	081-088	209-216	Double Highway (ON)
17	089-096	217-224	Double Highway (ON)
18	353-360	361-368	Single Highway (OFF)
19	Not Supported	Not Supported	Not Supported
20	289-296	417-424	Double Highway (ON)
21	297-304	425-432	Double Highway (ON)
22	305-312	433-440	Double Highway (ON)
23	313-320	441-448	Double Highway (ON)
24	385-392	393-400	Single Highway (OFF)
25	Not Supported	Not Supported	Not Supported
26	321-328	449-456	Double Highway (ON)
27	329-336	457-464	Double Highway (ON)
28	337-344	465-472	Double Highway (ON)
29	345-352	473-480	Double Highway (ON)

IX-T1DTI/ IX-ICOTP Physical Port Mapping Table

•	_	T		_
Card Slot	Digital Trunk Ports 1-8	Digital Trunk Ports 9-16	Digital Station Ports 17-24	Notes
1	097-104	105-112	113-120	An IX-T1DTI card in this slot does not support a receiver card.
2	001-008	009-016	017-024	If an IX-T1DTI is in this slot, the next two slots cannot be used except by an IX-T1RCV
3	Not Available	Not Available	Not Available	A T1 receiver may go in this slot
4	Not Supported	Not Supported	Not Supported	
5	Not Supported	Not Supported	Not Supported	
6	225-232	233-240	241-248	
7	Not supported	Not supported	Not supported	A T1 receiver may go in this slot
8	033-040	041-048	049-056	If an IX-T1DTI is in this slot, the next two slots cannot be used except by an IX-T1RCV
9	Not Available	Not Available	Not Available	
10	Not Supported	Not Supported	Not Supported	
11	Not Supported	Not Supported	Not Supported	
12	257-264	265-272	273-280	
13	Not Supported	Not Supported	Not Supported	
14	065-072	073-080	081-088	If an IX-T1DTI is in this slot, the next two slots cannot be used except by an IX-T1RCV
15	Not Available	Not Available	Not Available	A T1 receiver may go in this slot
16	Not Supported	Not Supported	Not Supported	
17	Not Supported	Not Supported	Not Supported	
18	353-360	361-368	369-376	
19	Not Supported	Not Supported	Not Supported	A T1 receiver may go in this slot
20	289-296	297-304	305-312	If an IX-T1DTI is in this slot, the next two slots cannot be used except by an IX-T1RCV
21	Not Available	Not Available	Not Available	A T1 receiver may go in this slot
22	Not Supported	Not Supported	Not Supported	
23	Not Supported	Not Supported	Not Supported	
24	385-392	393-400	401-408	
25	Not Supported	Not Supported	Not Supported	A T1 receiver may go in this slot
26	321-328	329-336	337-344	If an IX-T1DTI is in this slot, the next two slots cannot be used except by an IX-T1RCV
27	Not Available	Not Available	Not Available	A T1 receiver may go in this slot
28	Not Supported	Not Supported	Not Supported	
29	Not Supported	Not Supported	Not Supported	

IX-408 Physical Port Mapping Table

Card Slot	Digital Station Ports 1-8	Caller ID Ports 9-12
1	097-104	105-108
2	001-008	129-132
3	009-016	137-140
4	017-024	145-148
5	025-032	153-156
6	225-232	233-336
7	Not Supported	Not Supported
8	033-040	161-164
9	041-048	169-172
10	049-056	177-180
11	057-064	185-188
12	257-264	265-268
13	Not Supported	Not Supported
14	065-072	193-196
15	073-080	201-204
16	081-088	209-212
17	089-096	217-220
18	353-360	361-364
19	Not Supported	Not Supported
20	289-296	417-420
21	297-304	425-428
22	305-312	433-436
23	313-320	441-444
24	385-392	393-396
25	Not Supported	Not Supported
26	321-328	449-456
27	329-336	457-460
28	337-344	465-468
29	345-352	473-476

IX-044/ IX-400 Physical Port Mapping Table

Card Slot	l)	(-044	With IX-400 Caller ID Ports	
	SLT Ports	Digital Station Ports		
	1-4	9-12	17-20	
1	097-100	105-108	113-116	
2	001-004	129-132	N/A	
3	009-012	137-140	N/A	
4	017-120	145-148	N/A	
5	025-028	153-156	N/A	
6	225-228	233-236	241-244	
7	Not Supported	Not Supported	Not Supported	
8	033-036	161-164	N/A	
9	041-044	169-172	N/A	
10	049-052	177-180	N/A	
11	057-060	185-188	N/A	
12	257-260	265-268	273-276	
13	Not Supported	Not Supported	Not Supported	
14	065-072	073-080	081-088	
15	073-080	081-088	089-096	
16	081-084	209-212	N/A	
17	089-092	217-220	N/A	
18	353-356	361-364	369-372	
19	Not Supported	Not Supported	Not Supported	
20	289-292	417-420	N/A	
21	297-300	425-428	N/A	
22	305-308	433-436	N/A	
23	313-316	441-444	N/A	
24	385-388	393-396	401-404	
25	Not Supported	Not Supported	Not Supported	
26	321-324	329-336	N/A	
27	329-336	337-344	N/A	
28	337-340	465-468	N/A	
29	345-348	473-476	N/A	

Programming the ADIX

The ADIX database can be created and edited using the following types of terminals:

- Attendant Key Telephone
- ADIX Omega-Phone Key Telephone + DSS Unit
- On-Site PC Programmer
- Off-Site PC Programmer

The system will support a maximum of eight programming terminals.

System Hardware and Software

In order to perform database programming you should be familiar with the different types of CPU cards, the version of software installed in your system and the status indicators located on the IX-CM common module and IX-EXPM expansion module.

CPU Cards The CPU card is a central processing unit that contains either a 16-bit or a 32-bit microprocessor which controls all system operations, the onboard RAM which contains the system database, switches for resetting and defaulting the system and programming the system size. There are four types of CPU cards, one of which is installed in the common module of your ADIX:

- IX-CPU16M 16-bit microprocessor, 2 MB of RAM, use CPUSW to program the system size and default the system. Contains highway functions as well as CPU functions. May be used in either the IX-CM or IX-CMM.
- **IX-CPU32-1** 32-bit microprocessor, 6 MB of RAM, use S1 to program the system size and default the system. Designed for IX-CM.
- IX-CPU32M 32-bit microprocessor, 6 MB of RAM, use S1 to program the system size and default the system. Designed for IX-CMM

Programming the System Size

System Size Setting Switch on the CPU Card							
System Size	Start Up Mode	Start Up Mode Position 1 Position 2 Pos					
224 Ports				On	Off		
448 Ports				On	On		
	Default	Off					
	Protected	On					

Status Indicators The top cover of the IX-CM Common Module contains eight LED indicators that show the status of the system software. These indicators are controlled by the CPU.



FIGURE 6.1-6 STATUS INDICATORS ON THE IX-CM TOP COVER.

The table below lists the function of each LED indicator:

LED Indicator	Function							
MEMORY CLEAR	Indicates the system memory has been reset to the default value.							
MAJOR ALARM						nay still be operational. Podefective cards in the IX-0	ossible causes include an AC	
MINOR ALARM	Indicates a minor softw	are mal	function	. The sy	ystem n	nay still be operational. Th	ne CPU files an error log for a	
CODE 0-4	Indicates the system or	later check. Possible causes included defective hardware or incorrect port definitions. Indicates the system operating status, i.e., busy, idle, trunk access. It also indicates a defective EPROM position at start up according to the following sequence:						
		C	ODE L	.ED		Defective EPROM		
	4	3	2	1	0	Number		
	N/A	off	off	off	on	ROM 1L / UU1 *		
		off	off	on	off	ROM 1U / UM1 *		
	N/A	off	off	on	on	ROM 2L / LM1		
		off	on	off	off	ROM 2U / LL1		
	N/A	off	on	off	on	ROM 3L / UU2		
		off	on	on	off	ROM 3U / UM2		
	N/A	off	on	on	on	ROM 4L / LM2		
		on	off	off	off	ROM 4U / LL2		
	N/A	on	off	off	on	ROM 5L / UU3		
		on	off	on	off	ROM 5U / UM3		
	N/A	on	off	on	on	ROM 6L / LM3		
		on	on	off	off	ROM 6U / LL3		
	N/A	on	on	off	on	ROM 7L / UU4		
		on	on	on	off	ROM 7U / UM4		
	N/A	on	on	on	on	ROM 8L / LM4		
		off	off	off	off	ROM 8U / LL4		
	* Tr	ne LED	indicato	ors may	not fun	ction depending on the typ	pe EPROM error.	

Initializing the ADIX Database

Before beginning database programming, the ADIX must be initialized. There are two modes for system initialization, default and back-up. The mode is determined by the setting of position 1 of switch CPUSW on the IX-CPU16M card or S1 on the IX-CPU32-1/IX-CPU32M cards at the time the reset button is pressed.

Default Mode Initializing the ADIX in the default mode clears the database of any programming and returns all items to their default values. It takes approximately one minute to default the system.

To default the ADIX:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Set position 1 of switch CPUSW on the IX-CPU16M card or S1 on the IX-CPU32-1/IX-CPU32M cards to the OFF position.

Note: Position 2 must be OFF and positions 3 and 4 must be set according to the system size.

- 3. Press the red reset button (RESSW on the IX-CPU16M card, S2 on the IX-CPU32 card).
- 4. When the green LED on the CPU card starts flashing, return position 1 of CPUSW on the IX-CPU16M card or S1 on the IX-CPU32-1/IX-CPU32M cards to the **ON** position.
- 5. When LED 0 on the alarm panel lights, it indicates the system has been initialized in the default mode.

Back-Up Mode For certain items (e.g., Class 1), the system must be reset to effect any database programming. The existing database programming is preserved when the ADIX is initialized in the back-up mode.

Important: Make sure position 1 of switch CPUSW on the IX-CPU16M card or S1 on the IX-CPU32-1/IX-CPU32M card is set to the **ON** position before pressing the reset button.

To reset the ADIX in back-up mode:

- 1. Make sure all cards and station terminals are properly connected and powered up.
- 2. Press the red reset button (RESSW on the IX-CPU16M card, S2 on the IX-CPU32-1 card, RESET on the IX-CPU32M card).

It takes approximately forty-five seconds to complete the reset.

Programming the ADIX Using an Omega-Phone Key Telephone

This section describes in detail the basic programming procedures using an ADIX Omega-Phone key telephone. Although it is possible to program the system using a KT, it is recommended that you instead use either a DSS unit or a PC for more efficient programming.

KT Programming Terminals In default, the telephone connected to the first port of the first IX-8PSUB card is automatically designated as the programming terminal. For that reason, you must connect an ADIX key telephone with a two-line display to the first port of the first IX-8PSUB card in order to access the database when the system is in default. Any logical port occupied by an ADIX key telephone with a two-line display and defined as a programming KT in *Class 01.03 – Port Definition* can access the ADIX database.

Note: To have access to all of the programming functions available using a key telephone, either an IX-12KTD-2 or IX-24KTD key telephone must be connected to station logical port 001.

Accessing and Exiting the ADIX Database Using a KT

Follow the instructions below to access and exit the ADIX database using a key telephone.

To access the ADIX database from a key telephone:

1. Enter the following key sequence from station logical port 001 or any KT programming terminal with the telephone on-hook:

$$[FEAT] + [#] + [1] + password$$

Note: The default password is [2][3][4][9] or ADIX.

The following information is displayed on the station LCD:

2. Enter one of the following:

If programming terminal is a:	Enter this:
IX-8KTD	4
IX-16KTD	5
IX-24KTD	6 (default)
IX-12KTD-2	7

The display will change to the value entered.

To exit the ADIX database:

Go off-hook then on-hook from the programming KT. The KT display will return to the idle display.

Programming Mode Key Operation Using a KT

Figure 6.1-6a illustrates the function of each IX-12KTD-2 key when it is in programming mode. Figure 6.1-6b illustrates the function of each IX-24KTD key when it is in programming mode. An overlay is provided with each IX-CM and IX-CMM Common Module.

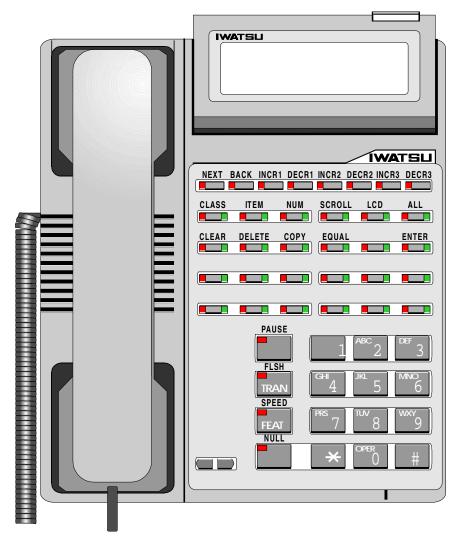


FIGURE 6.1-7A KEY TELEPHONE PROGRAMMING FUNCTION KEYS

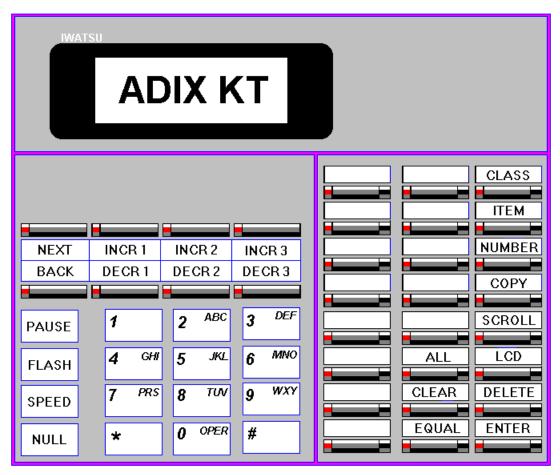


FIGURE 6.1-7B KEY TELEPHONE PROGRAMMING FUNCTION KEYS.

Key	Function
ALL	Data entry of N – all numbers .
BACK	Move to the previous item of the current class.
CLASS	Select the class.
CLEAR	Clear all data field characters.
COPY	Initiate and cancel database copy.
DECR 1	Move to the previous element 1 (e1) value for the item selected.
DECR 2	Move to the previous element 2 (e2) value for the item selected.
DECR 3	Move to the previous element 3 (e3) value for the item selected.
DELETE	Delete the last character in the data field.
ENTER	Save the displayed data in memory. Execute the copy command.
EQUAL	Copy data from the previous element to the current element.
FLASH	Data entry of a hookswitch flash for dialed numbers programmed in the database.

Key	Function
INCR 1	Move to the next element 1 (e1) value for the item selected.
INCR 2	Move to the next element 2 (e2) value for the item selected.
INCR 3	Move to the next element 3 (e3) value for the item selected.
ITEM	Select an item within the current class.
LCD	Toggle line one of the LCD between Class/Item/Element and Description.
NEXT	Move to the next item within the current class.
NULL	Data entry of a blank space .
NUM	Select an element of the current item.
PAUSE	Data entry of a pause for dialed numbers programmed in the database.
SCROLL	Not used.
SPEED	Enter speed dial numbers in tandem.

Selecting Classes, Items and Elements Using a KT

To select a new class from within the database:

1. Press [CLASS].

The following is displayed on the LCD:

ENTER CLASS 0#1 ADIX-KT 24 LINE

2. Enter the desired class number between 01 and 17.

The system automatically goes to item 01 of the class selected.

To select an item within a class:

1. Do one of the following:

To:	Do this:
Go to the next item in sequence	Press [NEXT]
Go to the previous item in sequence	Press [BACK]
Jump to a specific item	Press [ITEM] and enter the two-
	digit number of the desired item.

The system automatically goes to the item selected.

To select an element within an item:

1. Do one of the following:

To:	Do this:
Go to the next element 1 (e1) in sequence	Press [INCR 1]
Go to the next element 2 (e2) in sequence	Press [INCR 2]
Go to the next element 3 (e3) in sequence	Press [INCR 3]
Go to the previous element 1 (e1) in sequence	Press [DECR 1]
Go to the previous element 2 (e2) in sequence	Press [DECR 2]
Go to the previous element 3 (e3) in sequence	Press [DECR 3]
Jump to a specific element	Press [NUM] and enter the desired element number. If the item contains multiple elements enter all element numbers.

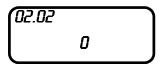
The system automatically goes to the element selected.

Data Entry Using a KT

The operation for data entry depends on the item selected.

No Element Field/Single Data Field

Using Class 02 Item 02 – Modem Signal Output Level as an example, the LCD will appear as follows in default:



This item does not contain an element and accepts a one-digit entry between 0 and 7 in the data field. The system will not allow you to exceed the maximum number of digits programmed for a particular field. If you attempt to enter a value out of range, **ILLEGAL DATA!** will appear on line 1 of the LCD.

To edit an item containing no element field and a single data field:

- 1. Enter the desired data.
- 2. Press [ENTER] to update the database.

One Or More Element Fields/Single Data Field

Using *Class 10 Item 04 – Station User ID* as an example, the LCD will appear as follows in default:



This item contains one element and requests up to eight alphanumeric digits in the data field. Before entering data, you must select the desired element.

To edit an item containing one or more element fields and a single data field:

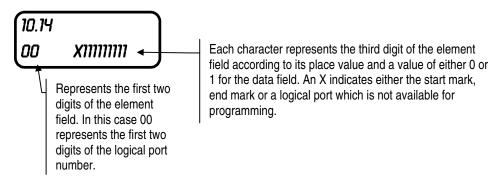
- 1. Select the desired element using either the [NUM], [INCR 1], [INCR 2] or [INCR 3] keys.
- 2. Enter the desired data.

Note: You cannot make an entry in the data field until an element is selected.

3. Press [ENTER] to update the database.

Programming Position Mapped Items

Several items in Class 10 and Class 11 are position mapped. That is, they display the data fields for up to ten elements at the same time. For example, when *Class 10.14 – Dial Confirmation Tone* is selected, the LCD appears as follows:



To enter a value of 0 for logical ports 005 and 009 press [5] for logical port 005 and [9] for 009. The system will automatically toggle the value to 0. The LCD will appear as follows:



To advance to the next group, in this case logical port numbers 010 to 019, press [INCR 1]. For example, if your system is configured with a key telephone at each station logical port between 010 and 019 except for 015 and 018 the LCD for Class 10.14 would appear as follows:



To enter a value of 0 for logical ports 011 and 016, press [1] for logical port 011 and [6] for logical port 016. To display the previous group of elements, press [DECR 1].

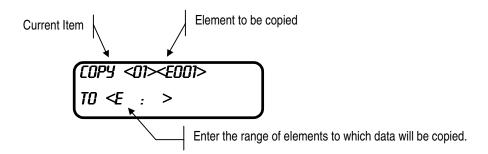
Copying Data Using a KT

Use the [COPY] key to copy the data from the current element field 1 (e1) to a range of element field 1 selections.

To copy data from the current element field 1 (e1) to one or more element field 1 selections:

- 1. Select the class, item and element you wish to copy.
- 2. Press [COPY].

The following information is displayed on the LCD:



- 3. Enter the range of elements to which you want to copy the data from the current element. For example, to copy data from element 001 to elements 002 and 003, enter <002:003> as the range. To copy the data from element 001 to element 003 enter <003:003> as the range.
- 4. Press [ENTER] to copy.
- 5. Press [COPY] to exit copy mode.

Note: The copy command is not available for every database item. i.e. (Optimized Routing, Class 17).

Programming the ADIX Using a KT + DSS Unit

This section describes in detail the basic programming procedures using a DSS unit. The DSS unit provides faster, more efficient programming than the key telephone. The DSS programming terminal consists of a KT plus a DSS unit. The KT must be either an IX-12KTD-2, IX-8KTD, or IX-24KTD.

Creating the DSS Programming Terminal

When the system is in default, the DSS cannot be used for database programming. In order to perform programming using a DSS unit, the DSS must be *attached* to an ADIX key telephone with a two-line display.

To attach a KT and DSS unit to create a DSS programming terminal:

- 1. Determine the physical port number of the KT and the DSS unit which will be attached to create the DSS programming terminal.
- 2. From any programming KT, access the ADIX database and enter **01** as the class.
- 3. Press [ITEM] and enter **03** as the item.
- 4. Press [NUM]. In the element field enter the **physical port number** of the KT to be attached to the DSS unit.
- 5. In data fields 1-4 enter the following:
 - (d1) = 0
 - (d2) = 0
 - (d3) = 1
 - (**d4**) = **logical port number** of the KT which is to be attached to the DSS unit. and press [ENTER].
- 6. Press [NUM]. In the element field enter the **physical port number** of the DSS to be attached to the KT programmed in steps 4 and 5 above.
- 7. In data fields 1-4 enter the following:
 - (d1) = 0
 - (d2) = 0
 - (d3) = 1
 - (d4) = logical port number of the KT to which you are attaching the DSS unit. and press [ENTER]. The DSS no longer has a unique logical port assignment. The DSS unit is attached or connected to the KT logical port number. They are, therefore, considered one terminal unit and occupy one logical port (that of the KT).
- 8. Press [NEXT] to advance to *Class 01 Item 04 Port Configuration*. Make sure that the element field is equal to the physical port location of the DSS unit.

- 9. Enter 1 in the data field and press [ENTER].
- 10. Press [NUM] and enter the physical port number of the KT to which you are attaching the DSS unit. Make sure that the data field is equal to **0**. If it is not, change the data field to equal **0**.

Steps 11-13 must be performed only if the KT to which you have attached the DSS unit does not occupy station physical port 001. If the associated KT occupies station physical port 001, proceed to step 14.

- 11. Press [CLASS] and enter 10.
- 12. Press [ITEM] and enter 12.
- 13. Press [NUM]. Enter the logical port number of the KT + DSS unit. The LCD appears as follows:



- 14. Enter **129** in the data field and press [ENTER] (129 is the default key pattern for a KT + DSS position).
- 15. Exit the ADIX database edit mode.
- 16. Reset the ADIX.

Accessing and Exiting the ADIX Database Using a KT + DSS Unit

Follow the instructions below to access and exit the ADIX database using a KT + DSS unit. Use the programming overlay provided with the ADIX to assist in finding the correct keys.

To access the ADIX database using a KT + DSS unit:

- 1. Press the [RNG] button on the DSS unit.
- 2. Enter the password using the keypad of the KT that is attached to the DSS unit.

Note: The default password is [2][3][4][9] or ADIX.

The following information is displayed on the DSS LCD:

ENTER CLASS *0#1

3. Enter the desired class number.

To exit the ADIX database:

Go off-hook then on-hook from the programming KT attached to the DSS unit. The DSS LCD will return to its idle state.

Programming Mode Key Operation Using a KT + DSS Unit

Figure 6.1-7 illustrates the function of each button on a DSS unit when it is in the programming mode. An overlay is provided with the IX-100/200 and 450 units.

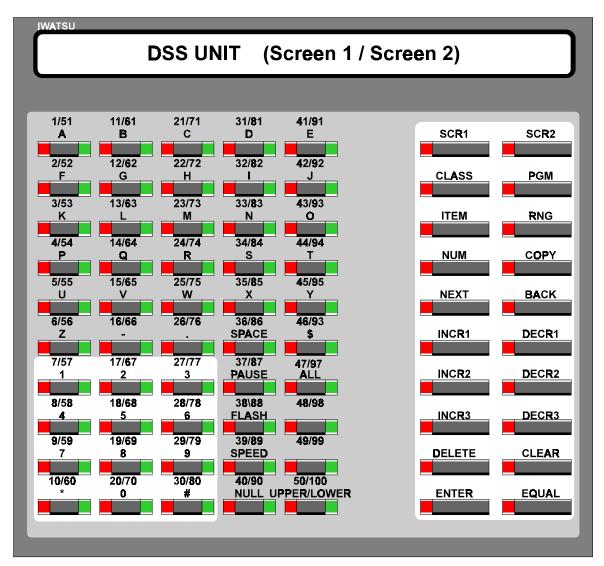


FIGURE 6.1-8 DSS UNIT PROGRAMMING FUNCTION KEYS.

DSS Programming Function Keys

Key	Function
ALL	Data entry of N – all numbers .
BACK	Move to the previous item of the current class.
CLASS	Select the class.
CLEAR	Clear the data field.
COPY	Initiates and cancels database copy.
DECR 1	Move to the previous element 1 (e1) value for the item selected.
DECR 2	Move to the previous element 2 (e2) value for the item selected.
DECR 3	Move to the previous element 3 (e3) value for the item selected.
DELETE	Delete the last character in the data entry field.
ENTER	Writes the displayed data in memory, executes the copy command.
EQUAL	Enters the data from the previous element in the current element.
FLASH	Data entry of a hookswitch flash for dialed numbers programmed in the database.
INCR 1	Move to the next element 1 (e1) value for the item selected.

Key	Function
INCR 2	Move to the next element 2 (e2) value for the
	item selected.
INCR 3	Move to the next element 3 (e3) value for the
	item selected.
ITEM	Select an item within the current class.
NEXT	Move to the next item within the current class.
NULL	Data entry of a blank space.
NUM	Select an element of the current item.
PAUSE	Data entry of a pause for dialed numbers
	programmed in the database.
PGM	Exit database edit mode.
RNG	Access the ADIX database.
SCR1	Display DSS screen 1.
SCR2	Display DSS screen 2.
SPEED	Enter speed dial numbers in tandem.
UPPER/	Toggle between upper and lower case for
LOWER	alphabetical characters.

Selecting Classes, Items and Elements Using a KT + DSS Unit

To select a new class from within the database:

1. Press [CLASS].

The following is displayed on the LCD:

ENTER CLASS *0#1

2. Enter the desired class number between 01 and 17.

The system automatically goes to item 01 of the class selected.

To select an item within a class:

1. Do one of the following:

To:	Do this:
Go to the next item in sequence	Press [NEXT]
Go to the previous item in sequence	Press [BACK]
Jump to a specific item	Press [ITEM] and enter the two-
	digit number of the desired item.

The system automatically goes to the item selected.

To select an element within an item:

1. Do one of the following:

To:	Do this:
Go to the next element 1 (e1) in sequence	Press [INCR 1]
Go to the next element 2 (e2) in sequence	Press [INCR 2]
Go to the next element 3 (e3) in sequence	Press [INCR 3]
Go to the previous element 1 (e1) in sequence	Press [DECR 1]
Go to the previous element 2 (e2) in sequence	Press [DECR 2]
Go to the previous element 3 (e3) in sequence	Press [DECR 3]
Jump to a specific element	Press [NUM] and enter the desired element number. If the item contains multiple elements enter all element numbers.

The system automatically goes to the element selected.

Data Entry Using a KT + DSS Unit

The operation for data entry depends on the item selected.

No Element Field/Single Data Field

Using *Class 02 Item 02 – Modem Signal Output Level* as an example, the LCD will appear as follows in default:

02.02	Modem Signal Output Level (0→7)	0
-------	---------------------------------	---

This item does not contain an element and accepts a one-digit entry between 0 and 7 in the data field. The system will not allow you to exceed the maximum number of digits programmed for a particular field. If you attempt to enter a value out of range, **ILLEGAL DATA!** will appear on the LCD.

To edit an item containing no element field and a single data field:

- 1. Enter the desired data.
- 2. Press [ENTER] to update the database.

One or More Element Fields/Single Data Field

Using *Class 10 Item 04 – Station User ID* as an example, the LCD will appear as follows in default:

10.04 <EXTL001> Station User ID

This item contains one element and requests up to eight alphanumeric digits in the data field. Before entering data, you must select the desired element. Use the DSS buttons to enter the desired alphanumeric digits. If data was entered previously, it would also be displayed.

To edit an item containing one or more element fields and a single data field:

- 1. Select the desired element using either the [NUM], [INCR 1], [INCR 2] or [INCR 3] keys.
- 2. Enter the desired data.

Note: You cannot make an entry in the data field until an element is selected.

3. Press [ENTER] to update the database.

Using the DSS Button LED Lamps to Enter Data

In default, several items in Class 10 and Class 11 display data for station and trunk logical ports using the LED buttons on the DSS unit. The station or trunk logical port number corresponds to the number above the button on the DSS overlay. The data value is indicated by the status of the lamp—either blinking/solid, or on/off. For example, when *Class 10.14 – Dial Confirmation Tone* is selected, the LCD appears as follows:

10.14 Dial Confirmation Tone

At the time Class 10.14 is selected, a DSS button LED lamp lights, either solid or blinking, to represent each station logical port. In this case, a blinking LED indicates tone an a solid LED indicates no tone. To enter a value of no tone for logical ports 005 and 009 press DSS button 5 for logical port 005 and DSS button 9 for 009 to change the status of the LED from blinking to solid. Press enter to effect the change.

If your system has more than fifty station or trunk logical ports, press [SCRN2] to switch DSS button representation to include station logical ports 51 to 100. To return to station logical ports 01 to 50 press [SCRN1]. The maximum range is 100 logical ports. If more entries required the KT only must be utilized.

Data Entry By Extension Number In Class 10 items where the DSS button LED lamps are used to indicate the data for a station logical port number, you can toggle the system to use the DSS LCD instead. When the system is toggled, the LCD element field contains the station extension number and the data field is used to enter a value of either 0 or 1 corresponding to a blinking or solid LED. It may be necessary use the station extension number as the element in cases when the number of logical ports exceeds the number of available DSS buttons.

To select data entry by extension number:

- 1. Press [CLASS].
- 2. Press [*] + [1] + class number (10).
- 3. Enter the desired item.

Using Class 10.14 as an example, the DSS LCD will appear as follows:



4. Enter data for each station by extension number.

To cancel data entry by extension number:

- 1. Press Class.
- 2. Press [*] + [0] + class number.

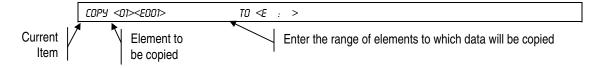
Copying Data Using a KT + DSS Unit

Use the [COPY] key to copy the data from the current element field 1 (e1) to a range of element field 1 selections.

To copy data from the current element field 1 (e1) to one or more element field 1 selections:

- 1. Select the class, item and element you want to copy.
- 2. Press [COPY].

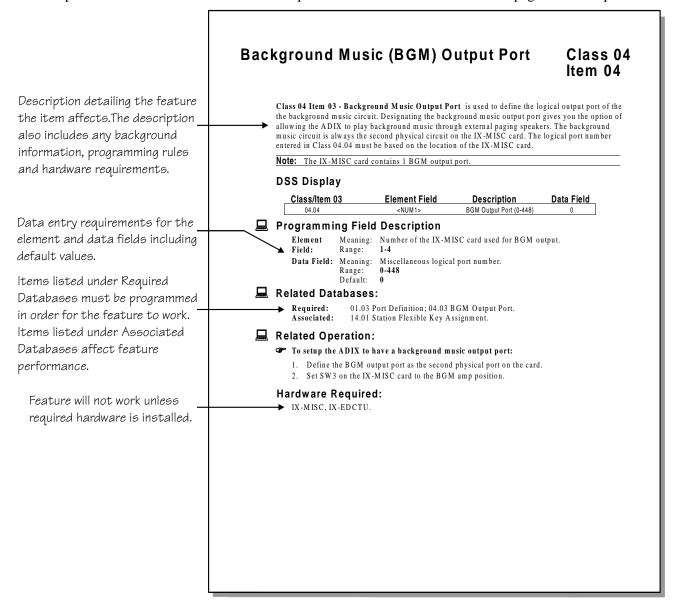
The following information is displayed on the LCD:



- 3. Enter the range of elements to which you want to copy the data from the current element. For example, to copy data from element 001 to elements 002 and 003, enter <002:003> as the range. To copy the data from element 001 to element 003 enter <003:003> as the range.
- 4. Press [ENTER] to copy.
- 5. Press [COPY] to exit copy mode.

atabase Description

Chapter 2 contains a detailed description of each ADIX programming item. The sample page below points out the location of some of the important information included on each page in this chapter:



System Configuration

Class 01 – System Configuration is used to define the basic structure of the ADIX. It contains items used to program the system size and to define and configure physical and logical ports. The items in Class 01 include:

- 01.01 System Size
- **(**01.02)
- 01.03 Port Definition
- 01.04 Port Configuration
- **(**01.05)
- 01.06 Number of System Station Ports
- 01.07 Number of System Trunk Ports

Important: The ADIX must be reset to effect any changes made in Class 01.

6-37

System Size

Class 01 Item 01

Class 01 Item 01 – System Size identifies the maximum number of system ports. This setting is registered using switch S1 on the IX-CPUP/HW card as illustrated in figure 01.01. The value registered in this item cannot be changed through database programming. If you increase or decrease the size of the system, you must change the switch setting on the CPU card. In order to decrease the size of the system, a system default is required.

CPU Card System Size Setting Switch						
Position 3 Position 4 System Size						
On	Off	224 Ports/ADIX-M				
On	On	448 Ports				



FIGURE 01.01 SWITCH S1 SETTING.

DSS Display

Class/Item	Element Field	Description		Data Field
01.01		System Size	VX.XX	0

Programming Field Description

Description: Software Version Number and system size (not programmable).

Data: Meaning: System port capacity.

Range: $\mathbf{0} = 224 \text{ port}$

1= 448 port

Default: Equal to setting on the CPU card.

Related Databases:

Required: None. **Associated:** None.

Related Operation:

System Reset.

Hardware Required:

Standard.

(Not Used)

Class 01 Item 02

Class 01 Item 02 is not used.

Port Definition

Class 01 Item 03

Class 01 Item 03 – Port Definition is used to define the type of system terminal connected to each physical port and to assign logical port numbers for the following classified groups: *Stations*, *Trunks* and *Miscellaneous*. The logical port numbers assigned in Class 01.03 are used in many of the other programming classes to refer to specific stations and lines.

A reset is required to effect any changes programmed in Class 01.03.

Note: The ADIX will assign the correct port definition and port configuration for most station types and trunk lines if cards are installed in the universal card slots at the time of system default. For example, if a station card is installed in each of the first two universal card slots (physical ports 001 to 016) and an IX-8LGTK card is installed in the third universal card slot (physical ports 017-024), then, assuming that the first circuit of the trunk card is a loop start CO line, physical port 017 will receive the following default value:

[01.03 <PRT 017> PORT DEFINITION 1-0-0-001]

The tables on pages 6-41 - 6-43 contain the required port definition data for each type of terminal function.

DSS Display

Class/Item	Element Field	Description	Data Fields d1-d2-d3-d4
01.03	<prt001></prt001>	Port Definition	0-0-1-001

Programming Field Description

Element Identifies the physical port number. 224-port system: 001-224; 448-port

Field: system: 001-224, 257-480.

Note: If an IX-SCIF card or IX-HCIF card is installed, physical ports 225 and 226 in a single-tower system and 481 and 482 in a two-tower system are added for use as the serial ports.

Data Field 1 Meaning: Port classification.

(d1): Range: 0 = station port1 = trunk port

2 = miscellaneous port

Default: Depends on the card installed in the related common module (CM)

or expansion module (EM) slot.

Data Field 2 Meaning Type of station, trunk or miscellaneous port.

(d2): Range 0-7

Default: Depends on the card installed in the related card slot.

Data Field 3 Meaning: Detailed specification of the station, trunk, or miscellaneous port.

(d3): Range: 0-9

Default Depends on the card installed in the related card slot.

Class 01 Item 03 – Port Definition (Cont.)

Programming Field Description

(d4):

Data Field 4 Meaning: Logical port number of the group defined by the value registered

in data field 1, i.e., Station Port, Trunk Port, Miscellaneous Port.

Range: **001 – 448**

Default Varies depending on the type of card installed in the related card

slot.

Related Databases:

Required: 01.04 Port Configuration; 01.06 Number of System Station Ports; 01.07 Number of

System Trunk Ports.

Associated: 10.12 Key Assignment (required for attendant positions).

Related Operation:

System Reset.

Hardware Required:

Station Cards, Trunk Cards, Shared Resource Cards.

For ISDN BRI subscriber lines: IX-2ICOTB.

For ISDN PRI subscriber lines: IX-ICOTP, External CSU (customer provided), IX-PLLU.

Station Port Definition

Note: The port configuration must be programmed in *Class 01.04* for all table entries which appear in boldface type.

Data Field 1	Data Field 2	Data Field 3	Terminal Function		
0	0	0	Attendant Console/Busy Lamp Field (BLF) Unit		
0	0	1	Key Telephone + DSS Unit(s); Programming KT/Attendant		
0	1	0	ADIX Key Telephone		
0	1	2	ZT-D Key Telephone		
0	1	3	ADIX Versa-Phone		
0	1	4	Busy Bypass Module		
0	1	6	Undefined station logical port (PSUB/DSUB cards)		
0	1	7	Unassigned DSS unit in default (software versions 3.0 and up)		
0	2	0	Standard Single-Line Telephone		
0	2	1	Single-Line Telephone with Message Lamp		
0	2	3	Facsimile machine (eliminates distinctive ringing)		
0	2	4	T1 Off Premise Extension (OPX) (Channel Signaling: OPX Signaling		
			(Loop start))		
0	3	0	Data Module		
0	4	0	Voice Message Unit (IX-MSGU ports)		
0	4	1	Voice Mail / Auto Attendant (Software versions 4.0 and up)		
0	4	3	T1 Off-Premises Voice Mail Extension		
0	5	0	Doorphone		
0	6	0	Virtual station logical port (E&M Trunk Line)		
0	6	1	Virtual station logical port (IX-DITK, IX-SUBL used for DISA)		
0	6	2	Unassigned DSS unit in default (Software version prior to 3.0)		

Class 01 Item 03 – Port Definition (Cont.)

Programming Notes:

■ DSS Consoles and Busy Lamp Field (BLF) Units must be assigned the same logical port number as the associated Key Telephone. For example, if an IX-24KTD is connected to physical port 001 and is to be paired with an IX-DSSA connected to physical port 002, these two ports would be programmed as follows:

```
[01.03 <PRT 001> PORT DEFINITION 0-0-1-001]
[01.03 <PRT 002> PORT DEFINITION 0-0-1-001]
```

The first and second channels of the attendant console (IX-ATT) must be connected to consecutive ports on the same IX-8PSUB card. If an IX-ATT is connected to physical ports 005 and 006, and will be used with an IX-BLF connected to physical port 007, these three ports would be programmed as follows:

```
[01.03 < PRT 005> PORT DEFINITION 0-0-0-005]
[01.03 < PRT 006> PORT DEFINITION 0-0-0-005]
[01.03 < PRT 007> PORT DEFINITION 0-0-0-005]
```

A maximum of eight attendant positions can be assigned. The table below lists the possible configurations of an attendant position:

Station defined as an ATT	Number of attendant positions configuration represents	
KT	1	
KT+DSS	1	
KT+DSS+DSS	2	
KT+DSS+DSS+DSS	3	
KT+DSS+DSS+DSS	4	
IX-ATT	1	
IX-ATT+BLF	1	

Note: A KT + DSS attendant position must have a key assignment programmed in Class 10.12.

Trunk Port Definition

Note: A Port Configuration value must be entered in *Class 01.04* for all table entries which appear in boldface type.

Data Field 1	Data Field 2	Data Field 3	Terminal Function	
1	0	0	Loop Start Trunk	
1	0	1	Ground Start Trunk	
1	0	2	DID Trunk	
1	0	3	ISDN Subscriber Line	
1	0	4	Loop Start Trunk (T1) (default)	
1	0	5	Ground Start Trunk (T1)	
1	0	6	DID Trunk (T1)	
1	0	7	E&M Trunk (T1)	
1	1	0	PBX, OPX, Centrex Intercom Line	
1	2	0	E&M Tie Line	
1	2	3	E&M Tie Line (T1)	
1	4	1	Two-Way DID Trunk (T1)	
1	4	2	Caller ID Loop Start Trunk	
1	4	3	ANI/DNIS Trunk (T1)	

Class 01 Item 03 – Port Definition (Cont.)

Miscellaneous Port Definition

Data Field 1	Data Field 2	Data Field 3	Terminal Function	Type of Card	Number of Logical Ports
2	0	0	TRAN Unit	IX-4TRAN	8
2	0	1	Pooled Modem	IX-RCVPM (12/24PDM)	2
2	0	2	External Modem	IX-EMDIF	2
2	1	0	Dedicated Modem	IX-RMPU	1
2	2	0	DTMF Receiver for DISA	IX-RCVPM (4RCVC), IX-RMPU	4
2	3	0	Serial Port	IX-SCIF	2
2	4	0	Zone Page Speaker	IX-MISC	1
2	4	1	ACD Recording Output	IX-MISC	1
2	5	0	Control Relay	IX-MISC	1
2	6	0	Sensor	IX-MISC	1
2	7	0	Source	IX-MISC	1

Programming Notes:

- Certain workstation terminals supported by optional cards occupy more than one logical port. Each optional card, however, consumes eight logical ports.
- When an IX-SCIF or IX-HCIF card is installed in the SIF slot at default, the physical port numbers are equal to the highest physical port numbers for that size system plus one and two. For example, when the system size is set as 224 ports, the IX-SCIF/IX-HCIF physical port numbers are equal to 225 and 226. The logical port numbers, however, are always equal to the first two miscellaneous logical ports and 002.
- The physical port layout of the IX-MISC card is listed below.

Physical Circuit	Data Field Input	Terminal Function
First Port	2-4-0	Zone Page Speaker (No. 1)
Second Port	2-7-0	Background Music Source
Third Port	2-7-0	Music On Hold Source
Fourth Port	2-5-0	Control Relays
Fifth Port	2-6-0	Sensor Input
Sixth Port	2-4-0	Zone Page Speaker (No. 2)
Seventh Port	2-4-0	Zone Page Speaker (No. 3)
Eight Port	2-4-0	Zone Page Speaker (No. 4)

■ The physical port layout of the IX-EDVIF card is listed below.

Physical Circuit	Data Field Input	Terminal Function
First Port	2-4-0	Zone Page Speaker (No. 1)
Second Port	2-7-0	Back Ground Music Source
Third Port		Undefined
Fourth Port	2-5-0	Control Relays (1-4)
Fifth Port	2-6-0	Sensor Input (1-2)
Sixth Port	2-4-0	Zone Page Speaker (No. 2)
Seventh Port	2-4-0	Zone Page Speaker (No. 3)
Eight Port	2-4-0	Zone Page Speaker (No. 4)

Port Configuration

Class 01 Item 04

Class 01 Item 04 – Port Configuration is used to configure a physical port according to the type of system terminal, line or function registered in *Class 01 Item 03 – Port Definition*. For example, If an IX-PSUB card is installed in the first universal card slot, and if the first and second circuits (physical port numbers 001 and 002) are connect to an ADIX KT and an associated DSS unit respectively, both physical ports are then defined as a KT+DSS attendant position as illustrated below:

[01.03 < PRT 001 > PORT DEFINITION 0-0-1-001] [01.03 < PRT 002 > PORT DEFINITION 0-0-1-001]

Using Class 01 Item 04 then, the DSS unit occupying physical port 002 must be configured as the first DSS unit and assigned a value of **1** (see table page 6-45). The KT must be assigned a value of **0** (default value) as illustrated below:

[01.04 < PRT 001 > CONFIGURATION 0] [01.04 < PRT 002 > CONFIGURATION 1]

Note: Only port definition types which appear in boldface in the tables on pages 6-41 - 6-43 require a Port Configuration value.

Important: A reset may be required to effect the changes programmed in Class 01.04.

DSS Display

Class/Item	Element Field	Description	Data Field d1-d2-d3-d4
01.04	<prt001></prt001>	Configuration	0-0-0-0

Programming Field Description

Element Identifies the physical port number ranging from 001 to 482 depending on

Field: the system size.

Data Fields: The value entered in the data field varies according to the port definition

entered in Class 01.03. Use the tables on pages 6-45 to 6-50 to determine

the appropriate value. Default: **1-1-0-0**

Related Databases:

Required: 01.03 Port Definition; 10.12 Key Assignment

Associated: None.

Hardware Required:

All cards except common control cards.

Class 01 Item 04 – Port Configuration (Cont.)

Station Port Configuration

Stations requiring programming in Class 01.04 include:

- Attendant Consoles (IX-ATT)
- Busy Lamp Field Units (IX-BLF)
- Key Telephones with DSS Unit(s) (1-4)
- ZT-D Telephones with a Speakerphone Unit
- ZT-D Telephones with a Busy Bypass Unit
- Busy Bypass Units (IX-BPAD)
- Message Units (IX-MSGU)
- Single-Line Telephones (DP/DTMF)
- Voice Mail Systems

Port Definition from Class 01.03	Function	Class 01.04 Data Field Entry		Description	Class 10.12 Programming
0-0-0	Attendant Console and BLF	0	Attendant Conso	e-Primary Channel	Pattern 130
		1	Attendant Consol	e-Secondary Channel	N/A
		2	Busy Lamp Field	Channel	N/A
0-0-1	Attendant KT with DSS Unit(s),	0	Attendant KT Pos	sition	Pattern 129
	Programming KT	1	First DSS Unit		N/A
		2	Second DSS Uni	t	N/A
		3	Third DSS Unit		N/A
		4	Fourth DSS Unit		N/A
0-1-2	ZT-D KT	0	Without a Speake	erphone Unit	Pattern 1
		1	With a Speakerpl	none Unit	Pattern 1
0-4-3	T1 OPX Voice Mail Extension	03	d1=0 - VM/AA d1=1 - AA Only	d2=1 - Immediate Mode d2=2 - Delay Mode d2=3 - Wink Mode	N/A
0-1-4	Busy Bypass Unit (IX-BPAD)	Three	Enter the logical	oort number of the station	N/A
0-1-4	ZT-D Busy Bypass Unit	Digits	to which the unit		
0-2-0	Single-Line Telephone	0	Dial Pulse		N/A
		1	DTMF Dial (Defa	ult)	N/A
0-2-1	Single-Line Telephone	0	Dial Pulse		N/A
	with a Message Lamp	1	DTMF Dial (Defa	ult)	N/A
0-2-3	Facsimile Line	0	Dial Pulse		N/A
		1	DTMF Dial (Defa	ult)	N/A
0-2-4	T1 OPX Line	0	Dial Pulse		N/A
		1	DTMF Dialing (D		N/A
0-4-0	Voice Message Unit port connected to an IX-MSGU	000	Channel 0 is Rec	ord/Playback; N/A; without	N/A
	circuit card	001	Channel 0 is Rec	ord/Playback; N/A; with RAM	N/A
		100		back only; N/A; N/A	N/A
		200	Channel 2 is play	back only; N/A; N/A	N/A
		300	Channel 3 is play	back only; N/A; N/A	N/A
0-4-1	Voice Mail (Available only with	0	Voice Mail/Autom	nated Attendant Port (default)	N/A
	software versions 4.0 and up.)	1	Automated Atten	dant Port	N/A

Programming Notes:

■ DSS Consoles and Busy Lamp Field Units must be assigned the same logical port number as the associated KT or Attendant Console in Class 01.03.

Class 01 Item 04 – Port Configuration (Cont.)

Programming Notes (Cont.):

- A Busy Bypass Unit must be assigned its own logical port number in Class 01.03. Then, in Class 01.04 it must be assigned the same logical port number as the station to which the Busy Bypass Unit is connected.
- The Attendant Console channels must be connected to two consecutive physical ports. The BLF unit can be connected to any physical port.
- A digital receiver is required for DTMF dialing on any channel used for sending or receiving DTMF digits.

Voice Message Channel Configuration Description

Configuration Data Class 01.04	Description
000 001 100 200 300	IX-MSGU Card 1 Rotary SW 2=0
0-1-0 0-1-1 1-1-0 2-1-0 3-1-0	IX-MSGU Card 2 Rotary SW 2=1
0-2-0 0-2-1 1-2-0 2-2-0 3-2-0	IX-MSGU Card 3 Rotary SW 2=2
0-3-0 0-3-1 1-3-0 2-3-0 3-3-0	IX-MSGU Card 4 Rotary SW 2=3

Configuration Data Class 01.04	Description
0-4-0 0-4-1 1-4-0 2-4-0 3-4-0	IX-MSGU Card 5 Rotary SW 2=4
0-5-0 0-5-1 1-5-0 2-5-0 3-5-0	IX-MSGU Card 6 Rotary SW 2=5
0-6-0 0-6-1 1-6-0 2-6-0	IX-MSGU Card 7 Rotary SW 2=6
0-7-0 0-7-1 1-7-0 2-7-0 3-7-0	IX-MSGU Card 8 Rotary SW 2=7

Trunk Port Configuration – Loop Start Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-0-0	Loop Start	0-0	No polarity reversal; No disconnect signal detection
	Trunk	0-1 (default)	No polarity reversal; Disconnect signal detection

Class 01 Item 04 – Port Configuration (Cont.)

Trunk Port Configuration — Ground Start Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-0-1	Ground	0-0	No polarity reversal; No disconnect signal detection
	Start Trunk	0-1 (default)	No polarity reversal; Disconnect signal detection

Trunk Port Configuration — Direct Inward Dialing (DID) Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-0-2	DID Trunk	0-0-1	No polarity reversal; No disconnect signal detection; Immediate Mode
		0-0-3 (default)	No polarity reversal; No disconnect signal detection; Wink Mode
		0-1-1	No polarity reversal; Disconnect signal detection; Immediate Mode
		0-1-3	No polarity reversal; Disconnect signal detection; Wink Mode
		1-0-1	Polarity reversal; No disconnect signal detection; Immediate Mode
		1-0-3	Polarity reversal; No disconnect signal detection, Wink Mode
		1-1-1	Polarity reversal; Disconnect signal detection; Immediate Mode
		1-1-3	Polarity reversal; Disconnect signal detection; Wink Mode

Trunk Port Configuration – PBX Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-1-0	PBX Trunk	0-0 0-1 (default)	No polarity reversal; No disconnect signal detection No polarity reversal; Disconnect signal detection

Trunk Port Configuration – E&M Trunks

Note: The configuration of an E&M Tie Line must be set to allow for both Polarity Reversal Detection and Disconnect Signal Detection.

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-2-0	E&M	1-1-0	Answer Detection; Disconnect signal detection; Attendant mode
	Trunk	1-1-1	Answer Detection; Disconnect signal detection; Immediate mode
		1-1-2	Answer Detection; Disconnect signal detection; Delay mode
		1-1-3 (default)	Answer Detection; Disconnect signal detection; Wink mode

Trunk Port Configuration – Digital T1 Loop Start Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-0-4	Digital T1	0-0	No polarity reversal; No disconnect signal detection
	Loop Start	0-1 (default)	No polarity reversal; Disconnect signal detection

Class 01 Item 04 – Port Configuration (Cont.)

Trunk Port Configuration – Digital T1 Ground Start Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-0-5	Digital T1	0-0	No polarity reversal; No disconnect signal detection
	Ground	0-1 (default)	No polarity reversal; Disconnect signal detection

Trunk Port Configuration — Digital T1 Direct Inward Dialing (DID) Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description	
1-0-6	Digital T1 DID Trunk	0-0-1	No polarity reversal; No disconnect signal detection; Immediate Mode	
		0-0-3	No polarity reversal; No disconnect signal detection; Wink Mode	
		0-1-1	No polarity reversal; Disconnect signal detection; Immediate Mode	
		0-1-3	No polarity reversal; Disconnect signal detection; Wink Mode	
		1-0-1	Polarity reversal; No disconnect signal detection; Immediate Mode	
		1-0-3	Polarity reversal; No disconnect signal detection, Wink Mode	
		1-1-1	Polarity reversal; Disconnect signal detection; Immediate Mode	
		1-1-3 (default)	Polarity reversal; Disconnect signal detection; Wink Mode	

Programming Notes:

- Channel Signaling: E&M signaling.
- A digital receiver is required to receive DID DTMF digits.
- This signaling is available when connecting to AT&T MegaCom 800, MCI and Sprint. This function meets the DNIS service trunk with up to six incoming digits.

Trunk Port Configuration — Two-Way DID (T1) (Software Versions 4.50/5/50 and higher)

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-4-1	Two-Way DID	X-Y-Z 1-1-3 (default)	X – Answer Detection 1 = Enabled, 0 = Disabled Y – Disconnect Detection 1 = Enabled, 0 = Disabled Z – Mode: 0 = Attendant, 1 = Immediate, 2 = Delay, 3 = Wink

Trunk Port Configuration — Digital T1 E&M Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-0-7	Digital (T1)	1-1-0	Answer Detection; Disconnect signal detection; Attendant mode
	E&M	1-1-1	Answer Detection; Disconnect signal detection; Immediate mode
	Trunk	1-1-2	Answer Detection; Disconnect signal detection; Delay mode
		1-1-3 (default)	Answer Detection; Disconnect signal detection; Wink mode

Programming Notes:

- Channel Signaling: E&M signaling.
- A Digital Receiver is not required.
- This signaling is available when connecting to AT&T, MCI, and Sprint. Use this Data setting for all AT&T MegaCom Trunks.

Class 01 Item 04 – Port Configuration (Cont.)

Trunk Port Configuration — Digital T1 E&M Tie Lines

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description	
1-2-3	Digital (T1)	1-1-0	Answer Detection; Disconnect signal detection; Attendant mode	
	E&M 1-1-1		Answer Detection; Disconnect signal detection; Immediate mode	
	Lines	1-1-2	Answer Detection; Disconnect signal detection; Delay mode	
		1-1-3 (default)	Answer Detection; Disconnect signal detection; Wink mode	

Programming Notes:

- Channel Signaling: E&M signaling.
- A Digital Receiver is required.
- This signaling is available when connecting to AT&T, MCI, and Sprint. Use this Data setting for all AT&T MegaCom Trunks.

Trunk Port Configuration – Caller ID Loop Start Trunks

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-4-2	Caller ID	0-0	No polarity reversal; No disconnect signal detection
	Loop Start	0-1 (default)	No polarity reversal; Disconnect signal detection
	Trunk		•

Trunk Port Configuration – Digital T1 ANI/DNIS Trunks

Port Definition	Function	Configuration Value,	Description
from Class 01.03		Class 01.04 Data Field	
1-4-3	Digital T1	0-0-1- X	No polarity reversal; No disconnect signal detection; Immediate
	ANI/DNIS		Mode;
	Trunk		X=D4 value:
			D4=1 – Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 – ANI and Address input after answer
		0-0-3 -X	No polarity reversal; No disconnect signal detection; Wink Mode;
			X=D4 Value:
			D4=1 – Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 – ANI and Address input after answer
		0-1-1- X	No polarity reversal; Disconnect signal detection; Immediate
			Mode;
			X=D4 Value:
			D4=1 — Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 – ANI and Address input after answer

Class 01 Item 04 – Port Configuration (Cont.)

Port Definition from Class 01.03	Function	Configuration Value, Class 01.04 Data Field	Description
1-4-3	Digital T1	0-1-3- X	No polarity reversal; Disconnect signal detection; Wink Mode;
	ANI/DNIS		X=D4 Value:
	Trunk		D4=1 — Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 - ANI and Address input
			D4=6 - ANI and DNIS input
			D4=7 - ANI and Address input after answer
		1-0-1- X	Polarity reversal; No disconnect signal detection; Immediate
			Mode;
			X=D4 Value:
			D4=1 – Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 – ANI and Address input after answer
		1-0-3- X	Polarity reversal; No disconnect signal detection, Wink Mode
			X=D4 Value:
			D4=1 – Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 — ANI and Address input after answer
		1-1-1 -X	Polarity reversal; Disconnect signal detection; Immediate Mode;
			X=D4 Value:
			D4=1 — Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 – ANI and Address input after answer
		1-1-3- X	Polarity reversal; Disconnect signal detection; Wink Mode;
		1-1-3-2 (default)	X=D4 Value:
			D4=1 – Address input only
			D4=2 – ANI input only
			D4=3 – DNIS input only
			D4=5 – ANI and Address input
			D4=6 – ANI and DNIS input
			D4=7 – ANI and Address input after answer

Programming Notes:

- Channel Signaling: E&M signaling.
- A digital receiver is required to receive ANI/DNIS DTMF digits.
- This signaling is available when connecting to AT&T MegaCom 800 (DNIS only), MCI and Sprint. This function meets the ANI/DNIS service trunk with up to twelve incoming digits.
- Configuration values 0-0-1-4, 0-0-3-4, 0-1-1-4, 0-1-3-4, 1-0-1-4, 1-0-3-4, 1-1-1-4, and 1-1-3-4 are not used.

Trunk Port Configuration – ISDN BRI and PRI Trunks

Port Definition from	Function	Data and Description			
Class 01.03		d1	d2	d3	d4
1-0-3	ISDN Trunk	Channel Number: 0=D channel 1=1st B channel 2=2nd B channel 3-24=Not used with ISDN BRI	Interface Type: 0= Basic Rate Interface (BRI) 1= Primary Rate Interface (PRI)	Channel Type: 0= B channels 1= D channel (Default set automatically base on card location.)	Operation Mode: 0= point-to-point 1=multipoint 2=multipoint 2

Note: Required values are in boldface type.

Miscellaneous Port Configuration

No configuration is required for Miscellaneous Ports.

(Not Used)

Class 01 Item 05

Class 01 Item 05 is not used.

Number of System Station Ports

(Software Versions 4.0 and Higher Only)

Class 01 Item 06

Class 01 Item 06 – Number of System Station Ports is used to record the maximum number of station logical ports available to the system. The value displayed in the data field is entered automatically at the time of system default. In order to expand the maximum number of station ports after system default, program the Class 01.06 data field to equal the previous number of station ports plus the number of station ports being added.

A reset is required to effect any changes programmed in Class 01.06.

Note: The number of *system station ports* entered in Class 01.06, *system trunk ports* entered in Class 01.07 and *system miscellaneous ports* cannot exceed the system size which is defined by SW2 on the CPU card (S1 on the IX-CPU32 card).

Tip: To determine the maximum number of miscellaneous ports in your system, subtract the sum of station ports (Class 01.06) and trunk ports in (Class 01.07) from the system size. Also, if you are using the PC programmer to upload a database to the ADIX, make sure that the number of station and trunk ports matches the number of station trunk ports in the PC database.

DSS Display

Class/Item	Element Field	Description	Data Field
01.06		Station Number	

Programming Field Description

Data Field: Meaning: Total number of station ports available in the system.

Range: **0-400** depending on system size

Default: Varies depending on the number of station cards initially

installed.

Related Databases:

Required: None.

Associated: 01.03 Port Definition; 01.04 Port Configuration; 01.07 Number of System Trunk

Ports

Related Operation:

System Reset.

To install a card while system power is on:

- 1. Connect IX-POMT to earth ground.
- 2. "Make Busy" new card.
- 3. Discharge new card by connecting it to the IX-POMT.
- 4. Insert new card in empty slot.
- 5. Turn "Make Busy" switch off.

Related Hardware:

IX-POMT (Power-On Maintenance Tool)

Number of System Trunk Ports

(Software Versions 4.0 and Higher Only)

Class 01 Item 07

Class 01 Item 07 – Number of System Trunk Ports is used to record the maximum number of trunk logical ports available to the system. The value displayed in the data field is entered automatically at the time of system default. In order to expand the maximum number of trunk ports after system default, program the Class 01.07 data field to equal the previous number of trunk ports plus the number of trunk ports being added.

A reset is required to effect any changes programmed in Class 01.07.

Note: The number of *system station ports* entered in Class 01.06, *system trunk ports* entered in Class 01.07 and *system miscellaneous ports* cannot exceed the system size which is defined by SW2 on the CPU card (S1 on the IX-CPU32 card).

Tip: To determine the maximum number of miscellaneous ports in your system, subtract the sum of station ports (Class 01.06) and trunk ports in (Class 01.07) from the system size. Also, if you are using the PC programmer to upload a database to the ADIX, make sure that the number of station and trunk ports matches the number of station trunk ports in the PC database.

DSS Display

Class/Item	Element Field	Description	Data Field
01.07		Trunk Number	

Programming Field Description

Data Field: Meaning: Total number of trunk ports available in the system.

Range: **0-200** depending on system size

Default: Varies depending on the number of trunk cards initially

installed.

Related Databases:

Required: None

Associated: 01.06 Number of System Station Ports.

Related Operation:

System Reset.

Installing a card with the system power on (See Section 3 – Features and Operations, Power-On Maintenance).

Related Hardware:

IX-POMT (Power-On Maintenance Tool)

System Constants

Use **Class 02 – System Constants** to program variables and functions which will be applied throughout the ADIX. The items in Class 02 include:

- 02.01 System Speed Dial Type
- 02.02 Modem Signal Output Level
- 02.03 Music on Hold Source Selection
- 02.04 Remote System ID
- 02.05 Remote Programming Password
- 02.06 Diagnostics Callout Number
- 02.07 Diagnostics Callout Time
- 02.08 Diagnostics Callout Level
- 02.09 Diagnostics Callout Line Group
- 02.10 CO Monitor Guard Time

- 02.11 CO Interrupt Tone Duration
- 02.12 CO Interrupt Tone Repetition
- 02.13 CO Interrupt Tone Allowance
- 02.14 CO Continuous Tone Duration
- 02.15 CO Silence Duration in Seconds
- 02.16 CO Silence Noise Allowance
- 02.17 System Prefix
- 02.18 Holiday List
- 02.19 Time Zone
- 02.20 System Text Message

System Speed Dial Type

Class 02 Item 01

Class 02 Item 01 – System Speed Dial Type sets the amount of speed dial numbers available to the system. The ADIX can be setup to have a maximum of either ninety two-digit or nine hundred three-digit speed dial numbers. System speed dial memory can be used for forced account code listings (software versions 4.20/5.20 and higher) thereby reducing the amount of system speed dial numbers.

Note: Nine hundred speed dial numbers are not available on systems equipped with either an IX-CPUL or IX-CPUL-1 card if an IX-EMEM/IX-EMEM-1 daughterboard is not installed.

DSS Display

Class/Item	Element Field	Description	Data Field
02.01		System SPD Type (0:90 1:900)	1

Programming Field Description

Data Field: Meaning: Number of speed dial numbers available.

Range: 0 = ninety two-digit speed dial numbers available:

(00-89)

1 = nine hundred three-digit speed dial numbers

available: (000-899).

Default: 1 (0 software versions before 4.62/5.62)

Related Databases:

Required: Class 05 System Speed Dial.

Associated: 04.71 Number of Verified Account Codes; 10.70 Verified Account Code Display;

10.73 Forced Account Code Station; 11.70 Forced Account Code Trunk.

Related Operation:

System Speed Dial.

Press [SPEED] + (System Speed No 000-899) + off-hook

Speed Dial Scrolling.

Press [SPEED] + (*) + (System Speed No. 000-899) + (*=down/#=up) +[SPEED] - (to dial selected no.)

Modem Signal Output Level

Class 02 Item 02

Class 02 Item 02 – Modem Signal Output Level provides output signal attenuation for modems used in the ADIX. ADIX pooled modems default to -10 dB as the transmitting level on all internal modems. A setting other than 0 will seldom be used in North America due to the default level of the ADIX modems and the transmission level specified by the FCC. This program will only be used in rare cases where the dB loss on the trunk circuit is extremely low. This programming is used in conjunction with ADIX pooled modems – IX-12PMD/24PMD or IX-RMPU. The signal attenuation level in dB is determined by multiplying the number entered in the data field by -2 dB. For example, If a value of 0 is programmed in this item, the modem signal output level through the CO trunk circuit is -10 +/- 2 dBm. If a value 1 is programmed in this item, the modem signal output level through the CO trunk circuit is -10 - (1x2dBm), or (-12 dBm +/-2dBm).

DSS Display

Class/Item	Element Field	Description	Data Field
02.02		Modem Signal Output Level (0→7)	0

Programming Field Description

Data Field: Meaning: Output signal attenuation level in dB.

Range: **0-7** (multiplied by -2 dB)

Default: $\mathbf{0} = -10 \text{dB}$

Related Databases:

Required: 04.06 Pooled Modem Port.

Associated: None.

Related Operation:

Transmitting data through PSTN lines.

Hardware Required:

All hardware containing an internal modem, e.g. IX-RMPU, IX-RCVPM with IX-12PMD/24PMD, IX-DMS.

Music Source Selection

Class 02 Item 03

Class 02 Item 03 – Music Source Selection defines whether an internal or external music on hold (MOH) source is used.

DSS Display

Class/Item	Element Field	Description	Data Field
02.03		MOH Source Selection (0:in 1:ext)	1

Programming Field Description

Data Field: Meaning: Toggle between internal or external MOH source.

Range: **0** = use internal music on hold source **1** = use external music on hold source

Default: 1 (0 software versions before 4.62/5.62)

Related Databases:

Required: 04.05 Music On Hold Input Port (For external MOH source only).

Associated: None.

Related Operation:

System Hold, Exclusive Hold, UCD, Call Park.

Hardware Required:

IX-HWCL, IX-HWCE, IX-HWCL-1, IX-MISC, IX-CPU16M, IX-EDCTU.

Remote System ID

Class 02 Item 04

Class 02 Item 04 – Remote System ID is used to program a system identification name or number that is used with the ADIX self-diagnostics and remote programming features. In the event that an alarm condition occurs, the ADIX will automatically transmit the ID number registered in Class 02.04 to an outside PC with remote programming capabilities. The first eight digits of the remote system ID are included in the ADIX database printout and are used to name the *.ERL error log file when programming from a PC.

Note: This item can also be used to include the software version of the system. PC access does not show software version.

DSS Display

Class/Item	Element Field	Description	Data Field
02.04		Remote System ID	

Programming Field Description

Data Field: Meaning: System ID name or number for diagnostic call out

identification.

Range: Up to **16** alphanumeric characters in length

Default: None

Related Databases:

Required: 02.05 Remote Programming Password; 02.06 Diagnostics Callout Number;

02.07 Diagnostics Callout Time; 02.08 Diagnostics Callout Level;

02.09 Diagnostics Callout Line Group.

Associated: 11.25 DISA Line.

Related Operation:

Remote Programming, Self-Diagnosis.

Hardware Required:

Any trunk interface card except the IX-4EMTK.

Remote Programming Password

Class 02 Item 05

Class 02 Item 05 – Remote Programming Password is used to assign a password that will allow you to access the ADIX from a remote PC or modem for programming and error information. The remote PC or modem must enter this password in order to access the IX-RMPU card. If remote programming is performed through DISA, the remote programming password must be twelve digits in length. If remote programming is accessed manually, the password can be from one to twelve digits in length.

Note: If the remote programming password is lost, contact Iwatsu America's Technical Support Department. The password can be reset to the default value only by Iwatsu personnel.

DSS Display

Class/Item	Element Field	Description	Data Field
02.05		Remote PGM Password	492878*2349*

Programming Field Description

Data Field: Meaning: Password for remote programming and maintenance.

Range: Maximum Length = 12 digits (12 digits required for DISA)

Accepted Digits = 0-9, *, #

Default: 492878*2349*

Related Databases:

Required: None.

Associated: 04.41 DISA Waiting Time; 11.25 DISA Line; 11.46 DISA Message Number.

Related Operation:

To access remote programming through DISA:

- 1. Dial into the system.
- 2. When the system answers dial the following sequence: ([#][#]] to interrupt message) [*][*] + password.

To access remote programming manually:

- 1. Dial into the system attendant position.
- 2. The attendant must dial the following sequence:

[FEAT][#][3] + password.

Hardware Required:

Trunk Interface Card.

Diagnostics Callout Number

Class 02 Item 06

Class 02 Item 06 – Diagnostics Callout Number is used to enter a telephone number that the ADIX will automatically call at the time the diagnostic callout level programmed in *Class 02.08* is reached. The call out will be attempted at the time programmed in *Class 02.07*. If a connection is not established at the time of call out, the system will redial the call out number every minute. If a connection is not established after ten attempts, the system will wait until the following day to try and connect with the callout number. If all trunks are busy within the group, the ADIX will go off-hook when a trunk becomes idle.

DSS Display

Class/Item	Element Field	Description	Data Field
02.06		Diagnostics Callout No.	

Programming Field Description

Data Field: Meaning: Telephone number the ADIX will dial when the

diagnostics callout level is reached.

Range: Maximum Length = 32 digits

Accepted Digits = 0-9, *, #

Default: None.

Programming Instructions:

The following features can be used to register call out numbers if you are using a KT + DSS unit:

To register this:	Dial this when programming:
Speed dial number	[SPEED] + speed dial number
Pause	[PAUSE] + pause time between 0 and 9 seconds
Short Flash	[TRAN]
Change from Dial Pulse to DTMF	[PAUSE] + [*]
Change from DTMF to Dial Pulse	[PAUSE] + [#]

Related Databases:

Required: 02.04 Remote System ID; 02.07 Diagnostics Callout Time; 02.08 Diagnostics

Callout Level; 02.09 Diagnostics Callout Line Group.

Associated: None.

Related Operation:

Diagnostics.

Hardware Required:

Diagnostics Callout Time

Class 02 Item 07

Class 02 Item 07 – Diagnostics Callout Time is used to enter a time of day which the ADIX will use for the following functions:

- Time of day at which daily self diagnostic routines are performed.
- Time of day at which the ADIX will call a remote site (*Class 02.06*) after the number of failures has reached the diagnostic call out level value entered in *Class 02.08*.

If a connection is not established at the time of call out, the system will redial the call out number every minute. If a connection is not established after ten attempts, the system will wait until the following day to try and connect with the call out number. If all trunks are busy within the group, the ADIX will go off-hook when a trunk becomes idle.

Note: To disable the self-diagnostic function enter [CLEAR] + [ENTER] in programming mode.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	02.07		DIAG Callout Time (hh:mm)	:

Programming Field Description

Data Field: Meaning: Time of day in military time in which diagnostic

call out is performed.

Range: **0000-2359**

Default: No default value for the system data base.

Related Databases:

Required: 02.04 Remote System ID; 02.06 Diagnostics Callout Number; 02.08 Diagnostics

Callout Level.

Associated: 02.09 Diagnostics Callout Line Group.

Related Operation:

Diagnostics.

Hardware Required:

Diagnostics Callout Level

Class 02 Item 08

Class 02 Item 08 – Diagnostics Callout Level is used to enter the number of diagnostic failures that must accumulate before an automatic call out occurs. Once the failure level reaches the number programmed in *Class 02.08*, the system will automatically call the remote location programmed in *Class 02.06*. All failure information is transmitted to the remote location and the error log is cleared at the time a link is established.

DSS Display

Class/Item	Element Field	Description	Data Field
02.08		Diagnostics Callout Level	0

Programming Field Description

Data Field: Meaning: Number of failures required to activate the

diagnostics call out function.

Range: **0-9999**

Default: 0 - no call out

Related Databases:

Required: 02.04 Remote System ID; 02.06 Diagnostics Callout Number; 02.07 Diagnostics

Callout Time; 02.09 Diagnostics Callout Line Group.

Associated: None.

Related Operation:

Diagnostics.

Hardware Required:

Diagnostics Callout CO Group

Class 02 Item 09

Class 02 Item 09 – Diagnostics Callout CO Group is used to select the trunk group that will be used for automatic diagnostic call out to a remote PC.

DSS Display

Class/Item	Element Field	Description	Data Field
02.09		Diagnostics Callout CO Group	1

Programming Field Description

Data Field: Meaning: Trunk group used for diagnostic call out.

Range: **0-60**Default: **1**

Related Databases:

Required: 02.04 Remote System ID; 02.06 Diagnostics Callout Number; 02.07 Diagnostics

Callout Time; 02.08 Diagnostics Callout Level; 11.38 Outgoing CO Group.

Associated: None.

Related Operation:

Diagnostics.

Hardware Required:

CO Monitor Guard Time

Class 02 Item 10

Class 02 Item 10 – CO Monitor Guard Time is used to define the length of time the system will wait after a trunk-to-trunk conference is activated before it begins to monitor the line status. When the ADIX detects a continuous tone, a repeated interrupt tone or no tone (silence) that exceeds the values programmed in *Classes 02.11* through *02.16*, it will release both lines. To turn off this feature, enter a value of **0** in Class 02.10.

Note: The IX-4TRAN card is required to monitor the line status.

DSS Display

Class/Item	Element Field	Description	Data Field
02.10		CO Monitor Guard Time (O→255s)	10

Programming Field Description

Data Field: Meaning: Time in seconds before line monitoring begins.

Range: **0-255** seconds **0** = no monitoring

Default: 10 seconds

Related Databases:

Required: 02.11 CO Interrupt Tone Duration; 02.12 CO Interrupt Tone Repetition; 02.13 CO

Interrupt Tone Allowance; 02.14 CO Continuous Tone Duration; 02.15 CO Silence

Duration; 02.16 CO Silence – Noise Allowance.

Associated: 01.04 Port Configuration (Disconnect Signal).

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

IX-4TRAN.

CO Interrupt Tone Duration

Class 02 Item 11

Class 02 Item 11 – CO Interrupt Tone Duration is used to establish the maximum length of time in seconds that an interrupted signal can be received before the ADIX will disconnect a trunk-to-trunk conference. Line monitoring capabilities are limited to mixed tones of either 440Hz or 350Hz and can be detected regardless of the on/off cycle provided the signal pattern is consistent. Class 02.11 is used along with *Class 02.12 – CO Interrupt Tone Repetition*. For example, if Classes 02.11 and 02.12 are programmed as follows:

[02.11 CO INTERRUPT TONE DURATION 80] [02.12 CO INTERRUPT TONE REPETITION 4]

When the ADIX detects a signal which lasts longer than eight seconds and is repeated five times, (figure 02.11) the two lines will be disconnected.

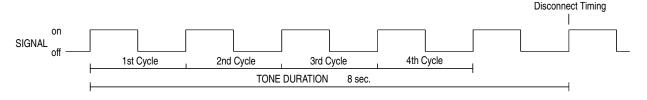


FIGURE 02.11 CO INTERRUPT TONE DURATION AND TONE REPETITION.

Note: The IX-4TRAN card is required to monitor the line status.

DSS Display

Class/Item	Element Field	Description	Data Field
02.11		CO Interrupt Tone Duration	100

Programming Field Description

Data Field: Meaning: Monitor time begins.

Range: 0-255 x 100 milliseconds

100 (10 seconds)

Related Databases:

Required: 02.10 CO Monitor Guard Time; 02.12 CO Interrupt Tone Repetition; 02.13 CO

Interrupt Tone Allowance.

Associated: 02.14 CO Continuous Tone Duration; 02.15 CO Silence Duration; 02.16 CO

Silence - Noise Allowance.

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

IX-4TRAN.

CO Interrupt Tone Repetition

Class 02 Item 12

Class 02 Item 12 – CO Interrupt Tone Repetition is used to define the number of times the interrupt signal pattern must be repeated before the ADIX will disconnect a trunk-to-trunk conference. Line monitoring capabilities are limited to mixed tones of either 440Hz or 350Hz and can be detected regardless of the on/off cycle provided the signal pattern is consistent. Class 02.12 is used along with Class 02.11 – CO Interrupt Tone Duration. See figure 02.11 for an example of how this feature works.

Note: The IX-4TRAN card is required to monitor the line status.

DSS Display

Class/Item	Element Field	Description	Data Field
02.12		CO Interrupt Tone Repetition	4

Programming Field Description

Data Field: Meaning: Number of repeated tones required before a trunk-

to-trunk conference is disconnected.

Range: **0-255**Default: **4**

Related Databases:

Required: 02.10 CO Monitor Guard Time; 02.11 CO Interrupt Tone Duration; 02.13 CO

Interrupt Tone Allowance.

Associated: 02.14 CO Continuous Tone Duration; 02.15 CO Silence Duration; 02.16 CO

Silence – Noise Allowance.

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

IX-4TRAN.

CO Interrupt Tone Allowance

Class 02 Item 13

Class 02 Item 13 – CO Interrupt Tone Allowance is used to define the number of irregular signal cycles the ADIX will ignore when monitoring the status of a trunk-to-trunk conference. For example, figure 02.13 diagrams a cycle in which the signal pattern and scan timing do not match. Although this situation rarely occurs, by programming an irregular signal allowance you will force the ADIX to confirm scan information against a regular signal. In most cases a setting of 2 is adequate.

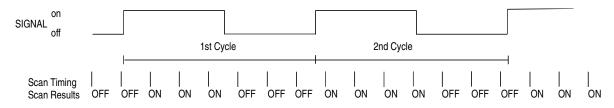


FIGURE 02.13 IRREGULAR SIGNAL PATTERN.

Note: The IX-4TRAN card is required to monitor the line status.

DSS Display

Class/Item	Element Field	Description	Data Field	
02.13		CO Interrupt Tone Allowance	2	

Programming Field Description

Data Field: Meaning: Number of irregular signal cycles that will be

disregarded during the monitoring period.

Range: **0-255**Default: **2**

Related Databases:

Required: 02.10 CO Monitor Guard Time; 02.11 CO Interrupt Tone Duration;

02.12 CO Interrupt Tone Repetition.

Associated: 02.14 CO Continuous Tone Duration; 02.15 CO Silence Duration;

02.16 CO Silence - Noise Allowance.

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

CO Continuous Tone Duration

Class 02 Item 14

Class 02 Item 14 – CO Continuous Tone Duration is used to define the length of time a continuous signal (i.e., dial tone) must be received before the system will detect termination of a trunk-to-trunk conference and disconnect the lines. This feature is applicable for 440Hz and 350Hz mixed tones only. For example, if a value of 30 is programmed in Class 02.14, when the ADIX detects a continuous mixed tone of 440Hz or 350Hz for a duration of thirty seconds, it will disconnect both CO lines.

Note: The IX-4TRAN card is required to monitor the line status. The IX-4TRAN cannot detect (CO) dial tone.

DSS Display

Class/Item	Element Field	Description	Data Field
02.14		CO Continuous Tone Duration	60

Programming Field Description

Data Field: Meaning: Duration of a continuous tone in seconds before

disconnect occurs.

Range: **0-255** seconds

Default: **60** (200 software versions before 4.62/5.62)

Related Databases:

Required: 02.10 CO Monitor Guard Time.

Associated: 02.11 CO Interrupt Tone Duration; 02.12 CO Interrupt Tone Repetition; 02.13 CO

Interrupt Tone Allowance; 02.15 CO Silence Duration; 02.16 CO Silence – Noise

Allowance.

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

CO Silence Duration

Class 02 Item 15

Class 02 Item 15 – CO Silence Duration is used to define the length of time silence must be maintained on both lines before the system detects termination of a trunk-to-trunk conference and disconnects the lines. For example, if a value of 30 is programmed in Class 02.15, the ADIX will disconnect both CO lines after it detects no sound on either line for thirty seconds.

Note: The IX-4TRAN card is required to monitor the line status.

DSS Display

Class/Item	Element Field	Description	Data Field	
02.15		CO Silence Duration (0→255)	255	

Programming Field Description

Data Field: Meaning: Duration of silence in seconds before disconnect

occurs.

Range: **0-255** seconds

Default: 255 (30 software versions before 4.62/5.62)

Related Databases:

Required: 02.10 CO Monitor Guard Time; 02.16 CO Silence – Noise Allowance.

Associated: 02.11 CO Interrupt Tone Duration; 02.12 CO Interrupt Tone Repetition; 02.13 CO

Interrupt Tone Allowance; 02.14 CO Continuous Tone Duration.

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

CO Silence – Noise Allowance

Class 02 Item 16

Class 02 Item 16 – CO Silence – Noise Allowance is used to define the number of times the ADIX will disregard noise such as static and line interference while monitoring a trunk-to-trunk conference. Class 02.16 is used in conjunction with *Class 02.15 – CO Silence Duration*. If the occurrence of noise detected by the ADIX exceeds the number programmed in Class 02.16, the system clock that detects continuous dial tone will be reset to 0. Line monitoring will then begin again for the duration programmed in Class 02.15.

Note: The IX-4TRAN card is required to monitor the line status.

DSS Display

 Class/Item	Element Field	Description	Data Field
02.16		CO Silence - Noise Allowance	2

Programming Field Description

Data Field: Meaning: Number of detected noise occurrences permitted

before the continuos dial tone clock is reset.

Range: **0-255** occurrences

Default: 2

Related Databases:

Required: 02.10 CO Monitor Guard Time; 02.15 CO Silence Duration.

Associated: 02.11 CO Interrupt Tone Duration; 02.12 CO Interrupt Tone Repetition; 02.13 CO

Interrupt Tone Allowance; 02.14 CO Continuous Tone Duration.

Related Operation:

Trunk-to-Trunk Conference, Remote Call Forwarding, DISA Outgoing Access.

Hardware Required:

System Prefix

Class 02 Item 17

Class 02 Item 17 – System Prefix is used to set a prefix to be used with an optimized routing plan. For example, if the ADIX is installed in an area where 1 + [area code] + [number] dialing is used, the value programmed in Class 02.17 would be 1 (default). Class 02.17 is only referenced by the ADIX when the *Optimized Routing* feature is used.

DSS Display

Class/Item	Element Field	Description	Data Field
02.17		System Prefix	1

Programming Field Description

Data Field: Meaning: Toggle between prefix used/not used for dialing

through optimized routing.

Range: 0 = prefix is not used

1 = prefix is used

Default: 1

Related Databases:

Required: 10.32 Optimized Routing Call; 10.34 Route Advance Step; Class 17 Optimized

Routing.

Associated: 06.01 Toll Restriction Table; 06.02 Toll Restriction – Plan Table; 06.03 Toll

Restriction – Dial Table; 10.33 Forced Optimized Routing.

Related Operation:

To place a call using optimized routing:

Do one of the following:

[FLT n] + 1 + area code + telephone number

[OPT] + 1 + area code + telephone number

[ICM] + CO group access code + 1 + area code + telephone number

Holiday List

Class 02 Item 18

Class 02 Item 18 – Holiday List is used to denote twenty calendar days on which the ADIX will use the holiday optimized routing time zone settings programmed in *Class 02.19 – Time Zone Table*.

DSS Display

	Class/Item	Element Field	Description	Data Field	
Ī	02.18	<num01></num01>	Holiday List (mm/dd)	01/01	

Programming Field Description

Element Meaning: Identifies the number of the holiday.

Field: Range: **01-20**

Data Field: Meaning: Identify the month and date for each holiday.

Range: **01/01** to **12/31**

Default: <NUM01> - 01/01; <NUM02> - 07/04;

<NUM03> **- 12/25**; <NUM04-20> **- blank**

Related Databases:

Required: 02.19 Time Zone; 10.32 Optimized Routing Call; 10.33 Forced Optimized

Routing; 10.34 Route Advance Step; Class 17 Optimized Routing.

Associated: 03.01 Time of Day; 03.02 Calendar.

Related Operation:

To place a call using optimized routing:

Do one of the following:

[FLT n] + area code + telephone number

[OPT] + area code + telephone number

[ICM] + [9][0] + area code + telephone number

Time Zone Class 02 Item 19

Class 02 Item 19 – Time Zone is used to establish an optimized routing time schedule assignment on an hourly basis as well as a calendar condition. Default settings are listed in the *Time Zone Default Table* on the next page.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field	
02.19	<hor01-1></hor01-1>	Time Zone (0→2)	2	

Programming Field Description

Element Meaning: Identifies one of the 24 hours in the day.

Field 1 (e1): Range: 01-24

Element Meaning: Calendar condition. **Field 2 (e2):** Range **1** = Weekdays

2 = Saturday3 = Sunday4 = Holiday

Default 1

Data Field: Meaning: Time Zone Default Table entry.

Range: 0-2

Default: See the *Time Zone Default Table*

Related Databases:

Required: 02.18 Holiday List; 03.02 Calendar; 10.32 Optimized Routing Call; 10.33 Forced

Optimized Routing; 10.34 Route Advance Step; Class 17 Optimized Routing.

Associated: 03.01 Time of Day; 03.02 Calendar.

Related Operation:

To place a call using optimized routing:

Do one of the following:

[FLT n] + area code + telephone number

[OPT] + area code + telephone number

[ICM] + [9][0] + area code + telephone number

Time Zone Default Table

Time Zone Number	Calendar Condition								
	1 (week day)	2 (Saturday)	3 (Sunday)	4 (Holiday)					
01 – 01:00 to 01:59	2	2	2	2					
02 – 02:00 to 02:59	2	2	2	2					
03 – 03:00 to 03:59	2	2	2	2					
04 – 04:00 to 04:59	2	2	2	2					
05 – 05:00 to 05:59	2	2	2	2					
06 – 06:00 to 06:59	2	2	2	2					
07 – 07:00 to 07:59	2	2	2	2					
08 – 08:00 to 08:59	0	0	0	0					
09 – 09:00 to 09:59	0	0	0	0					
10 – 10:00 to 10:59	0	0	0	0					
11 – 11:00 to 11:59	0	0	0	0					
12 – 12:00 to 12:59	0	0	0	0					
13 – 13:00 to 13:59	0	0	0	0					
14 – 14:00 to 14:59	0	0	0	0					
15 – 15:00 to 15:59	0	0	0	0					
16 – 16:00 to 16:59	0	0	0	0					
17 – 17:00 to 17:59	1	1	1	1					
18 – 18:00 to 18:59	1	1	1	1					
19 – 19:00 to 19:59	1	1	1	1					
20 – 20:00 to 20:59	1	1	1	1					
21 – 21:00 to 21:59	1	1	1	1					
22 – 22:00 to 22:59	1	1	1	1					
23 – 23:00 to 23:59	2	2	2	2					
24 – 00:00 to 00:59	2	2	2	2					

System Text Message

Class 02 Item 20

Class 02 Item 20 – System Text Message is used to enter text messages 00-89. Each text message may be a maximum of 16 characters in length. Either the [TEXT MSG], [TEXT MSGn], or [MSGGPn] key is required to use this feature. The [TEXT MSG] key (key data 161) allows users to send any system or personal text message by pressing [TEXT MSG] and dialing the desired text message number (00-99). The [TEXT MSGn] (key data 162) keys allows users to send a specific text message. The [MSGGPn] key (key data 170) text message group key allows users to send a text message to a group of users. Text message groups are defined in Class 08.06.

DSS Display

Class/Item	Element Field	Description	Data Field
02.20	<num01></num01>	System Text Message	

Programming Field Description

Element Meaning: System Text Message Number

Field 1 (e1): Range: **00-89**

Default **00**

Data Field: Meaning: Alphanumeric text message

Range: Up to 16 characters

Default: blank

Related Databases:

Required: 04.71 Text Message Duration; 14.01/15.01 Key Assignment.

Associated: 08.06 Text Message Group; 10.72, Element 2=3 Text Message Confirmation Tone;

26.01/27.01 Station Text Message.

Related Operation:

Text Messages

To select and send a text message to a busy or no answer system extension:

While calling a busy or idle extension

Press [TEXT MSG] + text message number (00-99), or [TEXT MSGn].

To select and send a manual signaling text message to another system extension:

Press [TEXT MSG] + text message number (00-99), or [TEXT MSGn].

Dial an extension number or press a DSS key or Call Coverage key

To respond to a text message while on a call:

While on a call with a text message on your display

Press [TEXT MSG] [*] + text message number (00-99) + [TEXT MSG].

Class 02 Item 20 – System Text Message (Cont.)

To delete a text message from your display:

While a text message is on your display press [TEXT MSG] + [#] + [*].

Stored Text Messages

To select and send a stored text message to another system extension:

While calling a busy or idle extension Press [TEXT MSG] + text message number (00-99), or [TEXT MSGn] Press [#]

To display a stored text message:

Press [TEXT MSG] + [#] to display a stored text message

To responded to a stored text message by calling the originating extension:

Press [TEXT MSG] + [#] to display the stored text message Press [#] a second time to call the station that sent the text message.

Scrolling and Selecting Text Messages

To scroll through the available system text messages:

Go off hook and press [TEXT MSG] + [*] + text message number (00-89) With a message displayed press [#] to scroll forward and [*] to scroll backward.

To scroll through the available personal text messages:

Go off hook and press [TEXT MSG] + [*] + text message number (90-99) With a message displayed press [#] to scroll forward and [*] to scroll backward.

Entering Personal Text Messages

To enter a personal text message:

Press [FEAT] + [TEXT MSG] + text message number (90-99) + text message data + [FEAT] Press the following keys for text message data entry:

Press	1	2	3	4	5	6	7	8	9	0	HOLD	#
1X		Α	D	G	J	М	Р	Т	W	Q	write character	lower case
2X		В	Ш	Н	K	Ν	R	כ	Χ	Z	cancel character	upper case
3X	sp	C	F		L	0	S	٧	Υ	&		
4X	1	2	3	4	5	6	7	8	9	0		

Clock and Calendar

Class 03 – Clock and Calendar contains two items that are used to set the time of day and calendar for the ADIX.

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Time of Day

Class 03 Item 01

Class 03 Item 01 – Time of Day is used to set the system clock. The ADIX will adjust for daylight savings time automatically in software versions 3.01 and higher. Use the attendant position to change the time of day.

Note: The time of day is set in Class 03.01 using military time. The ADIX will display the time of day using a twelve-hour clock that indicates AM or PM.

DSS Display

Class/Item	Element Field	Description	Data Field
03.01		Time Of Day (hh:mm)	00:00

Programming Field Description

Data Field: Meaning: Current time.

Range: 0000 to 2359 in military time

Default: **0000** = midnight

Related Databases:

Required: 04.25, Element 16 (Daylight Savings Time).

Associated: 02.07 Diagnostic Callout Time; 02.19 Time Zone; 04.50 Night Mode Start Time;

04.51 Auto CO Answer Start Time; 17.06 Route Table.

Calendar Class 03 Item 02

Class 03 Item 02 – Calendar is used to set the system date. The ADIX is equipped with a one hundred year calendar that starts on January 1, 1985 and ends on December 31, 2084. The calendar is automatically adjusted for leap year. Enter the current date in MM/DD/YY format. For example, to set the date as March 1, 1995 enter 03/01/95 in the data field.

DSS Display

Class/Item	Element Field	Description	Data Field	
03.02		Calendar (mm/dd/yy)	01/01/00	

Programming Field Description

Data Field: Meaning: Current date in MM/DD/YY format.

Range: 01/01/00 to 12/31/99

Default: **01/01/00**

Related Databases:

Required: None.

Associated: 02.18 Holiday List; 04.33 Auto Answer Day; Class 17 Optimized Routing.

Subsystem Constants

Use **Class 04 – Subsystem Constants** to program variables and functions such as system timers which will be applied throughout the ADIX. The following programming items are included in Class 04:

- 04.01 Name of Subsystem
- 04.02 Communication Port
- 04.03 Background Music Input Port
- 04.04 Background Music Output Port
- 04.05 Music on Hold Input Port
- 04.06 Pooled Modem
- 04.07 Wake-Up Call Report Port
- 04.08 Hold Recall Timer
- 04.09 Call-Back Duration
- 04.10 Timed Trunk Queuing
- 04.11 Off-Hook Trunk Queuing Duration
- 04.12 Camp-On Duration
- 04.13 Call Forward No Answer
- 04.14 Automatic CO Answer
- 04.15 Attendant DIL Intercept
- 04.16 Delayed Ringing Timer
- 04.17 Doorphone Answer Time
- 04.18 Reminder Ring Duration
- 04.19 LCD Duration

- 04.34 UCD Answer Time
- 04.35 Miscellaneous Function Port
- 04.36 Miscellaneous Relay Timer
- 04.37 Miscellaneous Function
- 04.38 Hunting Method in CO Line Group
- 04.39 DISA-ICM Call
- 04.40 DISA-Paging Call
- 04.41 DISA-Waiting Time
- 04.42 DISA-Total Duration
- 04.43 Remote CO Forward Incoming

Group

■ 04.44 – Remote CO Forward Outgoing

Group

■ 04.45 – Remote CO Forward Message

Number

- 04.46 Remote CO Forward Duration
- 04.47 Automatic Repeat Dial-Duration
- 04.48 Automatic Repeat Dial-Off Hook
- 04.49 Automatic Repeat Dial-Repetition

- 04.20 VSS Recording Time
- 04.21 Hunting Time
- 04.22 ICM Call Mode
- 04.23 Shift/Clear Call
- 04.24 Attendant Call Park Orbit
- 04.25 Calls for Pickup
- 04.26 Networking Plan
- 04.27 Station Password Digits
- 04.28 Hotel Mode
- 04.29 Dial Pulse SLT Consultation Hold
- 04.30 − Trunk-to-Trunk Hold
- 04.31 Night Mode Start Time
- 04.32 Automatic CO Answer Start Time
- 04.33 Automatic CO Answer Day

- 04.50 SMDR-Output Port
- 04.51 SMDR-Minimum Call Duration
- 04.52 SMDR-Incoming Call Report
- 04.53 SMDR-Toll Only Report
- 04.54 SMDR-Account Code Only (0-1)
- 04.55 True Attendant Position
- 04.70 Programming Reserve 1
- 04.71 CC/VM Data
- 04.72 Programming Reserve
- 04.76 Automatic Relay Activation Time
- 04.77 VM/AA Attendant Packet Codes
- 04.78 Programming Reserve 9
- E-Response Help Call LCD Display

Name of Subsystem

Class 04 Item 01

Class 04 Item 01 – Name of Subsystem is used to program a system name up to sixteen characters in length. The system name programmed in Class 04.01 is displayed on all stations equipped with a two-line LCD (figure 04.01) except IX-ATT console units.

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FIGURE 04.01 SUBSYSTEM NAME ON KT DISPLAY.

Note: You must reset the system to effect any change programmed in Class 04.01.

DSS Display

Class/Item	Element Field	Description	Data Field
04.01		Name Of Subsystem	

Programming Field Description

Data Field: Meaning: Name of subsystem.

Range: Up to **16** alphanumeric characters

Default: None

Related Databases:

Required: 01.02 Number of Subsystems.

Associated: None.

Related Operation:

System reset.

To enter an alphanumeric from a programming KT:

Press	1	2	3	4	5	6	7	8	9	0	SPKR	#	DEL
1X	-	Α	D	G	J	М	Р	T	W	О	write	lower case	delete
2X		В	Ε	Н	Κ	N	R	U	Χ	Z		upper case	character
3X	sp	С	F	Ι	L	0	S	V	Υ	&	Note: Press [Enter] to register	data data
4X	1	2	3	4	5	6	7	8	9	0		_	

Hardware Required:

Key Telephones with LCD displays.

(Not Used)

Class 04 Item 02

Class 04 Item 02 is not used.

Background Music (BGM) Input Port

Class 04 Item 03

Class 04 Item 03 – Background Music Input Port is used to define the logical input port of the background music circuit. The background music circuit is always the second physical circuit on the IX-MISC/EDVIF card. The logical port number entered in Class 04.03 must be based on the location of the IX-MISC/EDVIF card. For example, if the IX-MISC card used for background music is assigned miscellaneous logical port numbers 001-008, the background music input port must be the second circuit on the IX-MISC, or miscellaneous logical port number 002. Therefore, a value of 2 would be entered in Class 04.03.

Note: If the music source is connected to the BGM IN jack, it can be used as both the music on hold input and the background music input. This type of setup requires that the music on hold input port is assigned the same miscellaneous logical port number in *Class 04.05* as is assigned in class 04.03.

DSS Display

Class/Item	Element Field	Description	Data Field
04.03		BGM Input Port (0→448)	0

Programming Field Description

Data Field: Meaning: Miscellaneous logical port number for BGM.

Range: **0-448**

0 = the IX-HWCL/ IX-HWCE BGM input port is

being used

Default: 0

Related Databases:

Required: None.

Associated: 04.04 BGM Output Port; 04.05 MOH Input Port.

Related Operation:

To operate background music:

To play: Press [BGM] or [FEAT] + [6][2]

To cancel: Press [BGM] or [FEAT] + [0][6][2]

Use the KT ringer button to adjust background music volume.

Hardware Required:

IX-HWCL, IX-HWCE, IX-MISC, IX-EDCTU, IX-EDVIF.

Background Music (BGM) Output Port

Class 04 Item 04

Class 04 Item 03 – Background Music Output Port is used to define the logical output port of the background music circuit. Designating the background music output port gives you the option of allowing the ADIX to play background music through external paging speakers. The background music circuit is always the second physical circuit on the IX-MISC/EDVIF card. The logical port number entered in Class 04.04 must be based on the location of the IX-MISC/EDVIF card. For example, if the IX-MISC/EDVIF card used for background music is assigned miscellaneous logical port numbers 001-008, the background music output port must be the second circuit on the IX-MISC, or miscellaneous logical port number 002, therefore, a value of 2 would be entered in Class 04.04.

Note: The IX-MISC/EDVIF card contains one BGM output port per card. A system can have up to four BGM output ports one on each of four IX-MISC cards.

DSS Display

Class/Item	Element Field	Description	Data Field
04.04	<num1></num1>	BGM Output Port (0→448)	0

Programming Field Description

Element Meaning: Number of the IX-MISC card used for BGM output.

Field: Range: 1-4

Data Field: Meaning: Miscellaneous logical port number.

Range: **0-448**

 $\mathbf{0}$ = no output

Default: 0

Related Databases:

Required: 04.03 BGM Input Port.

Associated:

Related Operation

To setup the ADIX to have a background music output port:

- 1. Define the BGM output port as the second logical port on each IX-MISC/EDVIF card being used up to four cards.
- 2. Set SW3 on the IX-MISC card to the BGM amp position.

Hardware Required:

IX-MISC, IX-EDCTU, IX-EDVIF.

Music on Hold (MOH) Input Port

Class 04 Item 05

Class 04 Item 05 – Music On Hold Input Port is used to define the logical input port of the music on hold circuit. The music on hold circuit is always the third physical circuit on the IX-MISC card. This item applies only if Class 02.03 – Music On Hold Source Selection was set to external. The logical port number entered in Class 04.05 must be based on the location of the IX-MISC card. For example, if the IX-MISC card to be used for music on hold is assigned miscellaneous logical port numbers 001-008, the music on hold input port must be the third circuit on the IX-MISC, or miscellaneous logical port number 003, therefore, a value of 3 would be entered in Class 04.05.

Note: The MOH source is connected to the IX-CPU16M when installed in an ADIX-M system only.

If the music source is connected to the MOH IN jack, it can be used as both the music on hold input and the background music inputs. This type of setup requires that the music on hold input port is assigned to the same miscellaneous logical port number as the background music import (Class 04.03).

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.05		MOH Input Port (0→448)	0

Programming Field Description

Data Field: Meaning: Miscellaneous logical port number.

Range: **0-448**

0 = the IX-HWCL/IX-HWCE or IX-CPU16M

music on hold input port is being used

Default: 0

Related Databases:

Required: 02.03 Music On Hold Source Selection.

Associated: 04.03 BGM Input Port.

Related Operation:

System Hold, Exclusive Hold, Call Park.

Hardware Required:

IX-HWCL, IX-HWCE, IX-MISC, IX-EDCTU, CPU16M.

Pooled Modem Port

Class 04 Item 06

Class 04 Item 06 – Pooled Modem Port is used to define for data modules operation only the logical input and output ports for the pooled modem. The ADIX can have up to sixteen modem ports. Each IX-RCVPM card contains two pooled modem circuits. The logical port numbers assigned in Class 04.06 must be equal to either the first or fifth port of the IX-RCVPM card. If more than one pooled modem is used in the system, the first available modem with the lowest number will be accessed. For example, if an IX-RCVPM card with two pooled modems is installed in the first miscellaneous card slot and assigned miscellaneous logical port numbers 001-008, the following values would be programmed in Class 04.06:

[04.06 <NUM01> POOLED MODEM PORT (0-448) 001] [04.06 <<NUM02> POOLED MODEM PORT (0-448) 005]

Conditions:

- This program applies to IX-DMS (data module) operation only.
- You must reset the system to effect changes programmed in Class 04.06.
- The modem on the IX-RMPU card cannot be used as a pooled modem.

DSS Display

Class/Item	Element Field	Description	Data Field
04.06	<num01></num01>	Pooled Modem Port (0→448)	0

Programming Field Description

Element Meaning: Modem number.

Field: Range: 1-16

Data Field: Meaning: Miscellaneous logical port number of the pooled modem circuit.

Range: **0-448**Default: **0** (None)

Related Databases:

Required: 01.03 Port Definition.

Associated: 02.02 Modem Signal Output Level; 10.60 Data Module Link; 14.01 Key

Assignment ([V-Data Exchange] key/[Substitute] key).

Related Operations:

To place a data module call via PSTN lines:

At the command dial ATD CO group access number + dial character string; (CR)

To make a data module call to a KT or SLT:

At the command dial ATD dial character string; (CR)

Hardware Required:

IX-RCVPM, IX-12PMD/24PMD, IX-DMS.

Wake Up Call Report Port

(Software Versions 3.0 and Higher Only)

Class 04 Item 07

Class 04 Item 07 – Wake Up Call Report Port is used to specify the port of the serial printer to be used for the *Wake-Up Call History Report*. This port can be shared with the port enabled for *Station Message Detail Recording* in *Class 04.50 – SMDR Output Port*.

Either two IX-SCIF cards or one IX-EDVIF card and one IX-SCIF card must be installed in the system in order to separate the Wake-Up Call Report port from the Station Message Detail Recording port defined in Class 04.50.

DSS Display

Class/Item	Element Field	Description	Data Field
04.07		Wake Up Call Report Port (0→448)	0

Programming Field Description

Data Field: Meaning: Miscellaneous logical port number of the SMDR

printer.

Range: **0-448**

Default: **0** (Not used)

Related Databases:

Required: 01.03 Port Definition.

Associated: 04.28 Hotel Mode; 04.50 SMDR Output Port.

Related Operations:

Hotel/Motel features.

To program a wake up call:

At the dial tone:

[FEAT] + [4] [2] + *time*: *HH:MM*

Hardware Required:

IX-EDVIF, IX-SCIF. (An IX-HCIF can be used in place of a IX-SCIF card.)

Hold Recall Timer

Class 04 Item 08

Class 04 Item 08 – Hold Recall Timer is used to define the length of time a call will remain on hold. This timer is also used for Call Park and Group Park Call. The value entered denotes the length of time a call will remain on hold before the station that placed it on hold is recalled. A call placed on hold will recall the attendant if recall is not answered after the time programmed in *Class 04.15 – Attendant DIL Intercept* has elapsed.

Note: If a value of $\mathbf{0}$ – **No Recall** is entered in Class 04.08, a trunk line cannot be programmed to accept attendant intercept when recall occurs (Class 11.26).

DSS Display

Class/Item	Element Field	Description	Data Field
04.08		Hold Recall (0→255s)	180

Programming Field Description

Data Field: Meaning: Time in seconds before recall occurs.

Range: 0-255 seconds 0 = no recall

Default: 180 seconds

Related Databases:

Required: 10.37 Hold Recall.

Associated: 04.15 Attendant DIL Intercept, 04.55 True Attendant; 11.26 Attendant Intercept

Line.

Call Back Duration

Class 04 Item 09

Class 04 Item 09 – Call Back Duration is used to define the length of time call back ringing will be maintained after a line becomes available and the system calls the queuing station. The call back condition is canceled once the time set in Class 04.09 has elapsed.

DSS Display

Class/Item	Element Field	Description	Data Field
04.09		Call Back Duration (10→255s)	20

Programming Field Description

Data Field: Meaning: Length of time that ringing will be maintained after

call-back.

Range: 10-255 seconds
Default: 20 seconds

Related Databases:

Required: None.

Associated: 04.10 Timed Trunk Queuing; 10.19 Queuing Class.

Related Operations:

Busy Trunk Queuing, Busy Number Callback, Busy ICM Callback Queuing.

Timed Trunk Queuing

Class 04 Item 10

Class 04 Item 10 – Timed Trunk Queuing is used to define the length of time from the activation of the busy number callback feature until call back ringing is initialized. The system will redial the callback number when the duration programmed here expires. A busy callback ringing duration programmed at the KT during feature activation overrides the value programmed in this item.

DSS Display

Class/Item	Element Field	Description	Data Field
04.10		Timed Trunk Queuing (1→20m)	5

Programming Field Description

Data Field: Meaning: Length of time in minutes between activation of

busy number callback and call back.

Range: 1 to 20 minutes
Default: 5 minutes

Related Databases:

Required: None

Associated: 04.09 Call Back Duration; 10.19 Queuing Class.

Related Operation:

To program the KT for busy number callback:

When an outside number is busy or there is no answer:

- 1. While still off hook press [FEAT] + [2][4] or [Timed Trunk Queu]
- 2. Enter the desired callback interval in minutes (1-9)
- 3. Wait for the confirmation tone before hanging up

To cancel busy number callback:

At ICM dial tone press [FEAT] + [0][2][4] or [Timed Trunk Queu] + [*]

Off-Hook Trunk Queuing Duration

Class 04 Item 11

Class 04 Item 11 – Off-Hook Trunk Queuing Duration is used to define the length of time an extension is allowed to wait for an idle trunk. When the time programmed in Class 04.11 elapses, the station is removed from the queue.

DSS Display

Class/Item	Element Field	Description	Data Field
04.11		Off-Hook Trunk Queuing Duration	60

Programming Field Description

Data Field: Meaning: Length of time in seconds a station will remain in

the queue.

Range: 10 to 255 seconds

Default: **60** seconds

Related Databases:

Required: 10.20 Off-Hook Trunk Queuing.

Associated: 10.19 Queuing Class.

Related Operation:

Off-Hook Trunk Queuing.

Access Busy CO Line, remain off-hook.

Note: Stations programmed for this feature in *Class 10.20* will not hear a standard busy signal when accessing the busy CO.

Camp-On Duration

Class 04 Item 12

Class 04 Item 12 – Camp-On Duration is used to define the length of time the camp-on condition is maintained. When the time programmed in Class 04.12 elapses, a recall is made to the original station. At that time, if the line is enabled in *Class 11.26 – Attendant Intercept Line* for attendant intercept, if the original station does not answer the recall within the attendant DIL intercept time (programmed in *Class 04.15*), recall will be directed to the attendant station.

Conditions:

- The call forward no answer timer (*Class 04.13*) must be less than the camp-on duration timer for this feature to work. This is especially true when using fixed call forward to voice mail in the busy/no answer or no answer mode.
- Class 04.12 also applies to calls transferred to a UCD group.

DSS Display

Class/Item	Element Field	Description	Data Field
04.12		Camp-On Duration (0→255s)	60

Programming Field Description

Data Field: Meaning: Length of time in seconds the camp-on condition is

maintained.

Range: 0 to 255 seconds

0 = infinity

Default: **60** seconds.

Related Databases:

Required: None

Associated: 04.13 Call Forward – No Answer; 04.15 Attendant DIL Intercept; 11.26 Attendant

Intercept Line.

Related Operation:

Camp-On, Unscreened Transfer on CO and ICM lines.

Call Forward - No Answer

Class 04 Item 13

Class 04 Item 13 – Call Forward – No Answer is used to define the length of time a call will ring at one station without being answered before it is forwarded to another station.

Note: In software versions 4.0 and higher this parameter applies to both the call forward – no answer and fixed call forward – no answer features. An ICM voice call, however, will not be forwarded if it is not answered. In software versions before 4.0, if a station in the call forward – no answer mode receives an ICM voice call, the station user must either lift the handset or press the [SPEAKER] key to prevent the call from forwarding when the time programmed in Class 04.13 elapses.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.13		Call FWD. No Answer (0→255s)	12

Programming Field Description

Data Field: Meaning: Length of time in seconds before call forwarding

occurs at a ringing station.

Range: 0 to 255 seconds

 $\mathbf{0}$ = no call forwarding in the no answer mode.

Default: 12 seconds.

Related Databases:

Required: 10.16 Call Forwarding.

Associated: 10.73 Fixed FWD Mode/Manual FWD Mode; 10.78 Fixed Call Forward

Destination.

Related Operations:

To set call forwarding:

■ On All calls:

Dial [Speaker] + [FORWARD] + [#][#] + [1] (solid LED).

■ On Busy calls only:

Dial [Speaker] + [FORWARD] + [#][#] + [2] (flashing LED).

■ On No Answer calls only:

Dial [Speaker] + [FORWARD] + [#][#] + [3] (flashing LED on/off).

To set the destination extension:

Dial [SPEAKER] + [FORWARD] + *extension number*.

Automatic CO Answer

Class 04 Item 14

Class 04 Item 14 – Automatic CO Answer is used to define the length of time from incoming call detection to system answer. When automatic CO answer occurs, the ADIX plays a prerecorded message to the caller then disconnects the call.

Note: If the IX-MSGU card is not installed, or if all IX-MSGU ports are busy at the time of the call, the ADIX will not answer the call until an IX-MSGU port becomes available.

DSS Display

Class/Item	Element Field	Description	Data Field
04.14		Automatic CO Answer (5→255s)	16

Programming Field Description

Data Field: Meaning: Length of time in seconds before Automatic CO

Answer occurs.
5 to 255 seconds
16 seconds

Range:

Default:

Related Databases:

Required: 04.32 Auto CO Answer Start Time; 04.33 Auto CO Answer Day; 11.24 Auto

Answer Line; 11.45 Auto Answer MSG 1; 11.46 Auto Answer MSG 2.

Associated: 04.20 VSS Recording Time; 15.01 Attendant Key Assignment (Auto Answer key).

Related Operations:

To select an automatic answer message:

- 1. From an attendant position, go off-hook and wait for dial tone.
- 2. Do one of the following:
 - Dial [Automatic Answer] to select message 1.
 - Dial [Automatic Answer] [Automatic Answer] to select message 2.

Hardware Required:

IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Attendant DIL Intercept

Class 04 Item 15

Class 04 Item 15 – Attendant DIL Intercept is used to define the length of time DIL incoming calls will ring at the assigned ringing station(s) before being transferred to the attendant. The following conditions must exist before attendant DIL intercept occurs:

- Time programmed for this feature in Class 04.15 has elapsed.
- Incoming calls, hold recalls or camp-on recalls will change to attendant intercept calls if they are not answered within the time programmed in Class 04.15 from the time the call or recall begins.
- If the time programmed in *Class 04.16 Delayed Ringing Assignment* is greater than the time programmed in Class 04.15, the call will not change to the delayed ringing assignment, but will change to attendant intercept.
- The intercept timer for delayed ringing stations was initialized at the time primary ringing started.

Note: Attendant intercept will not operate when the system is in night mode.

DSS Display

Class/Item	Element Field	Description	Data Field
04.15		ATT DIL Intercept (0→255s)	60

Programming Field Description

Data Field: Meaning: Length of time in seconds before Attendant DIL

Intercept occurs.

Range: 0 to 255 seconds

 $\mathbf{0}$ = no attendant intercept

Default: **60** seconds

Related Databases:

Required: 04.55 True Attendant; 11.26 Attendant Intercept Line.

Associated: 04.08 Hold Recall; 04.12 Camp-On Duration; 04.16 Delayed Ringing; 08.05 UCD

Group.

Related Operations:

Attendant Intercept.

Delayed Ringing Timer

Class 04 Item 16

Class 04 Item 16 – Delayed Ringing Timer is used to define the length of time a call will ring at the DIL station(s) before it begins ringing at the station(s) specified for delayed ringing. When the ADIX is in day mode, if the time programmed in *Class 04.15 – Attendant DIL Intercept* is less than the time programmed in Class 04.16, the call will be forwarded to the attendant intercept destination bypassing the delayed ringing station. This timer affects the Call Forward – No Answer operation on a DIL to station call.

Note: In software versions 3.0 and higher, if Class 04.16 is set to **0** – **No delayed ringing**, and if any stations are assigned as delayed ringing stations in *Class 11.33*, all delayed ringing stations and stations programmed in *Class 11.32* – *Ringing Stations* will ring at the time a call is detected on a CO line. Thus, *Class 11.33* – *Delayed Ringing Station* can be used as an expanded table for specifying up to thirty-two DIL stations.

DSS Display

 Class/Item	Element Field	Description	Data Field
04.16		Delayed Ringing (0→255s)	30

Programming Field Description

Data Field: Meaning: Length of time in seconds before delayed ringing

occurs.

Range: 0 to 255 seconds

 $\mathbf{0}$ = no delayed ringing

Default: **30** seconds (60 software versions before 4.62/5.62)

Related Databases:

Required: 11.32 Ringing Station; 11.33 Delayed Ringing Station.

Associated: 04.15 Attendant DIL Intercept; 04.55 True Attendant; 11.26 Attendant Intercept

Line.

Related Operations:

Delayed Ringing.

Doorphone Answer Time

Class 04 Item 17

Class 04 Item 17 – Doorphone Answer Time is used to define the length of time after ringing starts during which a station can answer a doorphone. This timer also controls doorphone relay make time.

DSS Display

Class/Item	Element Field	Description	Data Field
04.17		Doorphone Answer Time (5-255s)	20

Programming Field Description

Data Field: Meaning: Length of time in seconds stations can answer a

doorphone call.

Range: 5 to 255 seconds
Default: 20 seconds

Related Databases:

Required: 10.57 Doorphone Ringing; 10.59 Doorphone Tone.

Associated: 04.35 Miscellaneous Function Port; 04.37 Miscellaneous Function; 10.58

Doorphone Relay.

Hardware Required:

IX-DPHM, IX-8PSUB, IX-DDPH.

Reminder Ring Duration

Class 04 Item 18

Class 04 Item 18 – Reminder Ring Duration is used to define the length of time that *time reminder* and *wake-up calls* will ring. Once this time has elapsed the call is canceled.

DSS Display

Class/Item	Element Field	Description	Data Field
04.18		Reminder Ring Duration (10→255s)	20

Programming Field Description

Data Field: Meaning: Length of time in seconds time reminder and wake-

up calls will ring.

Range: 10 to 255 seconds

Default: 20 seconds

Related Databases:

Required: None

Associated: 03.01 Time of Day; 03.02 Calendar; 04.28 Hotel Mode.

Related Operations:

Time Reminder:

ICM Dial Tone + [Reminder] or ([FEAT][4][1]) + (Military Time) + On-Hook.

Wake-Up Call:

ICM Dial Tone + [Wake-Up Call] or ([FEAT][4][2]) + (Military Time) + On-Hook

Related Hardware:

IX-MSGU, IX-CMSG, IX-CMSG-1.

LCD Duration

Class 04 Item 19

Class 04 Item 19 – LCD Duration is used to define the length of time the call duration counter of incoming and outgoing calls remains on the station LCD after the station goes on-hook. Once the time programmed in Class 04.19 has elapsed, the display returns to the idle mode.

Note: It is recommended that the LCD duration is set to a value no greater than sixty seconds to ensure the accuracy of this timer.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.19		LCD Duration (0→255s)	5

Programming Field Description

Data Field: Meaning: Length of time in seconds before LCD is reset to

idle after going on-hook

Range: **0-255** seconds up to software version 4.27

0 to 60 seconds software versions 4.30/530 and

higher

Default: 5 seconds

Related Databases:

Required: None

Associated: 11.06 Inter-Digit Time; 11.13 Sender Time Out.

Hardware Required:

Key telephones with LCD displays.

VSS Recording Time

Class 04 Item 20

Class 04 Item 20 – VSS Recording Time is used to establish the allowed recording time, between 1 and 120 seconds, for each custom message. Custom messages cannot be recorded unless a value greater than 0 is programmed in Class 04.20 for the corresponding message number. If the value remains 0, the ADIX uses the fixed message for the corresponding element. A value greater than 0 overrides the fixed message. Up to fifty-two custom messages can be recorded. Custom messages can only be recorded at an attendant position that has had a [Message Record] key assigned in Class 15.01 – Attendant Key Assignment.

Note: An IX-MSGU card is required to run this operation. The IX-CMSG/CMSG-1 card is required for customized recordings.

In software versions 3.0 and higher, elements 32, 59 and 60 are reserved for additional parameters for Uniform Call Distribution (UCD). These enhancements are not available for earlier ADIX software versions.

Element Number	Reserved for:
<msg31></msg31>	UCD First Message. This message is played to callers on hold after the UCD Message Interval has elapsed.
<msg32></msg32>	UCD Second Message. This message is played to callers on hold after the UCD Message Interval has elapsed. (There is no fixed message.)
<msg33> - <msg52></msg52></msg33>	Custom Message Reserve. Use elements 33-52 to define the recording time of each custom recorded message.
<msg58></msg58>	SLT Predial Timer. When an SLT seizes a trunk, the system will not provide an audio path until this timer expires. This is useful to prevent toll fraud by single-line telephones.
<msg59></msg59>	UCD Message Interval is used to assign an interval time in seconds between VSS messages that are played back to the outside caller. The interval timer begins at the start of UCD Message No. 1. When the timer expires, UCD Message No. 2 begins. The interval timer begins again at the start of UCD Message No. 2. When the timer expires, UCD Message No. 2 will replay. This then establishes a timing loop to replay UCD Message No. 2 continuously (until the disconnect time causes CO disconnect).
<msg60></msg60>	UCD Disconnect Time is used to define the time in minutes after which a call waiting on a UCD group will be disconnected if not answered. The disconnect time begins when the call is detected by the ADIX.

The Fixed Messages Table on page 6-106 lists the available message numbers and the prerecorded message for each.

Class 04 Item 20 – VSS Recording Time (Cont.)

DSS Display

Class/Item	Element Field	Description	Data Field
04.20	<msg01></msg01>	VSS Recording Time	0

Programming Field Description

Element Meaning: Message number.

Field: Range: 1-60

Data Field: Meaning: Maximum time in seconds allotted to record each

custom message.

Note: For <MSG60> only, input is in minutes.

Range: 0 to 120 seconds. (0-360 if an IX-CMSG-1 card is

installed.)

0=Fixed Message (ROM)

Default: 0

Related Databases:

Required: 15.01 Attendant Key Assignment (VSSR).

Associated: 04.45 Remote CO Forward Message Number; 08.05 UCD Hunt Group; 11.45

Auto Answer MSG 1; 11.46 Auto Answer MSG 2; 11.48 DISA Message Number.

Related Operations:

CO Automatic Answering, UCD, DISA, Wake-Up Call, Remote CO Forward, VSS Recording.

- To record a message (from attendant position with [Message Record] key):
 - 1. Wait for dial tone.
 - 2. Dial [Message Record] + message number (01-52) + record message + [#]
- To listen to a custom message (from attendant position with [Message Record] key):
 - 1. Wait for dial tone.
 - 2. Dial [Message Record] + [#] + message number (01-52)

Hardware Required:

IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Class 04 Item 20 – VSS Recording Time (Cont.)

Fixed Messages Table

Message Number	Type of Message	Prerecorded Message
<msg01></msg01>	Variable (general Information, quick reference, etc.).	No prerecorded message.
<msg02></msg02>	DISA (1)	This is the Direct Dial in Service. If you are calling from a touch tone telephone and know the party's extension number, please dial it after the tone. If you need assistance, please stay on the line and an operator will assist you.
<msg03></msg03>	DISA (2)	This is the Direct Dial in Service. If you are calling from a touch tone telephone and know the party's extension number, please dial it after the tone. We are sorry, but no collect calls can be accepted. If you need assistance, please stay on the line and an operator will assist you.
<msg04></msg04>	DISA (3)	DISA confirmation tone.
<msg05></msg05>	DISA Acknowledgment	Reserved.
<msg06> to <msg09></msg09></msg06>	Auto Answer Message 1	Our offices are now closed. Please call again during our regular business hours. Thank you.
<msg10> to <msg13></msg13></msg10>	Auto Answer Message 2	Our offices are closed today. Please call again during our regular business hours. Thank you.
<msg14> to <msg17></msg17></msg14>	Remote Call Forward	This is the remote call forwarding service. A call is being forwarded to you. Please stay on the line.
<msg18></msg18>	DISA – Busy Station	The station you have reached is now busy.
<msg19></msg19>	DISA – Number is not in use	The number you have dialed is not in service. Please check the number and dial again. Thank you.
<msg20></msg20>	DISA DND Station	The station you have called is not accepting calls at this time. Please call again later. Thank you.
<msg21></msg21>	DISA – Absence Message	There is no answer at the station you have called. Please try again later. Thank you.
<msg22></msg22>	UC & LC (Wake-Up call time entry	This is the wake-up call service. Please dial the digits for the time you wish to be called using the 24-hour clock.
<msg23></msg23>	Wake-Up Call Announcement	This is your wake-up call service. Have a nice day.
<msg24></msg24>	VSS Recording Prompt (using VSSR key)	Please leave your message after the tone.
<msg25></msg25>	VSS Recording Cancel (using VSSR key)	Your previous message has been canceled.
<msg26></msg26>	VSS Recording Channel Busy (using VSSR key)	Our message service is busy now. Please try again later. Thank you.
<msg27></msg27>	VSS Recording Acknowledgment	Your message has been sent. Thank you.
<msg28></msg28>	VSS Variable Message Playback	Your message has been recorded as follows
<msg29></msg29>	VSS Request Acknowledgment	Your request has been accepted.
<msg30></msg30>	VSS Cancel Request	Your request has been canceled.
<msg31></msg31>	UCD Answer	We are sorry, all our operators are busy now. Your call will be answered as soon as an operator becomes available. Please stay on the line. Thank you.
<msg32>*</msg32>	UCD Second Message	No prerecorded message.
<msg33> to <msg52></msg52></msg33>	Custom Recorded Messages	None.
<msg58>*</msg58>	SLT Predial Timer	Not applicable.
<msg59>**</msg59>	UCD – Interval Between Messages	Not applicable.
<msg60>**</msg60>	UCD – Disconnect Timer	Not applicable.

^{*} Available with software versions 4.0 and higher only

^{**} Available with software versions 3.0 and higher only.

Hunting Time

Class 04 Item 21

Class 04 Item 21 – Hunting Time is used to define the length of time a hunt call will ring at each station before it is forwarded to the next station in the hunt group.

Note: For detailed information regarding hunt group programming see *Chapter 3 – Station Hunt Groups*. For detailed information regarding Uniform Call Distribution programming refer to *Chapter 3 – Uniform Call Distribution*.

DSS

Class/Item	Element Field	Description	Data Field
04.21	<grp01></grp01>	Hunting Time (0→255s)	12

Programming Field Description

Element Meaning: Hunt group number.

Field: Range: 1-60

Data Field: Meaning: Time in seconds before a call moves to the next

station in a hunt group.

Range: 0 to 255 seconds

 $\mathbf{0}$ = no hunting

Default: 12

Related Databases:

Required: 07.02 Hunting Group Access No.; 08.01 Hunt Group – Type; 08.02 Hunt Group –

Station; 11.34 DIL to Hunt Group.

Associated: 04.12 Camp-On Recall; 04.15 Attendant Intercept; 04.20 VSS Recording Time;

04.34 UCD Answer; 08.03 Hunt Group – ID; 08.05 UCD Hunt Group; 11.23 UCD

Line; 11.72 Overflow (software versions 4.0 and higher only).

Related Operations:

Incoming call on a UCD line; hunt group line.

To transfer a call to a hunt group:

- 1. Wait on call press [TRAN].
- 2. Dial hunt group number then hang up

ICM Call Mode

Class 04 Item 22

Class 04 Item 22 – ICM Call Mode is used to determine which station – either the *calling station* or the *called station* – has the ability to change the ICM calling mode. The station defined in Class 04.22 as the call mode station (calling station or called station) can determine whether the call mode is *tone* or *voice*. If the data field is set to 0 – Called party control and the station has been set to receive voice calls, the calling station can toggle the call from voice to tone. Called party control does not take effect until the station user enters [FEAT] + [6][5]. The table below further illustrates tone/voice control:

04.22 ICM Call Mode	10.48 Calling Mode	Primary Call Mode	Call Mode Change Operation
Calling Party 1	Voice 0 Tone 1	Voice or Tone	The calling extension can alternate between <i>tone</i> and <i>voice</i> by pressing [#].
Called Party 0	Not Applicable	Voice	The calling extension can alternate between <i>tone</i> and <i>voice</i> by pressing [#].
		Tone	The calling extension cannot change the calling mode. The station can receive tone calls only.

Note: If **0** is assigned as the value in Class 04.22, *voice announce* on E&M tie lines is also enabled.

DSS Display

Class/Item	Element Field	Description	Data Field
04.22		ICM Call Mode (0→1)	1

Programming Field Description

Data Field: Meaning: Toggle between *Called Party Control* and *Calling*

Party Control.

Range: 0 = called party control

1 = calling party control

Default: 1

Related Databases:

Required: 10.48 Calling Mode.

Associated: None.

Related Operation:

To change the call mode at the receiving station:

1. Dial [FEAT] + [6][5].

Shift/Clear Call

Class 04 Item 23

Class 04 Item 23 – Shift/Clear Call is used to select either *shift call*, *clear call* or *no feature* for ICM dialing. If *shift call* is selected, a station making an ICM call to an extension which is busy or does not answer can call another extension without going on hook by dialing the last digit of the new extension number. If *clear call* is selected, the station can call another extension without going on hook but must redial the entire new extension number. If *no feature* is selected, the station must manually go on-hook, then dial the new extension number.

DSS Display

Class/Item	Element Field	Description	Data Field
04.23		Shift/Clear Call (0→2)	0

Programming Field Description

Data Field: Meaning: Toggle between *shift call, clear call* and *no feature*.

Range: 0 = no feature

1 =shift call

2 = clear call

Default: **0**

Related Databases:

Required: None. **Associated:** None.

Attendant Call Park Orbit

Class 04 Item 24

Class 04 Item 24 – Attendant Call Park Orbit is used to define the *call park orbit number(s)* as either *attendant use only* or *system use*. Each system can use a total of sixty call park orbit numbers. In default, all sixty orbit numbers are assigned for attendant use only. If a call park orbit number is assigned for system use in this item, any station can park a call there. A station can pick up a call in the attendant call park orbit by dialing the park orbit number if one has been assigned in *Class 07.01 – Park Orbit Number*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.24	<num01></num01>	ATT Call Park Orbit	1

Programming Field Description

Element Meaning: Call park orbit number.

Field: Range: 1-60

Data Field: Meaning: Toggle between *System Use* (group park) and

Attendant Use of call park orbit numbers.

Range: 0 = system use

1 = attendant use

Default: 1

Related Databases:

Required: 07.01 Park Orbit Number.

Associated: 04.25 Element 6; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

Attendant Page Park, System/Group Park.

Calls for Pickup (Elements 1-4)

Class 04 Item 25

Class 04 Item 25 – Calls for Pickup (Elements 1 – 4) is used to determine the different types of calls a pickup group can access. Call pickup groups are defined in *Class 10.51*.

Note: In software versions 3.0 and higher, Class 04.25 contains ten additional elements (elements 6 - 16) which are used to program various system features. See *Class 04 Item 25 (Elements 5 -16)* for a description of these features.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.25	<num01></num01>	Calls for Pickup (0→1)	0

Programming Field Description

Element Meaning: Call types for pickup.

Field: Range: **1** = incoming CO calls for pickup

2 = incoming ICM calls for pickup3 = camp-on CO calls for pickup

4 = recalls for pickup

Data Field: Meaning: Toggle between *allow/do not allow* call pickup for

the specified call type.

Range: 0 = do not allow pickup

1 = allow pickup

Default: 1

Related Databases:

Required: 10.51 Call Pickup Group.

Associated: 10.22 Incoming CO Access Group; 11.43 Incoming CO Access Class; 11.44

Access Group Number.

Related Operation:

Internal Group Call Pickup: [FEAT] + [3][1], or [Call Pickup In]

External Group Call Pickup: [FEAT] + [3][2] + Group No., or [Call Pickup Out] + Group No.

Directed Call Pickup: [FEAT] + [3][3] + Ext. No., or [Spec. Call Pickup] + Ext. No.

Busy Bypass Tone Calling: [ICM] + Ext. No. - Busy bypass ringing

Class 04 Item 25 (Elements 5 – 16)

(Software Versions 3.0 and Higher Only)

Class 04 Item 25

Class 04 Item 25 – (Elements 5 - 16) is used to determine the operation of various system features. The function of each of these elements and the operation they define is described below:

Element < NUM05>

Element < NUM05> is reserved for future use.

Element < NUM06>

Element < NUM06> is used to program call park for ICM calls.

Data Field Entry: 0 = no call park

1 = call park (default)

Element < NUM07>

Element <NUM07> is used to enable or disable the floating CO line access feature and multiple CO line access feature.

Data Field Entry: 0 = enable (default)

1 = disable

Element < NUM08> & < NUM09>

Elements <NUM08> (ICM Calls) and <NUM09> (CO Calls) are used to select whether the system will allow busy bypass calling (busy override) and camp on calls for CO/ICM calls in progress.

Data Field Entry: 0 = do not allow

1 = allow (default)

Elements <NUM08> and <NUM09> have a default value of 1. Stations enabled to send busy bypass signaling in *Class 10.41 – Busy Overriding* and stations that are assigned an override key can perform busy bypass tone calling regardless of the values entered in Class 04.25 elements 8 and 9. The table below illustrates the relationships between these two elements:

•	stem is med for:	And the called station is programmed for:	Then, busy bypass tone calling will operate based on the following programming for the calling station:		
04.25 <num08></num08>	04.25 <num09></num09>	10.43 Off-Hook Signaling	10.41 Busy Overriding set to 0—Denied .	10.41 Busy Overriding set to 1–Allowed .	[Over Ride] key assigned in 14.01/15.01.
Denied	Denied	Allowed to receive	No bypass signal - Busy status indication	Busy Bypass signaling will be sent regardless	Busy Bypass signaling will be sent regardless
Denied	Denied	Denied receiving	No bypass signal - Busy status indication	of other programmed items.	of other programmed items.
Allowed	Denied	Allowed to receive	Busy bypass signaling on ICM call only		
Allowed	Denied	Denied receiving	No bypass signal - Busy status indication		
Denied	Allowed	Allowed to receive	Busy bypass signaling on CO calls only		
Denied	Allowed	Denied receiving	No bypass signal - Busy status indication		
Allowed	Allowed	Allowed to receive	Camp-On signaling on ICM and CO calls.		
Allowed	Allowed	Denied receiving	No bypass signal - Busy status indication		

Class 04 Item 25 – (Elements 5 – 16) (Cont.)

Element < NUM10>

Element <NUM10> is used to determine the unit of time used in *Class 04.51 – SMDR – Minimum Call Duration*. Refer to Class 04.51 for detailed information.

Data Field Entry: 0 =use minutes

1 = use seconds

Element < NUM11>

Element < NUM11> is used to enable or disable single-line telephones to flash on CO calls. This feature is available for software versions 3.03 and higher.

Data Field Entry: 0 = enable

1 = disable

Element < NUM16>

Element <NUM16> is used to identify if daylight savings time is used. At default, the ADIX will adjust automatically for daylight savings time.

Data Field Entry: 0 = daylight savings time is used

1 = daylight savings time is not used (default)

Networking Plan

Class 04 Item 26

Class 04 Item 26 – Networking Plan is connected to Class 07 Item 05 – Network Access Number by matching the element number of both items. When a user dials out on an intercom line, the ADIX checks if the starting digit(s) match the number assigned in Class 07.05. If a match is found, the ADIX will wait for the total digits defined in Class 04.26, data field 1 (excluding the network access code) to be dialed. Once the call is connected to the trunk group assigned in Class 04.26, data field 2, the network access number is deleted. At that time the dial data digits (Class 04.26, data field 3) are sent out to the line. If an automatic pause time is programmed in Class 11.14, it is inserted after the network access code. For example, if the following data is programmed in Class 07.05 and Class 04.26:

[07.05 < NUM01> PBX - NETWORK ACC. NO.: 2] [04.26 < NUM01> NETWORKING PLAN : 3-06-10567]

When a station dials the digits ICM 2476, the call seizes a trunk in trunk group 6 and dials out using the digits 10567476.

Note: To enter a pause as part of the dialed number, press [PAUSE], then enter the number (0-9) that corresponds to the desired pause time in seconds.

DSS Display

Class/Item	Element Field	Description	Data Fields
04.26	<num01></num01>	Networking Plan	00-00-

Programming Field Description

Element Meaning: Conversion Table Number.

Field: Range: **1-60** (00-32 before version 4.30/5.30)

Data Field 1 Meaning: Total number of digits an extension dials excluding the

(d1): network access code. This entry must match exactly

the number of digits dialed by the user.

Range: **00-60** (00-32 before version 4.30/5.30)

Default: 00

Data Field 2 Meaning: Trunk group number to be used for network dialing.

(d2): Range: 00-60 (00-32 before version 4.30/5.30)

Default: 00

Data Field 3 Meaning: Dial data added before the dialed number goes out on

(d3): the CO line.

Range: Up to **24** digits. Acceptable digits are **0-9**, *, #,

[PAUSE], [FLASH] and [NULL]

Default: blank

Class 04 Item 26 – Networking Plan (Cont.)

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 07.05 Network Access Number.

Associated: 11.14 Automatic Pause Time; 11.38 Outgoing CO Group.

Related Operation:

Networking.

To transfer an E&M call to a remote station:

Dial [TRAN] + network access number + extension number.

Hardware Required:

IX-4EMTK, IX-4RCVS, IX-T1DTI, IX-T1RCV, IX-DCDCA, IX-DCDCB.

PBX Network Operation Conditions:

- VMI
- FAC
- FLASH
- No centralized voice mail integration.
- No centralized SMDR.

Station Password Digits

Class 04 Item 27

Class 04 Item 27 – Station Password Digits is used to define the number of digits used for station passwords. The personalized password disables an unattended station from using the outgoing call features. This password is also used by the station user to access system features through DISA.

DSS Display

Class/Item	Element Field	Description	Data Field
04.27		Station Password Digits (1→6)	4

Programming Field Description

Data Field: Meaning: Number of digits for the station password.

Range: 1-6
Default: 4

Related Databases:

Required: 10.05 Station Password. **Associated:** 10.06 DISA Service.

Related Operation:

Station Restriction Password, DISA.

To register a station lock:

Dial [ICM] + [FEAT] + [4][4] + password or [Station Lockout] + password

To cancel station lock:

Dial [ICM] + [FEAT] + [0] + [4][4] + password or [Station Lockout] + password

DISA Access:

At DISA Answer dial [*] + extension number + password. Wait for ICM dial tone.

Hotel Mode Class 04 Item 28

Class 04 Item 28 – Hotel Mode is used to toggle between *normal mode* and *hotel mode*. When hotel mode is selected, DSS consoles have room indicators on their Busy Lamp Field (BLF) units. The differences between hotel mode and normal mode are as follows:

- In hotel mode, an attendant position equipped with a KT + DSS unit will display the room status on the BLF unit.
- If a station is set as "occupied" by the attendant, the station is not restricted from making outgoing calls. If a station is set as "vacant" by the attendant, the station is restricted from making outgoing calls.

Note: All hotel/motel features including nine room status displays, room status changes from a guest extension and wake-up call reports are available with software versions 3.0 and higher only.

Important: A reset is required to effect the changes programmed in Class 04.28.

DSS Display

Class/Item	Element Field	Description	Data Field
04.28		Hotel Mode (0→1)	0

Programming Field Description

Data Field: Meaning: Toggle between *normal mode* and *hotel mode*.

Range: 0 = normal mode1 = hotel mode

Default: **0**

Related Databases:

Required: 15.01 Attendant Key Assignment.

Associated: 04.07 Wake Up Call Reports; 07.06 Feature Access Number; 10.45 Message

Waiting.

Related Operation:

Hotel/Motel Features.

Message Waiting Control:

At ICM dial tone press: [Message Wait CNT] + [Connect]

Room Status Change:

From guest room: At ICM dial tone enter the *status feature code* From DSS Unit: At ICM dial tone press [STATUS] + *number*

To program a wake-up call:

At ICM dial tone press: [FEAT] + [4][2] + extension number + time in hours/minutes

Hardware Required:

KT + DSS units, IX-8SUBM (for message waiting), IX-DCDCA.

Dial Pulse SLT Consultation Hold

Class 04 Item 29

Class 04 Item 29 – Dial Pulse SLT Consultation Hold is used to determine how a dial pulse single-line telephone (SLT) will place a CO call on consultation hold. The two consultation hold options available are:

- Calls are placed on consultation hold when the dial pulse SLT performs a hookswitch flash.
- Calls are automatically placed on consultation hold when the dial pulse SLT dials an extension number.

If a single-line telephone uses DTMF, it must always perform hookswitch flash to place a call on consultation hold.

Note: If a value of **1** (extension number dialing) is selected in Class 04.29, only incoming calls or transferred calls can be placed on consultation hold by dialing on a dial pulse SLT. Hookswitch flash must be performed to place outgoing calls and ICM calls on hold.

DSS Display

Class/Item	Element Field	Description	Data Field
04.29		DP-SLT Consultation Hold (0→1)	0

Programming Field Description

Data Field: Meaning: Toggle between *hookswitch flash* and *dial* modes

to place an incoming CO call on consultation hold

from a dial pulse SLT.

Range: 0 = hookswitch flash mode

1 = dial mode

Default: 0

Related Databases:

Required: 01.04 Configuration; 10.10 Hookflash Timing; 10.46 Hookswitch Flash.

Associated: None.

Related Operation:

Consultation Hold, Call Transfer, Camp-On.

Hardware Required:

IX-8SUBS, IX-8SUBM, IX-4SUBL, Single-Line Telephones, IX-DCDCA, IX-8SUBS-1, IX-8SUBS-2.

Trunk-to-Trunk Hold

Class 04 Item 30

Class 04 Item 30 – Trunk-to-Trunk Hold is used to define the hold status of CO lines engaged in a trunk-to-trunk conference. For example, if a value of 1 – exclusive hold is programmed for this item, only the station that activated the trunk-to-trunk conference can access the conference to create a multiline conference. If a value of 0 – system hold is programmed for this item, any station can pickup the conference.

DSS Display

C	lass/Item	Element Field	Description	Data Field
	04.30		Trunk to Trunk Hold $(0 \rightarrow 1)$	1

Programming Field Description

Data Field: Meaning: Toggle between system hold and exclusive hold to

define access to trunk-to-trunk conferences on

hold.

Range: $\mathbf{0}$ = system hold

1 =exclusive hold

Default: 1

Related Databases:

Required: 01.04 Configuration.

Associated: 02.10 Line Monitor Guard Time; 02.11 Line Interrupt Tone Duration; 02.12 Line

Interrupt Tone Repetition; 02.13 Line Interrupt Tone Allowance; 02.14 Line Continuous Tone Duration; 02.15 Line Silence Duration in Seconds; 02.16 Line

Silence - Noise Allowance.

Related Operation:

Trunk-to-Trunk Conference: [HOLD/DND]. Multitrunk Conference: [HOLD/DND] + [ADD].

Hardware Required:

IX-4TRAN.

Night Mode Start Time

Class 04 Item 31

Class 04 Item 31 – Night Mode Start Time is used to set the time of day when the system will automatically switch to night mode. The ADIX can also be manually switched to night mode at the attendant station. Manual operation has priority over automatic operation. Regardless of how the system is switched to night mode, it must always be switched back to day mode manually using the [Night Change] button.

DSS Display

Class/Item	Element Field	Description	Data Field
04.31		Night Mode Start Time	:

Programming Field Description

Data Field: Meaning: Set the time using military time at which the

system will automatically switch to night mode.

Range: 00:00 - 23:59

Default: None (no automatic switching)

Related Databases:

Required: 03.01 Time of Day.

Associated: 10.23 Toll Restriction Class; 11.27 UNA Line; 11.28 UNA Relay Number; 11.32

Ringing Station; 11.34 DIL to Hunt Group; 15.01 Attendant Key Assignment.

Related Operation:

Night Mode, Universal Night Answering, Station Class of Service.

To manually place the system in night mode:

Press [SPKR] + [Night Change] and wait for the confirmation tone.

To take the system out of night mode:

Press [SPKR] + [Night Change]. After the confirmation tone the [Night Change] button LED turns off.

Hardware Required:

IX-MISC, IX-EDCTU (if an external ringer or remote relay control in night mode is desired), IX-EDVIF.

Automatic CO Answer Start Time

Class 04 Item 32

Class 04 Item 32 – Automatic CO Answer Start Time is used to set the time of day when the system will automatically switch to *automatic answer mode*. The ADIX is setup at default to play voice message 1 to outside callers when in automatic answer mode. Use Class 04 Item 33 – Automatic CO Answer Day to program the days on which voice message 2 will be played. If an IX-MSGU card is not installed this feature will not work. If an IX-MSGU port is not available at the time of a call, the ADIX will not answer the call until an IX-MSGU port becomes available.

Note: Automatic CO answer mode can also be activated manually using the attendant [Automatic Answer] key.

DSS Display

Class/Item	Element Field	Description	Data Field
04.32		Auto. CO Answer Start Time	:

Programming Field Description

Data Field: Meaning: Set the time using military time at which the

system will automatically switch to Auto CO

Answer mode.

Range: **00:00 – 23:59**

Default: None

Related Databases:

Required: 03.01 Time of Day; 04.33 Automatic CO Answer Day; 11.24 Automatic Answer

Line; 11.45 Auto Answer Message 1; 11.46 Auto Answer Message 2; 14.01 Key

Assignment; 15.01 Attendant Key Assignment [Automatic Answer].

Associated: 04.14 Automatic CO Answer; 04.20 VSS Recording Time.

Related Operation:

To manually switch to Auto CO Answer mode from the Attendant position:

At ICM dial tone press [Automatic Answer] once to display and multiple times to toggle between voice message 1, voice message 2 and off.

Hardware Required:

Automatic CO Answer Day

Class 04 Item 33

Class 04 Item 33 – Automatic CO Answer Day is used to select up to four days of the week when the ADIX will automatically use voice message 2 when answering calls in automatic CO answer mode. The auto answer day begins at 12:00 a.m. on the days programmed in Class 04.33. Class 04.33 will not work unless Class 04.32 – Automatic CO Answer Start Time is programmed. If an IX-MSGU card is not installed this feature will not work. If an IX-MSGU port is not available at the time of a call, the ADIX will not answer the call until a MSGU port becomes available.

DSS Display

	Class/Item	Element Field	Description	Data Field
I	04.33	<num1></num1>	Auto. CO Answer Day	

Programming Field Description

Element Meaning: Auto CO Answer Day.

Field: Range: 1-4

Data Field: Meaning: Select a day of the week in which voice message 2

will be played in automatic CO answer mode.

Range: 0=Sunday 1=Monday

2=Tuesday 3=Wednesday 4=Thursday 5=Friday

6=Saturday

Default: blank

Related Databases:

Required: 03.01 Time of Day; 03.02 Calendar; 04.14 Automatic CO Answer; 04.32

Automatic CO Answer Day; 11.24 Automatic Answer Line; 11.46 Auto Answer

Message 2.

Associated: 04.14 Automatic CO Answer 04.20 VSS Recording Time; 15.01 Attendant Key

Assignment.

Related Operation:

To manually switch to Auto CO Answer mode from the Attendant position:

At ICM dial tone press [Automatic Answer].

Hardware Required:

UCD Answer Time

Class 04 Item 34

Class 04 Item 34 – UCD Answer Time is used to define the duration between the time a UCD line detects an incoming signal and the ADIX answers the call. For example, if the default value of 16 seconds is programmed in Class 04.34, the call will be answered and the UCD message is played 16 seconds after the system detects an incoming UCD call. During that interval the caller continues to hear ringback tone. This feature is only available if an IX-MSGU card is installed. If an IX-MSGU port is not available at the time a call is received, the system will wait 16 seconds then check for an available IX-MSGU port. When the system is in night mode UCD is not operational.

In software versions 3.0 and higher, the length of time between messages is programmable. A second message can also be programmed for software versions 3.0 and higher. In software versions 4.0 and higher, UCD overflow parameters and a UCD disconnect time can be programmed.

Note: For detailed information regarding UCD programming refer to *Chapter 3 – Uniform Call Distribution*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.34		UCD Answer (10→255s)	30

Programming Field Description

Data Field: Meaning: Time in seconds before a UCD call will be

answered by the system.

Range: **10-255** seconds
Default: **16** seconds

Related Databases:

Required: 08.05 UCD Hunt Group.

Associated: 04.20 VSS Recording Time; 08.01 Hunt Group – Type; 08.02 Hunt Group –

Station; 08.03 Hunt Group – ID; 08.05 UCD Hunt Group; 11.26 Attendant Intercept Line; 11.32 Ringing Station; 11.34 DIL Hunt Group; 11.72 UCD

Overflow (version 4.0 and higher).

Related Operation:

UCD.

Hardware Required:

Miscellaneous Function Port

Class 04 Item 35

Class 04 Item 35 – Miscellaneous Function Port is used to define the relay or sensor locations for each system. Up to thirty-two relays or sixteen sensors are allowed per system. The relay control is always the fourth circuit of the IX-MISC/EDVIF card. Control for the sensor logical port is always the fifth port on the IX-MISC/EDVIF card. Each miscellaneous card contains relays and sensors. Some relay circuits are used for relays only. Some relay circuits can be used for either relays or sensors. Switches must be set on the IX-MISC/EDVIF card for relay and/or sensor use.

DSS Display

Class/Item	Element Field	Description	Data Fields d1-d2
04.35	<rly01></rly01>	MISC Function Port	00-1

Programming Field Description

Element Meaning: Relay or sensor number.

Field: Range: 1-32

Data Field 1 Meaning: Miscellaneous logical port of relay or sensor.

(d1): Range: 0-448

Default: 00

Data Field 2 Meaning: Relay or sensor number on the miscellaneous

(d2): logical port.

Range: 1-8

Default: 1

Related Databases:

Required: 04.37 Miscellaneous Function.

Associated: 01.03 Port Definition; 01.04 Port Configuration; 04.36 Miscellaneous Relay Timer;

14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

Remote Control Relay: [$\underline{Relay n}$] (n = 1-32)

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

Miscellaneous Relay Timer

Class 04 Item 36

Class 04 Item 36 – Miscellaneous Relay Timer is used to define the length of closure that relays defined as *one-shot* relays in *Class 04 Item 37 – Miscellaneous Function* will operate.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.36		MISC Relay Timer (10→255ms)	100

Programming Field Description

Data Field: Meaning: Time in milliseconds a one-shot relay will remain

closed during operation.

Range: **10-255** (x 100 milliseconds)
Default: **100** (x 100 milliseconds)

Related Databases:

Required: 04.35 Miscellaneous Function; 04.37 Miscellaneous Function – Relay Function 2.

Associated: 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

Remote Control Relay: [Relay n] (n = 1-32)

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

Miscellaneous Function

Class 04 Item 37

Class 04 Item 37 – Miscellaneous Function is used to define the function of each relay and sensor on the IX-MISC card. Use the table below for data entry:

Relay/Sensor Function Number		Function	Description
0	Relay	Loud Ringer	Day Bells. 1 second on, 3 seconds off/day and night.
1	Relay	Relay Control	Push ON/OFF. A [Relay n] key must be assigned to activate this relay.
2	Relay	One-Shot Relay	A one-shot relay can be assigned to operate with a specific doorphone in <i>Class</i> 10.58 – Doorphone Relay. This relay operates only when the doorphone is in use. A [Relay n] key must be assigned to activate this relay.
3	Relay	Doorphone Relay	A doorphone relay can be assigned to operate with a specific doorphone in Class 10.58 – Doorphone Relay. This relay operates only when the doorphone is in use. This relay also provides a make contact for video camera control. The doorphone relay will make when the doorphone call button is activated and will open when the called station goes on-hook or the doorphone answer time programmed in Class 04.17 has elapsed.
4	Relay	Night Relay	Operates when the system is in the night mode.
5	Relay	UNA Relay	Works the same as a loud ringer. Functions only when in night mode.
10	Sensor	Manual Night Switch	Relays 5-8 – Closed = Night. Open = Day
11	Relay	Queue Threshold Indication	ACD Systems Only. See Class 19.12 in the ADIX ACD Technical Manual for more information
12	Relay	Expansion	ACD Systems Only. See Class 19.12 in the ADIX ACD Technical Manual for more information
13	Relay	Emergency Record	ACD Systems Only. See Class 19.12 in the ADIX ACD Technical Manual for more information

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.37	<rly01></rly01>	MISC Function (0→30)	0

Programming Field Description

Element Meaning: Relay or Sensor number.

Field: Range: 1-32

Data Field: Meaning: Relay assignment.

Range: **0-5, 10** (see table above)

Default: **0** (loud ringer)

Related Databases:

Required: 04.35 Miscellaneous Function.

Associated: 04.17 Doorphone Answer Time; 04.36 Miscellaneous Relay timer; 10.57

Doorphone Ringing; 10.58 Doorphone Relay; 11.28 UNA Relay Number; 11.35 Loud Ringer Relay Number; 14.01 Key Assignment; 15.01 Attendant Key

Assignment.

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU, IX-DDPH.

Hunting Method in CO Line Group

Class 04 Item 38

Class 04 Item 38 – Hunting Method in CO Line Group is used to determine the search order to access an idle CO line in a trunk group for outgoing calls. The order must be carefully selected, with regard to the customer's operating conditions, to avoid a call collision. There are two hunting modes to choose from:

- **Normal Hunting** The ADIX will always seize the highest trunk in the group.
- **Circular Hunting** –The ADIX will start searching at the lowest trunk and seize sequentially. Circular hunting is used primarily with ground start trunks.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.38		Hunting Method in COL Gp. (0→1)	0

Programming Field Description

Data Field: Meaning: Determine the CO line search order.

Range: 0 = normal hunting

1 = circular hunting

Default: 0

Related Databases:

Required: 07.03 CO Line Group Access Number; 11.38 Outgoing CO Group.

Associated: 04.25 Calls for Pickup, Element 7; 14.01/15.01 Key Assignment; Class 17

Optimized Routing.

Related Operation:

Trunk Group Access.

Hardware Required:

IX-8LGTK, IX-T1DTI, IX-4EMTK.

DISA ICM Call

Class 04 Item 39

Class 04 Item 39 – DISA ICM Call is used to limit the length of time an ICM call from an external party using DISA is allowed to ring. If the call is not answer within the time programmed in Class 04.39 the line will be disconnected or intercepted by the attendant depending on the following conditions:

- If Class 11.26 Attendant Intercept is set and the attendant intercept time (Class 04.15) is less than the time programmed in Class 04.39, the DISA call will route to the attendant or be disconnected as programmed.
- If no IX-PSUB ports are equipped in the system, the call will route to the lowest port regardless of the port type. This includes SLT ports.

Note: It is recommended that DISA ICM Call is set to a value no greater than sixty seconds to ensure the accuracy of this timer.

For detailed information regarding DISA programming refer to *Chapter 3 – DISA*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.39		DISA: ICM Call (0-255s)	60

Programming Field Description

Data Field: Meaning: The length of time an ICM DISA call may ring

before being either disconnected or intercepted by

the attendant.

Range: **0-60** seconds

 $\mathbf{0} = infinity$

Default: **60** seconds

Related Databases:

Required: 04.41 DISA Waiting Time; 04.42 DISA Total Duration; 10.06 DISA Service;

11.25 DISA Line; 11.47 DISA Virtual Station; 11.48 DISA Message Number.

Associated: 04.15 Attendant DIL Intercept; 04.40 DISA Paging Call; 04.55 True Attendant

Position; 11.26 Attendant Intercept Line.

Related Operation:

Incoming call on a DISA line after entering DISA password and dialing an extension number.

Hardware Required:

IX-RCVPM with IX-4RCVS or IX-RMPU, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

DISA Paging Call

Class 04 Item 40

Class 04 Item 40 – DISA Paging Call is used to limit the length of time an outside caller using a DISA line is allowed to access the *paging*, *all call* or *group call* functions. When the time programmed in Class 04.40 has elapsed and either the paging, all call or group call functions are still being used, the line will be disconnected or intercepted by the attendant depending on the following conditions:

- If Class 11.26 Attendant Intercept is set and the attendant intercept time (Class 04.15) is less than the time programmed in Class 04.39, the DISA call will route to the attendant or be disconnected as programmed.
- If no IX-PSUB ports are equipped in the system, the call will route to the lowest port regardless of the port type. This includes SLT ports.

Note: It is recommended that DISA Paging Call is set to a value no greater than sixty seconds to ensure the accuracy of this timer.

For detailed information regarding DISA programming refer to *Chapter 3 – DISA*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.40		DISA: Paging Call (0→255s)	30

Programming Field Description

Data Field: Meaning: The length of time an ICM DISA call may ring

before being disconnected or intercepted by the

Attendant.

Range: **0-255** seconds

 $\mathbf{0} = \text{infinity}$

Default: 30 seconds

Related Databases:

Required: 04.39 DISA ICM Call; 04.41 DISA Waiting Time; 04.42 DISA Total Duration;

10.06 DISA Service; 11.25 DISA Line; 11.47 DISA Virtual Station; 11.48 DISA

Message Number.

Associated: 04.15 Attendant DIL Intercept; 04.55 True Attendant Position; 07.04 Paging Group

Access No.; 08.04 Page Group; 10.49 Meet-Me Answer Group; 11.26 Attendant

Intercept Line.

Related Operation:

Incoming call on a DISA line, DISA paging access, Meet-Me Page.

Hardware Required:

IX-RCVPM with IX-4RCVS or IX-RMPU, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

DISA Waiting Time

Class 04 Item 41

Class 04 Item 41 – DISA Waiting Time is used to define the length of time the ADIX will wait for the first incoming dialing after answering a call on a DISA line. When the time programmed in Class 04.41 has elapsed, the line will be disconnected or intercepted by the attendant depending on the following conditions:

- If Class 11.26 Attendant Intercept is set and the attendant intercept time (Class 04.15) is less than the time programmed in Class 04.39, the DISA call will route to the attendant or be disconnected as programmed.
- If no IX-PSUB ports are equipped in the system, the call will route to the lowest port regardless of the port type. This includes SLT ports.

For detailed information regarding DISA programming refer to *Chapter 3 – DISA*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.41		DISA: Waiting Time (0→255s)	10

Programming Field Description

Data Field: Meaning: The length of time the system will wait for the first

incoming dialing after answering a call on a DISA

line.

Range: 0-255 seconds

 $\mathbf{0} = \text{infinity}$

Default: **10** seconds

Related Databases:

Required: 04.39 DISA ICM Call; 04.40 DISA Paging Call; 04.42 DISA Total Duration;

10.06 DISA Service; 11.25 DISA Line; 11.47 DISA Virtual Station; 11.48 DISA

Message Number.

Associated: 04.15 Attendant DIL Intercept; 04.55 True Attendant Position; 11.26 Attendant

Intercept Line.

Related Operation:

Incoming call on a DISA line.

Hardware Required:

IX-RCVPM with IX-4RCVS or IX-RMPU, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

DISA: Total Duration

Class 04 Item 42

Class 04 Item 42 – DISA: Total Duration is used to define the length of time an outside caller can use DISA after the line is answered. When the time programmed in Class 04.42 has elapsed, the line is disconnected even if it has been intercepted by the attendant. This timer supersedes all other timers. This parameter does not apply when performing remote PC programming through DISA.

For detailed information regarding DISA programming refer to *Chapter 3 – DISA*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.42		DISA:Total Duration (0→255min)	60

Programming Field Description

Data Field: Meaning: The length of time in minutes an outside caller may

remain on a DISA line.

Range: **0-255** minutes

0 = infinity (not recommended)

Default: **60** minutes

Related Databases:

Required: 04.39 DISA ICM Call; 04.40 DISA Paging Call; 04.41 DISA Waiting Time; 10.06

DISA Service; 11.25 DISA Line; 11.47 DISA Virtual Station; 11.48 DISA

Message Number.

Associated: 04.15 Attendant DIL Intercept; 04.55 True Attendant Position; 11.26 Attendant

Intercept Line.

Related Operation:

Incoming call on a DISA line.

Hardware Required:

IX-RCVPM with IX-4RCVS or IX-RMPU, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages), IX-4TRAN (if outbound CO calls through DISA are required).

Remote CO Forward Incoming Group

Class 04 Item 43

Class 04 Item 43 – Remote CO Forward Incoming Group is used to specify which incoming CO group will be used as the incoming lines for each remote CO forward group. Each subsystem can have four remote CO forwarding groups. One incoming CO group cannot be assigned to more than one forward group. For example, If CO line group 10 is used as the incoming lines for the second remote call forward group, this item is programmed as follows:

[04.43 < NUM2> REMOTE CO FWD INCOMING GP. 10]

Note: In software versions 3.0 and higher, remote CO forward can also be activated or deactivated by an external caller through DISA using the station password.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.43	<num1></num1>	RMT CO FWD Incoming Gp.	0

Programming Field Description

Element Meaning: Remote call forward group number.

Field: Range: 1-4

Data Field: Meaning: Incoming CO group number as set in *Class 11.39*.

Range: 1-60
Default: 0

Related Databases:

Required: 01.04 Port Configuration (CO Disconnect Detect); 04.44 Remote CO Forward

Outgoing Group; 04.45 Remote CO Forward Message No.; 04.46 Remote CO Forward Duration, 11.38 Outgoing CO Group; 11.39 Incoming CO Group.

Associated: 11.18 Line Loss; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To register Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + destination number + [Remote Call FWD n]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

To cancel Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + [*]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

Remote activation through DISA:

DISA answers, dial [*] + extension number + password + remote access code (Class 07.06 <Num 38>) + CO forward group number +[*] + destination telephone number + [#].

Hardware Required:

Remote CO Forward Outgoing Group

Class 04 Item 44

Class 04 Item 44 – Remote CO Forward Outgoing Group is used to specify which outgoing CO group is used as the outgoing lines for each remote CO forward group. Each subsystem can have four remote CO forwarding groups. CO disconnect detection must be set in *Class 01.04 – Port Configuration* for each remote forward group. One outgoing CO group can be assigned to more than one forward group.

Note: In software versions 3.0 and higher, remote CO forward can also be activated or deactivated by an external caller through DISA using the station password.

DSS Display

	Class/Item	Element Field	Description	Data Field
I	04.44	<num1></num1>	RMT CO FWD Outgoing Gp.	0

Programming Field Description

Element Meaning: Remote call forward group number.

Field: Range: 1-4

Data Field: Meaning: Outgoing CO group number from *Class 11.38*.

Range: 1-60
Default: 0

Related Databases:

Required: 01.04 Port Configuration (CO Disconnect Detect); 04.43 Remote CO Forward

Incoming Group; 04.45 Remote CO Forward Message No.; 04.46 Remote CO Forward Duration, 11.38 Outgoing CO Group; 11.39 Incoming CO Group. 11.18 Line Loss; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

Associated:

To register Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + destination number + [Remote Call FWD n]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

To cancel Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + [*]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

Remote activation through DISA:

DISA answers, dial [*] + extension number + password + remote access code (Class 07.06 <Num 38>) + CO forward group number +[*] + destination telephone number + [#].

Hardware Required:

Remote CO Forward Message Number

Class 04 Item 45

Class 04 Item 45 – Remote CO Forward Message Number is used to specify which message is played for a specific remote CO forward group to the destination telephone when a call is answered. Each system can have four remote CO forwarding groups. Once the outgoing dialing has been completed, the message programmed in Class 04.45 will play automatically to the destination telephone after the inter-digit time programmed in Class 11.06 and the sender time-out programmed in Class 11.13 have elapsed. If **0** is assigned as the value for a remote CO forward group in Class 04.45, the call is forwarded to the destination before a message is played.

Note: In software versions 3.0 and higher, remote CO forward can also be activated or deactivated by an external caller through DISA using the station password.

DSS Display

Class/Item	Element Field	Description	Data Field
04.45	<num1></num1>	RMT CO FWD MSG No.	14

Programming Field Description

Element Meaning: Remote call forward group number.

Field: Range:

Data Field: Meaning: Message number (*Class 04.20*) for remote call forward group.

> 0, 14-17 Range: Default: 14

Related Databases:

Required: 01.04 Port Configuration (CO Disconnect Detect); 04.43 Remote CO Forward

Incoming Group; 04.44 Remote CO Forward Outgoing Group; 04.46 Remote CO

Forward Duration; 11.38 Outgoing CO Group; 11.39 Incoming CO Group.

Associated: 04.20 VSS Recording Time; 14.01/15.01 Key Assignment.

Related Operation:

To register Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + destination number + [Remote Call FWD n]. (n = 1-4, -4)not required if the [Remote Call FWD n] key is dedicated to a group.)

To cancel Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + [*]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

Remote activation through DISA:

DISA answers, dial [*] + extension number + password + remote access code (Class 07.06 <Num 38>) + CO forward group number +[*] + destination telephone number + [#].

Hardware Required:

Remote CO Forward Duration

Class 04 Item 46

Class 04 Item 46 – Remote CO Forward Duration is used to define the maximum duration allowed for a forwarded call to a specific remote CO forward destination. Once the time programmed in Class 04.46 has elapsed, the call is disconnected. This item should be set to 0, if the IX-4TRAN card, which provides disconnection detection, is installed.

Note: In software versions 3.0 and higher, remote CO forward can also be activated or deactivated by an external caller through DISA using the station password.

DSS Display

Class/Item	Element Field	Description	Data Field
04.46	<num1></num1>	RMT CO FWD Duration	60

Programming Field Description

Element Meaning: Remote call forward group number.

Field: Range: 1-4

Data Field: Meaning: Time in minutes before a forwarded call is

disconnected for the specified remote call forward

group.

Range: 0-255 minutes
Default: 60 minutes

Related Databases:

Required: 04.43 Remote CO Forward Incoming Group; 04.44 Remote CO Forward Outgoing

Group; 04.45 Remote CO Forward Message No.; 11.38 Outgoing CO Group;

11.39 Incoming CO Group.

Associated: 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To register Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + destination number + [Remote Call FWD n]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

To cancel Remote CO Forward from a KT:

At ICM dial tone press [Remote Call FWD n] + [*]. (n = 1-4, not required if the [Remote Call FWD n] key is dedicated to a group.)

Remote activation through DISA:

DISA answers, dial [*] + extension number + password + remote access code (Class 07.06 <Num 38>) + CO forward group number +[*] + destination telephone number +[*].

Hardware Required:

Automatic Repeat Dial – Duration

Class 04 Item 47

Class 04 Item 47 – Automatic Repeat Dial – Duration is used to define the interval between occurrences of automatic repeat dialing. For example, if a station is setup for automatic repeat dialing and a value of 120 is programmed in Class 04.47, the system will attempt the call every 120 seconds (two minutes) until either the receiving station goes off-hook, the operation is canceled or the number of call attempts programmed in *Class 04.49 – Auto Repeat Dial Repetition* has been exceeded. Automatic repeat dial is a CO related feature.

Note: The auto repeat dial duration timer has no effect if *Class 11.13 – Sender Time Out* is set to **0**.

DSS Display

Class/Item	Element Field	Description	Data Field
04.47		AUTO Repeat Dial-Duration	120

Programming Field Description

Data Field: Meaning: Time in seconds between occurrences of the

automatic repeat dial feature.

Range: 10-255 seconds
Default: 120 seconds

Related Databases:

Required: 04.48 Auto Repeat Dial – Off-Hook; 04.49 Auto Repeat Dial – Repetition; 11.13

Sender Time Out; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Associated: 11.06 Inter-Digit Time.

Related Operation:

To perform auto repeat dialing:

- 1. While ringing tone is audible through the handset press [Auto Repeat Dial] to initialize.
- 2. Go off-hook during dialing to cancel.
- 3. Auto Repeat + [*] to cancel.
- 4. After dialing a telephone number (CO) that is busy or does not answer, press [Auto Repeat Dial] (the repeat key LED lights).

Auto Repeat Dial – Off Hook

Class 04 Item 48

Class 04 Item 48 – Auto Repeat Dial – Off Hook is used to define the length of time the system remains off-hook during an auto repeat dial call attempt. If the dialing station does not go off-hook during the time specified here, the call is terminated and repeated later. If the station which activated auto repeat dialing goes off-hook before the time programmed in Class 04.48 has elapsed, the auto repeat dialing is canceled.

Note: If the outside party answers within the automatic repeat dialing off hook time, the call will be terminated unless the dialing station goes off hook or presses the [SPKR] key if an optional IX-SSPU is installed.

DSS Display

Class/Item	Element Field	Description	Data Field
04.48		Auto Repeat Dial-Off Hook	20

Programming Field Description

Data Field: Meaning: Time in seconds a station can remain off-hook

between occurrences of the auto repeat dial feature.

Range: 10-255 seconds
Default: 20 seconds

Related Databases:

Required: 04.47 Auto Repeat Dial - Duration; 04.49 Auto Repeat Dial Repetition; 14.01

Key Assignment; 15.01 Attendant Key Assignment.

Associated: 11.06 Inter-Digit Time.

Related Operation:

To perform auto repeat dialing:

- 1. While ringing tone is audible through the handset press [Auto Repeat Dial] to initialize.
- 2. Go off-hook during dialing to cancel.
- 3. Auto Repeat + [*] to cancel.
- 4. After dialing a telephone number (CO) that is busy or does not answer, press [Auto Repeat Dial] (the repeat key LED lights).

Auto Repeat Dial – Repetition

Class 04 Item 49

Class 04 Item 49 – Auto Repeat Dial – Repetition is used to define the number of attempts the system will make dialing an auto repeat dial call. Once the number of auto repeat dial attempts equals the number programmed in Class 04.49, the feature is canceled.

DSS Display

Class/Item	Element Field	Description	Data Field
04.49		Auto Repeat Dial-Repetition	10

Programming Field Description

Data Field: Meaning: Number of times auto repeat dialing is attempted

when a station goes off-hook before the feature is

canceled.

Range: **1-30** (**1-120** in software versions 4.02 and up)

Default: 10

Related Databases:

Required: 04.47 Auto Repeat Dial – Duration; 04.48 Auto Repeat Dial – Off-Hook; 14.01

Key Assignment; 15.01 Attendant Key Assignment.

Associated: 11.06 Inter-Digit Time.

Related Operation:

To perform auto repeat dialing:

- 1. While ringing tone is audible through the handset press [Auto Repeat Dial] to initialize.
- 2. Go off-hook during dialing to cancel.
- 3. Auto Repeat + [*] to cancel.
 - 4. After dialing a telephone number (CO) that is busy or does not answer, press [Auto Repeat Dial] (the repeat key LED lights).

SMDR – Output Port

Class 04 Item 50

Class 04 Item 50 – SMDR – Output Port is used to define the **logical port number** of the second circuit on the IX-SCIF or IX-EDVIF card. The first circuit on the IX-SCIF/IX-EDVIF card is always defined as the PC port. The second circuit on the IX-SCIF/IX-EDVIF/IX-HCIF card is always defined as the printer port.

Important: You must consider the default settings for *Classes 04.53 – Toll Only Report and 04.54 – Account Code Only*, and *Class 06.07 – Toll Restriction – SMDR Table*. At default, *Class 04.53* is set for toll calls only which causes the system to scan the toll definition for SMDR in *Class 06.07*. At default *Class 06.07* is blank, therefore, there is NO SMDR report (output).

DSS Display

Class/Item	Element Field	Description	Data Field
04.50		SMDR-Output Port (0→448)	0

Programming Field Description

Data Field: Meaning: SMDR output logical port number.

Range: **001-448**

Default: 0

Related Databases:

Required: 01.03 Port Definition; 04.53 SMDR Toll Only Report; 06.07 Toll Restriction -

SMDR Table.

Associated: 04.25 Element 10; 04.51 SMDR Minimum Call Duration; 04.52 SMDR Incoming

Call Report; 04.54 SMDR Account Only Report; 10.18 SMDR Report; 11.06

Inter-Digit Time; 11.13 Sender Time Out; 11.29 SMDR Report.

Related Operation:

SMDR printout.

Hardware Required:

IX-SCIF, IX-EDVIF, IX-HCIF

SMDR – Minimum Call Duration

Class 04 Item 51

Class 04 Item 51 – SMDR – Minimum Call Duration is used to define the minimum call duration of calls to be included on an SMDR report. When the duration of a call exceeds the time set in Class 04.51, the call information is included in the SMDR report. If this item is set to **0**, all calls are included in the SMDR report. For example, if Classes 04.51, 04.53 and 04.54 are programmed as follows:

[04.51	SMDR-MINIMUM CALL DURATION (10-3	30) 10]
[04.53	SMDR-TOLL ONLY REPORT (0-1)	1]
[04.54	SMDR-ACCOUNT CODE ONLY (0-1)	1]

The SMDR report will include only call information for toll calls which exceed ten minutes and for which an account code has been entered. SMDR recording begins after the timers programmed in *Classes 11.06 and 11.13* expire.

Note: In software versions 3.0 and higher, the minimum call duration for SMDR printout can be programmed in either minutes or seconds. The value selected in *Class 04.25 Element 10* determines whether the minimum call duration specified in Class 04.51 is in minutes or in seconds. The default setting is minutes. For detailed information regarding SMDR programming, refer to *Chapter 3 – Station Message Detail Recorder*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.51		SMDR-Minimum Call Duration (0→30)	0

Programming Field Description

Data Field: Meaning: Time in minutes or seconds a call must exceed to

be included on an SMDR printout.

Range: **0-30**Default: **0**

Related Databases:

Required: 04.25, Element 10 (software versions 3.0 and higher only); 04.50 SMDR Output

Port.

Associated: 04.52 SMDR – Incoming Call Report; 04.53 SMDR – Toll Only Report; 04.54

SMDR – Account Code Only; 06.07 SMDR Table; 10.18 SMDR Report; 11.06

Inter-Digit Time; 11.13 Sender Time Out; 11.29 SMDR Report.

Related Operation:

SMDR printout.

Hardware Required:

IX-SCIF, IX-EDVIF, IX-HCIF.

SMDR – Incoming Call Report

Class 04 Item 52

Class 04 Item 52 – SMDR – Incoming Call Report is used to define whether incoming CO calls are included with the SMDR printout.

For detailed information regarding SMDR programming, refer to *Chapter 3 – Station Message Detail Recorder*.

DSS Display

Class/Item	Element Field	Description	Data Field
04.52		SMDR-Incoming Call Report (0→1)	0

Programming Field Description

Data Field: Meaning: Select to include or omit incoming CO calls from

the SMDR report.

Range: 0 = do not print

1 = print

Default: 1 (0 software versions before 4.62/5.62)

Related Databases:

Required: 04.50 SMDR Output Port.

Associated: 04.25 Element 10; 04.51 SMDR – Minimum Call Duration; 04.53 SMDR – Toll

Only Report; 04.54 SMDR – Account Code Only; 06.07 Toll Restriction - SMDR Table; 10.18 SMDR Report; 11.06 Inter-Digit Time; 11.13 Sender Time Out;

11.29 SMDR Report.

Related Operation:

SMDR printout.

Hardware Required:

IX-SCIF, IX-EDVIF, IX-HCIF.

SMDR – Toll Only Report

Class 04 Item 53

Class 04 Item 53 – SMDR – Toll Only Report is used to define whether outgoing toll calls are included in the SMDR printout. If a value of 1 is entered in Class 04.53, the dial data to be printed out must be programmed in *Class* 06.07 – *SMDR Table*. For example, if Classes 04.51, 04.53 and 04.54 are programmed as follows:

[04.51	SMDR-MINIMUM CALL DURATION (10-30)	10]
[04.53	SMDR-TOLL ONLY REPORT (0-1)	1]
[04.54	SMDR-ACCOUNT CODE ONLY (0-1)	1]

The SMDR report will include only call information for toll calls which exceed ten minutes and for which an account code has been entered. To include all calls on the SMDR Report, Classes 04.53 and 04.54 must remain set to **0**.

Important: Software Versions Before 4.62/5.62 Only: You must consider the default settings for Classes 04.53 – Toll Only Report and 04.54 – Account Code Only, and Class 06.07 – Toll Restriction – SMDR Table. At default, Class 04.53 is set for toll calls only which causes the system to scan the toll definition for SMDR in Class 06.07. At default Class 06.07 is blank, therefore, there is NO SMDR report (output).

DSS Display

Class/Item	Element Field	Description	Data Field
04.53		SMDR-Toll Only Report (0→1)	0

Programming Field Description

Data Field: Meaning: Select to include or omit toll calls from the SMDR

report.

Range: 0 = print all calls

1 = print toll calls only

Default: 0 (1 software versions before 4.62/5.62)

Related Databases:

Required: 04.50 SMDR Output Port; 06.07 Toll Restriction-SMDR Table.

Associated: 04.25 Element 10; 04.51 SMDR – Minimum Call Duration; 04.52 SMDR –

Incoming Call Report; 04.54 SMDR – Account Code Only; 10.18 SMDR Report;

11.06 Inter-Digit Time; 11.13 Sender Time Out; 11.29 SMDR Report.

Related Operation:

SMDR printout.

Hardware Required:

IX-SCIF, IX-EDVIF, IX-HCIF.

SMDR – Account Code Only

Class 04 Item 54

Class 04 Item 54 – SMDR – Account Code Only is used to define whether calls for which an account code has been entered are included in the SMDR printout. For example, if Classes 04.51, 04.53 and 04.54 are programmed as follows:

[04.51	SMDR-MINIMUM CALL DURATION (10-30)	10]
[04.53	SMDR-TOLL ONLY REPORT (0-1)	1]
[04.54	SMDR-ACCOUNT CODE ONLY (0-1)	1]

The SMDR report will include only call information for toll calls which exceed ten minutes and for which an account code has been entered.

Important: Software versions Before 4.62/5.62 Only – To include all calls on the SMDR Report, Classes 04.53 and 04.54 must be changed from their default value to **0**.

DSS Display

Class/Item	Element Field	Description	Data Field
04.54		SMDR-Account Code Only (0→1)	0

Programming Field Description

Data Field: Meaning: Select to include or omit calls for which an account

code has been entered from the SMDR report.

Range: 0 = print all calls

1 = print calls with an account code only

Default: 0 (1 software versions before 4.62/5.62)

Related Databases:

Required: 04.50 SMDR Output Port.

Associated: 04.51 SMDR-Minimum Call Duration; 04.52 SMDR-Incoming Call Report; 04.53

SMDR-Toll Only Report; 06.07 SMDR Table; 10.18 SMDR Report; 11.29 SMDR

Report; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To enter an account code:

At ICM dial tone press [FEAT] + [2][5] or [Account Code] + account code

Hardware Required:

IX-SCIF, IX-EDVIF, IX-HCIF.

Port Definition – True Attendant Position

(Software Versions 4.0 and Higher Only)

Class 04 Item 55

Class 04 Item 55 – Port Definition – True Attendant Position is used to specify the logical port numbers of up to eight stations to function as attendant positions or *true attendants*. Only the stations assigned as true attendant positions in Class 04.55 will receive attendant recalls and be included in all attendant calls. For example, if a key telephone and a DSS unit are assigned to logical port 005 as an attendant position in *Class 01.03 – Port Definition*, and configured as a KT + DSS in *Class 01.04 – Port Configuration*, when Classes 04.55 and 10.12 are programmed as follows:

[01.03]	<prt001></prt001>	PORT DEFINITION 0-	0-1-005]
[04.55	<num 1=""></num>	ATTENDANT POSITION (0-448)	005]
[10.12	<extl005></extl005>	KEY ASSIGNMENT	129]

The KT + DSS will function as a true attendant position. If Class 04.55 is not programmed, the system will assign the attendant position with the lowest logical port number as the true attendant.

Note: If there is no setting in *Class 04.55*, an attendant recall will search for the lowest attendant logical port.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.55	<num01></num01>	Attendant Position (0→448)	0

Programming Field Description

Element Meaning: Number of the true attendant position.

Field: Range: 1-8

Data Field: Meaning: Logical port number of the SATT or attendant

position.

Range: **001-448**

0 = no true attendant

Default: 0

Related Databases:

Required: 01.03 Port Definition; 01.04 Configuration; 10.12 Key Assignment; 15.01

Attendant Key Assignment.

Associated: 07.06 < 30 > Feature Access Number; 11.26 Attendant Intercept.

Related Operation:

Attendant Intercept. All Attendant Call.

Programming Reserve 1

Class 04 Item 70

Class 04 Item 70 – Programming Reserve 1 contains the following programming elements:

Element	Description
02	Element 02 – Call Coverage Camp-On Indication At system default, when a station is being call covered by multiple stations and one of the covering stations transfers a call to the covered station, the call will ring at the other covering stations. Use Class 04.70 Element 02 to prevent a transferred call from ringing at all covering stations.
16	Element 16 – DID, DNIS, Caller ID/ANI Day/Night Indicator Setting Use Class 04.70 Element 16 to select between 400 day mode/0 night mode or 200 day mode/200 night mode DID (Class 09) or DNIS (Class 25) numbers and 1000 day mode/0 night mode or 500 day mode/500 night mode caller ID/ANI numbers (Class 24).
18	Element 18 – DISA Short-Cut Operation (software versions 4.50/5.50 and higher only) Use Class 04.70 Element 18 to allow DISA callers to dial another station without first dialing [#][#] while the DISA incoming message is playing. This operation is applicable only when the system is playing an incoming message. It does not apply for busy station messages or warning messages for invalid numbers.
22	Element 22 – ANI/DNIS Routing Table Selection (software versions 4.61/5.61 and higher) This item is only used when both ANI and DNIS digits are sent by the CO. Use Class 04.70 Element 22 to program which routing table – ANI (Class 24.02) or DNIS (Class 25.02) – determines the destination of an incoming call on an ANI/DNIS trunk. In software versions 4.62/5.62 and higher this item also determines which data is displayed on the station LCD. If the data programmed in the ANI (Class 24.01) and DNIS (Class 25.01) conversion tables does not match the ANI/DNIS data sent by the CO, the call is routed to the ringing stations programmed for that line in Class 11.32
23	Element 23 – Caller ID/ANI/DNIS Event Code Enable for ADIX ACD (ACD software version 2.21 only) This item must be set to enable event code output in order to have caller ID/ANI/DNIS event codes output to the reporting output port defined in ACD database Class 18.07.
26	Element 26 – Voice Mail Recording Mode (Software Versions 4.71/5.71 and higher only) This item determines the recording mode, either <i>Monitor</i> or <i>Conference</i> , for the conversation recording feature. In Monitor mode, conversation recording is established via a one-way audio path. Prompts from the voice mail system are not sent to the initiating station. In Conference mode, conversation recording is established via a two-way audio path. When conversation recording is started in conference mode, confirmation tone is sent to the initiating station. During the recording, other prompts from the voice mail are also sent to the station that initiated recording.

Class 04 Item 70 – Programming Reserve 1 (Cont.)

Element Description

33 **Element 33 – Network Inband Signaling.** This element is used to enable the inband signaling feature for the new Networking feature. In order to use inband signaling across the network, each ADIX system must utilize the IX-CPUP/HW Controller Card with Software Version 6.00.

Element 35 – E911 Outgoing Type is used to program the Enhanced 911 Service feature. This item determines whether a CAMA interface via the IX-EMTK and the Telident STSTM is used, or if Enhanced 911 routing is accomplished using the proposed 40,000 square foot rule.

Enhanced 911 allows information that reveals the exact location of the caller to be sent to the 911 operator, regardless of line extensions. For example, if a guest of a hotel dials 911, the 911 operator would be sent information with the phone number that would help locate the caller, such as the room number or which floor the call originated. Software Version 6.10 supports two interfaces that utilize Enhanced 911 Services:

CAMA Routing via an interface with the Telident STSTM

Area Routing Based on the Proposed "40,000 Square Foot Rule."

Call Logging--When a call is received on a caller ID or ANI line, ADIX will capture and store in the system memory information about the caller received with the call. This information includes the caller's telephone number and name, date and time of the call, trunk number, and destination station. This information can be output as a system event code or to SMDR. Information for the 500 most recent calls can be stored in the system memory on a first in, first out basis. Two modes of storage are available for this feature:

Abandon Call Storage

All Call Storage

Note: Programming in this element affects this feature system-wide.

- Network Switch Type--Use this element to designate whether the ADIX is located at the main location or the remote location (Remote or Main Switch).
- **DID Number External Call Forward Message (Software Versions 4.62/5.62 and higher only)** When the DID Number External Call Forward Message feature is programmed, this item may be used to set the forward message played to the recipient of a forwarded call. If Class 04.70, <NUM62> is set to **1** (message), system message 14 will play to the recipient after sender time out. If the system is not equipped with an IX-MSGU card, *Class* 04.70, <*NUM62>* must be set to **0** (confirmation tone only).

DSS Display

Class/Item	Element Field	Description	Data Field
04.70	<nums6></nums6>	Reserve1	0

Programming Field Description

Element Meaning: See element description above.

Field: Range: 02, 16, 18, 22, 23, 26, 33, 35, 36, 37, 38, 62

Class 04 Item 70 – Programming Reserve 1 (Cont.)

Data Field:

<NUM02> Range: **0** = do not ring covering stations on transfer

1 = ring all covering stations on transfer

Default: 1 (0 software versions before 4.62/5.62)

<NUM16> Range: $\mathbf{0} = 200$ day mode/200 night mode DID, DNIS; 500 day

mode/500 night mode caller ID/ANI numbers

1 = 400 day mode/0 night mode DID, DNIS; 1000 day mode/0

night mode caller ID/ANI numbers

Default: 0

<NUM18> Range: **0** = disabled (DISA caller must dial [#][#] + station number to

call another station while the incoming message is playing)

1 = enabled (DISA caller can call another station by dialing only the station number while the incoming message is playing)

Default: 1 (0 software versions before 4.62/5.62)

 $\langle NUM22 \rangle$ Range: **0** = route by referring to the DNIS conversion table (Class 25).

Display DNIS data.

1 = route by referring to the ANI conversion table (Class 24).

Display ANI data.

Default: **0**

 $\langle NUM23 \rangle$ Range: **0** = no caller ID event code output sent to ACD reporting port.

1 = caller ID event code output sent to ACD reporting port.

Default: 0

 $\langle NUM26 \rangle$ Range: **0** = Monitor Mode

1 = Conference Mode

Default: 0

<NUM 33> Range: **0** = Disable Network Inband Signaling

1 = Enable Network Inband Signaling

Default: **0**

<NUM36> Range: **0**;

0 =save information for abandoned calls only

1 =save information for all calls

Default: 0

<NUM 35> Range: **0; 1**

0 = Tie line CAMA routing

1 = Area routing via the Proposed "40,000 Square Foot Rule."

Default: 0

<NUM37> Range: **0; 1**

0 = remote switch1 = main switch

Default: 0

<NUM62> Range: **0** = no message with DID Number External Call Forward call

1 = play system message 14 with DID Number External Call

Forward call

Default: 0

Class 04 Item 70 – Programming Reserve 1 (Cont.)

Data Field:

Related Databases:

Element 02: 04.71 Element 01; 10.70 Element 02=1; 11.70 Element 02=1;14.01/15.01 Key

Assignment.

Element 16: Class 09 Direct Inward Dialing (DID) Data; Class 24 Caller ID/ANI Conversion

Data; Class 25 DNIS Conversion Data.

Element 18: DISA Programming.

Element 22: 24.01 Caller ID/ANI Incoming Number; 24.02 Caller ID/ANI Conversion

Number; 24.03 Caller ID/ANI Number ID; 24.04 Caller ID/ANI Incoming Digits; 24.05 Caller ID/ANI Conversion Digits; 24.06 Caller ID/ANI Conversion Starting

Position.

Element 23: 04.72 Event Code Output Port.

Element 26: 01.03 Port Definition; 04.77 < NUM 21>; 04.77 < NUM 22>; 14.01/15.01 Key

Assignment.

Element 33: 28.05 Network External.

Element 35: 04.70<NUM35> E911 Outgoing Type; 04.71<NUM 06> E911 Relay Number;

04.71<NUM 08> E911 FAIL Rely Number; 04.71<NUM 09> E911 Special Trunk Group; 04.71<NUM 17> E911 CAMA Wink Timer; 04.72<NUM 18> E911 Inf. Port; 10.73<EXTLxxx-4> E911 Area Routing Trunk Group; 11.72<TRKLxxx-3> E911 Attribute; 15.01 E911 Display Clear; 17.18<NUM 1-16> Emergency

Specific Code; 29.10 Group # (1-60) Emergency Send Dial.

Element 37: All basic networking items.

Element 62: 09.01 DID Conversion Table; 14.01/15.01 Key Assignment; 24.02 Caller ID/ANI

Conversion Table; 25.02 DNIS Conversion Table.

Call Coverage/Voice Mail Data

(Software Versions 4.0 and Higher Only)

Class 04 Item 71

Class 04 Item 71 – Call Coverage/Voice Mail Data is used to specify various timing parameters for the *Call Coverage* and *Voice Mail/Automated Attendant Integration* features. The timing parameters defined by each element are described in the table below:

Element	Description
01	Call Coverage Delayed Mode Ring Start Time Element 01 determines the length of time that incoming calls will ring at the covered station before call coverage ringing begins at the covering stations which are in <i>call coverage delayed ringing mode</i> .
02	Ring Back Tone (software versions 4.20/5.20 and higher) Element 02 is used to define the tone the caller will hear when a station is ringing. You can toggle between music on hold mode and ring back tone ringing mode.
03	Forced Account Code Length (software versions 4.20/5.20 and higher) Element 03 defines the number of digits (one to twelve) of the forced account code.
04	Number of Verified Account Codes (software versions 4.20/5.20 and higher) Element 04 determines the number of account codes for a specific range of speed dial numbers. The size of the range should be selected to the closest or equal number of verified account code entries in order to reduce the CPU searching time throughout the table. Enter the account codes from the lowest to the highest speed dial bin number.
	The digit [#] indicates the end of all account codes entries listed in the table. Therefore, it is suggested that you enter the digit [#] after the last account code entry to reduce CPU searching time within a table.
	Note: Class 02 Item $01 - System$ Speed Type must be set to a value of $1 - 900$ speed dial numbers to activate this database setting. The remaining numbers after the verified account codes can be used as system speed dial numbers.
05	UCD Overflow Timer (software versions 4.20/5.20 and higher) Element 05 defines the amount of time which must elapse before a call waiting at a UCD group will be further forwarded. The forwarding destination is defined in <i>Class 08.05 – UCD Overflow Destination</i> . Note: For software versions 4.30/5.30 and lower the <i>Camp-On Recall Timer</i> must be of a greater value for UCD overflow to occur.
06	E911 SUCCEED Relay Number Element 06 identifies the system relay number accessed to when E911 Routing succeeds. This relay may be connected to trigger a device such as an external alarm.
08	E911 FAIL Relay Number Element 07 identifies the system relay number accessed to when E911 Routing fails. This relay may be connected to trigger a device such as an external alarm.
09	E911 Special Trunk Group Element 09 is used to program a trunk group that will be used in the event that a 911 call fails after following the programming for Enhanced 911 Service. This item is used for both Enhanced 911 Service using a CAMA interface via the IX-EMTK and the Telident STS TM is used, or if Enhanced 911 routing is accomplished using the proposed 40,000 square foot rule.
10	Voice Mail/Auto Attendant Port DTMF Speed Element 10 specifies the length of the DTMF signal that will be sent between the ADIX and the voice mail/auto attendant system.
11	Voice Mail/Auto Attendant Port In-Packet Pause Time Element 11 specifies the length of the pause between the call type identifier and the call detail identifier.

Class 04 Item 71 – Call Coverage/Voice Mail Data (Cont.)

Element Description

- Voice Mail/Auto Attendant Port Predisconnect Packet Pause Time Element 12 determines the length of the pause between the time the ADIX detects that disconnect has occurred from the CO line or the extension connected to the voice mail/auto attendant system until the disconnect packet is sent.
- Voice Mail/Auto Attendant Port Disconnect Signal Type Element 13 determines the signal used to tell the voice mail/auto attendant that the CO line or extension has hung up. Choices for the signal are: *momentary loop open* or *DTMF disconnect packet*. Note: The momentary loop open signal is available only if an IX-8SUBS-1 or IX-8SUBS-2 card is installed.
- Additional Information Sent With Voice Mail/Auto Attendant Packet Element 14 is used to program the ADIX to send additional data (i.e., trunk number, caller ID/ANI/DNIS digits) with certain packet codes to the VM/AA port. The tables below list the options programmable in this item and how they affect packet transmission:

04.71 <num 14=""></num>					([p:	acket] +)[trunk] Packet Format by - Affected packet numbers : 01,	
lf	And t	he packet	content inc	ludes			
04.71 <num 14> d1=</num 	Trunk no.	Caller ID	ANI	DNIS	No ANI/DNIS/CID	ANI/DNIS	CID
0					none ([packet] only)	none ([packet] only)	none ([packet] only)
1	1				[trunk no.]	[trunk no.]	[trunk no.]
2		√	√		[spr]+[spr]	[spr]+[ANI]+[spr]	[spr]+[CID]+[spr]
3				√	[spr]+[spr]	[spr]+[DNIS]+[spr]	n/a
4		√	√	√	[spr]+[spr]+[spr]	[spr]+[ANI]+[spr]+[DNIS]+[spr]	[spr]+[CID]+[spr]+ [spr]
5	V	√	√		[trunk no.]+[spr]+[spr]	[trunk no.]+[spr]+[ANI]+[spr]	[trunk no.]+[spr]+[CID]+ [spr]
6	V			√	[trunk no.]+[spr]+[spr]	[trunk no.]+[spr]+[DNIS]+[spr]	n/a
7	V	1	1	V	[trunk no.]+[spr]+[spr]+[spr]	[trunk no.]+[spr]+[ANI]+[spr]+ [DNIS]+[spr]	[trunk no.]+[spr]+[CID]+ [spr]

	([packet] +) [mbox no.] Packet Format by type of Calls							
04.71 <num 14></num 		Affected packet numbers: 08, 10 -						
data d1=	No ANI/DNIS/CID Incoming calls	ANI/DNIS Incoming calls	CID Incoming calls	Intercom Calls				
0	[mbox no.]	[mbox no.]	[mbox no.]	[mbox no.]				
1	[mbox no.]	[mbox no.]	[mbox no.]	[mbox no.]				
2	[mbox no.]+[spr]+[spr]	[mbox no.]+[spr]+[ANI]+[spr]	[mbox no.]+[spr]+[CID]+[spr]	[mbox no.]+[calling ext. no.]				
3	[mbox no.]+[spr]+[spr]	[mbox no.]+[spr]+[DNIS]+[spr]	n/a	[mbox no.]+[calling ext. no.]				
4	[mbox no.]+[spr]+[spr]+[spr]	[mbox no.]+[spr]+[ANI]+[spr]+[DNIS]+[spr]	[mbox no.]+[spr]+[CID]+[spr]+[spr]	[mbox no.]+[calling ext. no.]				
5	[mbox no.]+[spr]+[spr]	[mbox no.]+[spr]+[ANI]+[spr]	[mbox no.]+[spr]+[CID]+[spr]	[mbox no.]+[calling ext. no.]				
6	[mbox no.]+[spr]+[spr]	[mbox no.]+[spr]+[DNIS]+[spr]	n/a	[mbox no.]+[calling ext. no.]				
7	[mbox no.]+[spr]+[spr]+[spr]	[mbox no.]+[spr]+[ANI]+[spr]+[DNIS]+[spr]	[mbox no.]+[spr]+[CID]+[spr]	[mbox no.]+[calling ext. no.]				

Element Description

Voice Mail/Auto Attendant Port Loop Open Duration Element 15 is used to enable disconnect signal on the SLT ports. If a momentary loop open signal is selected in Element 13 as the type of disconnect signal to be provided to the voice mail/auto attendant system, Element 15 is used to specify the duration of the loop open condition sent to SLT ports system-wide. Note: The momentary loop open signal is available only if an IX-8SUBS-1 or IX-8SUBS-2 card is installed.

Class 04 Item 71 – Call Coverage/Voice Mail Data (Cont.)

Element	Description
17	E911 CAMA Wink Timer Element 17 . This item determines the amount of time in seconds that the ADIX system will monitor the IX-EMTK tie line for Wink back from the Telident STS TM after 911 has been dialed from a system extension. If the IX-EMTK receives wink back, it will send the identifying digits to the Telident STS TM . If the IX-EMTK does not receive wink back from the Telident STS ^{TMTM} within the amount of time specified in this item, it will resend the call using the secondary trunk programmed in Class 11.72 <tk<i>nnn-04>d1=2.</tk<i>
28	 Delayed Ringing – Global (Software Versions 4.61/5.61 and higher only) Element 28 is used to delay the ringing at stations when a call arrives on a caller ID trunk or ANI/DNIS T1 trunk. The delay time programmed here allows an external PC to process the caller ID/ANI/DNIS information. This timer affects the following types of calls: Calls routed to a station via the caller ID/ANI or DNIS table. Calls routed to an ACD group via the caller ID/ANI or DNIS table then distributed to an ACD agent station.
	Note: Class 04.15 – Attendant Intercept Time must be greater than the value programmed here. If it is not the call will not ring at the station programmed in Class 24.02 or 25.02.
	This item is ignored if the incoming digits do not match data entered in the caller ID/ANI or DNIS tables. In that case the call will ring according to the programming in <i>Classes</i> 11.26, 11.32, and 11.34.
39	<num 39=""> — Text Message Duration (Software Versions 4.71/5.71 and higher only) This element is used to program the amount of time, between 0 and 255 minutes that a text message will remain on the station LCD.</num>
40	<num 40=""> – Abandon Call Storage Duration (Software Versions 4.71/5.71 and higher only) This element is used to program the amount of time, between 0 and 30 days that an abandoned call record for Caller ID/ANI and DNIS will remain in the system memory.</num>
41	E-Response Help Call Time-out. <num41> determines the length of time that a station programmed as an E-Response help call station in Class 10.74 <extlnn-03> must remain off-hook before the system automatically places a help call to the group designated as the E-Response Group in Class 10.74 <extlnn-04>.</extlnn-04></extlnn-03></num41>
42	Automatic Relay Number Assignment. <num42> is used to designate the relay number used with the Automatic Relay Control feature. The relay designated in this item operates automatically at the time of day specified in Class 04.76<num01>.</num01></num42>

Class 04 Item 71 - Call Coverage/Voice Mail Data (Cont.)

45-64 < NUM45> through < NUM64> - Caller ID/ANI/DNIS Name and Number Display. This element is used to determine the data displayed on the station LCD during incoming ringing and each time the [Display Change] key is pressed. Ten different display modes are available. Each of these is listed in the table below. Note: In default, these fields are set to 0=blank. If left as 0, the station display will remain blank when an incoming call is

Note: This feature was previously available in ADIX Software Version 5.73 and ADIX ACD Software Version 2.31. It was not available in ADIX Software Version 4.75.

received on a Caller ID, ANI or DNIS line.

Each of these elements <NUM45> through <NUM64> represent one line of the LCD during a specific condition of incoming ringing. For example, 04.71 <NUM55> determines what is displayed on the first line of the LCD during ringing of an incoming forwarded call after the [Display Change] key is pressed one time. The illustrations below identify the position and condition affected by each element <NUM45> through <NUM64>. **Note:** The display of a ZT-D telephone corresponds with the top line of an ADIX digital telephone.

Displayed Data	Description	Data Value <num45-64></num45-64>
Caller ID/ANI Name	Name sent by the telephone company in the multiple message format, or the Caller ID/ANI name programmed in Class 24.03	1
Caller ID/ANI Number	Caller's telephone number sent by the telephone company	2
DNIS Name	Name programmed in Class 25.03	3
DNIS Number	Number the caller dialed sent by the telephone company	4
ACD Group Name	ACD Group name programmed in Class 19.02	5
Call Duration Timer	LCD timer showing the total duration of the call after answer	6
User Name of Forwarding Station	Station user ID (Class 10.04) of the station that forwarded or camped- on the call.	7
Extension Number of Forwarding Station	Extension number (Class 10.02) of the station that forwarded the call	8
Trunk Line ID	Line ID programmed for the trunk in Class 11.03.	9
Trunk No. & Trunk Group No.	Trunk Number or Incoming Trunk Group Number (Class 11.39)	10

DSS Display

Class/Item	Element Field	Description	Data Field
04.71	<num01></num01>	CCV Delay / VM Data	0

Programming Field Description

Element Meaning: See the element descriptions beginning on page 6-149.

Field: Range: **01-17**

Data Field:

<NUM01> Range: **0** (no call coverage) - **255** seconds

Default: **20** (0 software versions before 4.62/5.62)

<NUM02> Range: **0** = music on hold mode

1 = ring back tone mode

Default: **0**

<NUM03> Range: **01 – 12** digits

 $\mathbf{0}$ = flexible up to 12

Default: 0

Class 04 Item 71 – Call Coverage/Voice Mail Data (Cont.)

Data Field:

<NUM04> Range: $\mathbf{0}$ = no account codes 1 = 50 account codes at speed dial location 850-899 2 = 100 account codes at speed dial location 800-899 3 = 150 account codes at speed dial location 750-899 4 = 200 account codes at speed dial location 700-899 5 = 250 account codes at speed dial location 650-899 **6** = 300 account codes at speed dial location 600-899 7 = 350 account codes at speed dial location 550-899 8 = 400 account codes at speed dial location 500-899 9 = 450 account codes at speed dial location 450-899 10 = 500 account codes at speed dial location 400-899 11 = 550 account codes at speed dial location 350-899 12 = 600 account codes at speed dial location 300-899 13 = 650 account codes at speed dial location 250-899 **14** = 700 account codes at speed dial location 200-899 15 = 750 account codes at speed dial location 150-899 **16** = 800 account codes at speed dial location 100-899 Default: 0-255 minutes (5 second increments ver. 4.30/5.30 and up) <NUM05> Range: $\mathbf{0}$ = no overflow Default: <NUM06> Range: 1-32 (Relay Numbers) Default: <NUM08> Range: 1-32 (Relay Numbers) Default: 20 <NUM09> Range: **01 – 60** trunk groups Default: $\mathbf{0} = 50$ milliseconds on/50 milliseconds off <NUM10>Range: 1 = 50 milliseconds on/100 milliseconds off 2 = 100 milliseconds on/50 milliseconds off 3 = 100 milliseconds on/100 milliseconds off 4 = 150 milliseconds on/50 milliseconds off 5 = 150 milliseconds on/100 milliseconds off $\mathbf{6} = 150 \text{ milliseconds on}/150 \text{ milliseconds off}$ 7 = 200 milliseconds on/200 milliseconds off Default: 3 (0 software versions before 4.62/5.62) <NUM11> Range: **0-9** seconds Default: 0 = no pause<NUM12> Range: **0-9** seconds Default: 0 = no pause<NUM13> Range: $\mathbf{0}$ = disconnect by packet 1 =disconnect by loop open signal Default: <NUM14> Range: **0-7** (see table on page 6-150)

Default:

Class 04 Item 71 - Call Coverage/Voice Mail Data (Cont.)

Data Field:

<NUM15> Range: **0-15** (x 100 milliseconds)

Default: 0 = no loop open

<NUM17> Range: 0-255

Default: 4

<NUM28> Range: **0-255** milliseconds

Default: 0 = no delayed ringing

<NUM39> Range: **0-255 minutes**

Default: **0**

<NUM40> Range: **0-30 days**

Default: 0

<NUM41> Range: **1 - 20** seconds

Default: $\mathbf{0}$ (0=20 seconds)

<NUM42> Range: Relay Number **0-32**

Default: 0

<NUM45> - Range: **1-10**

<NUM64>

Default: **0**

Related Databases:

Associated: 04.36 Miscellaneous Relay Timer.

Required: 04.35 Miscellaneous Function; 04.37 Miscellaneous Function – Relay Function 2.

Class 10.74 < EXTLnn-03>, Class 10.74 < EXTLnn-04>.

Hardware Required:

IX-CPUL-1 with IX-EMEM-1, IX-CPU16, IX-CPU16M, IX-CPU32, IX-8SUBS, IX-8SUBS-1, IX-8SUBS-2, IX-MISC or IX-EDIF.

Programming Reserve 3

(Software Versions 4.61/5.61 and Higher Only)

Class 04 Item 72

Class 04 Item 72 – Programming Reserve 3 contains the following programming element:

Element	Description
15	Event Code Output Port (software versions 4.61/5.61 and higher only) Element 15 identifies the HCIF port that outputs the event code for the computer-telephony application.
18	E911 Information Port. Element 18 is used to identify the Miscellaneous Logical Port Number through which SMDR information specific to Enhanced 911 service is sent. This miscellaneous logical port number represents the SMDR port on a IX-EDVIF or IX-SCIF, or IX-HCIF card dedicated for E911 SMDR output.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	04.72	<num02></num02>	Reserve3	0

Programming Field Description

Element Meaning: See element description above.

Field: Range: **15, 18**

Data Field: Meaning: Miscellaneous logical port for event code output

<NUM15> Range: **0-448**

Default: **00**

<NUM18> Range: **0-448**

Default: 0

Related Databases:

Required: <NUM15>Class 24 Caller ID/ANI Conversion Data; Class 25 DNIS Conversion

Data

<NUM18> Refer to individual feature

Associated: <NUM15> 09.04 DID Trunk ID.

<NUM18> Refer to individual feature

Automatic Relay Activation Time

Class 04 Item 76

Class 04 Item 76 is used to program the relay activation time for the Automatic Relay Activation feature. The ADIX system may be programmed to operate a one-shot relay at a fixed time each day. The time specified for automatic one-shot relay control is programmed in this item. The relay number used for this feature is programmed in Class 04.71 < NUM42>.

DSS Display

Class/Item	Element Field	Description	Data Field
04.76	<num01></num01>	Reserve7	0

Programming Field Description

Element Meaning: Relay Activation Time for use with Automatic Relay

Control feature

Field: Range: 01

Data Field: Meaning: Time of Day in 24 hour format.

Range: 00:00 to 23:59

Default: blank

Related Databases:

Required: 04.71<NUM42> Automatic Relay Number.

Hardware Required:

IX-EDVIF or IX-MISC, IX-EDCTU

Voice Mail/Auto Attendant Packet Codes

(Software Versions 4.0 and Higher Only)

Class 04 Item 77

Class 04 Item 77 – Voice Mail/Auto Attendant Packet Codes is used to specify the actual data for each DTMF in-band packet sent from the ADIX to the voice mail or auto attendant port. The data for each packet can be entered according to the specifications of the voice mail/automated attendant system. The ADIX uses two types of packets:

- Call Identifier Packets: These packets identify the type of call being sent to the voice mail or auto attendant port.
- Call Process Packets: These packets indicate a change in the status of an ADIX extension to the voice mail or auto attendant port. Two call process packets are provided.

The integration capability with voice mail and automated attendant systems was introduced in software version 4.0 and consisted of ten packets. In software versions 4.2 and higher the integration capabilities of the ADIX to voice mail and automated attendant systems was enhanced to include twenty packets. The tables below describe packet codes for both versions 4.0 and 4.2 and higher software.

Voice Mail/Automated Attendant Packet Codes for Software Version 4.2 and Up

DTMF Packets			Connection		1		
Number and Contents	To Po	rt	System Function	ADIX	VM	Operation	<e14></e14>
[pkt 01]+[trunk no.]	AAVM	AA	A CO call that rings directly to the VM.	CO	AA	Direct ringing to VM port.	√
[pkt 02]+[ext. no.]	AAVM	AA	A station dialed the VM.	ICM	AA	{on ICM}-[ext. no.]	
[pkt 03]+[trunk no.]	AAVM	AA	A station transferred a CO call to the VM.	CO	VM	{on CO}-[TRAN]-[4][7]-[on-hook]	√
[pkt 04]+[ext. no.]	AAVM	AA	A station transferred an ICM call to the VM.	ICM	VM	{on ICM}-[TRAN]-[4][7]-[on-hook]	
[pkt 05]+[trunk no.]	AAVM		VM transferred a CO call to a station, but it recalled to the VM because the station does not exist.	СО	AA	{on CO}-[TRAN]-[4][7- [on-hook]-{recall}	
[pkt 06]+[mbox no.]	AAVM	AA	A station wants to leave a message in a specific voice mailbox.	ICM	MB	{on ICM}-[*]-[mbox no.]	
[pkt 07]+[mbox no.]	AAVM	AA	A station transferred a CO call to a specific voice mailbox.	CO	MB	{on CO}-[TRAN]-[*]-[mbox no.]- [on-hook]	1
[pkt 08]+[mbox no.]	AAVM	AA	A station transferred an ICM call to a specific voice mailbox.	ICM	MB	{on ICM}-[TRAN]-[*]-[mbox no.]-[on- hook]	√
[pkt 09]+[mbox no.]	AAVM		An incoming CO call to a station is forwarded to the VM.	CO	MB	{incoming CO call}-{forwarded}	1
[pkt 10]+[mbox no.]	AAVM		An incoming ICM call to a station is forwarded to the VM.	ICM	MB		V
[pkt 11]+[ext. no.]	AAVM		VM transferred a call to a station, but it recalled to the VM because the station does not answer.	CO	AA	{on CO}-[hook flash]-[ext. no.]-[on-hook]-{recall}	
[pkt 12]+[ext. no.]	AAVM		VM transferred a CO call to a station, but it recalled to the VM because the station is busy or in DND.	CO	AA		
[pkt 13]+[mbox no.]	AAVM	AA	A station wants to retrieve a message from its own voice mailbox.	ICM	MB	{on ICM, at own sta.}-[*]-[mbox no.]	
[pkt 14]	AAVM	AA	A station answered during CO (screened) transfer by the VM.				
[pkt 15]+[trunk. no.]		AA	An incoming CO call to a station is forwarded to the AA.	CO	AA		V
[pkt 16]+[ext. no.]		AA	An incoming ICM call to a station is forwarded to the AA.	ICM	AA	{incoming ICM call}-{forwarded}	
[pkt 17]+[ext. no.]		AA	VM transferred a CO call to a station, but it recalled to the AA because the station does not answer.	CO	AA		
[pkt 18]+[ext. no.]		AA	VM transferred a CO call to a station, but it recalled to the AA because the station is busy or in DND.	CO	AA		
[pkt 19]	AAVM	AA	A party (CO/ICM) connected to the VM hangs up.				
[pkt 20]	AAVM	AA	A packet separator for the Caller ID information.				
[pkt 21]+[mbox no.]	AAVM	AA	A station started to record a call to its voice mailbox.	ICM/CO	MB	{on ICM}-[REC]	
[pkt 22]	AAVM	AA	A station ended conversation recording.	ICM/CO	MB	{on ICM, at recording station}-[REC]	

Note: Packets 21 and 22 are available in software versions 4.71/5.71 and higher only.

Class 04 Item 77 – Voice Mail/Auto Attendant Packet Codes (Cont.)

Voice Mail/Automated Attendant Packet Codes for Software Version 4.0

Element	Packet Type & Number	Description	Packets
01	ci-1 Call Identifier 1	Incoming CO, ICM screened/unscreened transfer or consultation hold recall to the voice mail port, to be answered with the general greeting.	[ci-1]
02	ci-2 Call Identifier 2	ICM call, screened/unscreened transfer or Message Waiting answer ([Message] + [#]) to a mailbox; to be answered with a personal greeting. Note: [000] is sent only when Class 04.71 <e14> is enabled</e14>	[ci-2]+[000]
03	ci-3 Call Identifier 3	CO/ICM calls or screened/unscreened transfers forwarded to a mailbox, to be answered with a personal greeting.	[ci-3]+ [trunk no.]
04	ci-4 Call Identifier 4	Direct incoming CO calls to the automated attendant port. CO/ICM camp on call	[ci-4]+[ext. no.] [ci-4]+[trunk no.]
05	ci-5 Call Identifier 5	Unscreened CO transfer or consultation hold recall to the automated attendant system.	[ci-5]+ [trunk no.]
06	ci-6 Call Identifier 6	Incoming CO call or unscreened transfer forwarded to the automated attendant system.	[ci-6]+ [trunk no.]
07	ci-7 Call Identifier 7	Camp-on/unscreened transfer recalls to the automated attendant system.	[ci-7]+[ext. no.]
08	ci-8 Call Identifier 8	ICM calls, ICM calls forwarded, screened/unscreened CO/ICM transfers and screened CO/ICM transfers forwarded to the automated attendant system.	[ci-8]
09	cp-1 Call Process 1	Call Answered – ADIX station answers a call transferred from the voice mail or automated attendant system.	[cp-1]
10	cp-2 Call Process 2	Disconnect – ADIX station or outside caller hangs up, disconnecting a call.	[cp-2]

DSS Display

Class/Item	Element Field	Description	Data Field
04.77	<num01></num01>	VM / AA Packet Code	0
04.77	<num23></num23>	VM / AA Packet Code	0

Programming Field Description

Element Meaning: See above tables.

Field: Range: 01-20

Data Field: Meaning: Enter packet codes such as identifiers or digits to be

included.

Range: Up to 4 digits (0-9, A-D, *, #) Note: A-D can be used with

software versions 4.60/5.60 only

Default: None

Element Meaning: See description.

Field: Range: 23

Note: Digits A, B, C, and D count as three digits. A = pause + pause + pause + flash, C = pause + speed, D = pause + null.

Class 04 Item 77 – Voice Mail/Auto Attendant Packet Codes (Cont.)

Programming Field Description

Data Field: Meaning: Enter packet codes such as identifiers or digits to be

included.

Range: Must be programmed as 2222

Default: None

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 04.71 Call Coverage/Voice Mail

Data; 07.02 Hunt Group Access Number; 07.06 Feature Access Number; 08.01 Hunt Group Type; 08.02 Hunt Group Station; 08.03 Hunt Group ID; 10.45

Message Waiting; 14.01 Key Assignment; 15.01 Attendant Key Assignment; Class

24 Caller ID/ANI Conversion Data; Class 25 DNIS Conversion Data.

Note: Packet 23 (Class 04.77<NUM23>) Voice Mail Stop Recording/ Delete Message, d1 must be set to 2222 for Voice Mail Monitor (Answering Machine Emulation) to function.

04.70 < NUM38 > Automatic/User Initiated Monitor, 04.77 < NUM22 > Disconnect

Packet, 04.77<NUM23> Voice Mail Stop Recording/ Delete

Message,,10.72<EXTLxxx-07> Enable/Disable Answering Machine Emulation, 14.01<Key Pattern> Station Key Assignment, 15.01<Key Pattern> Attendant Key

Assignment

Associated: 10.04 Station ID.

Related Operation:

Voice Mail/ Automated Attendant Integration. Interactive Voice Response Unit.

Hardware Required:

IX-CPUL-1 with IX-EMEM-1, IX-CPU16, IX-CPU16M, IX-CPU32, IX-8SUBS, IX-8SUBS-1/IX-8SUBS-2, customer supplied voice mail/automated attendant system.

Programming Reserve 9

(Software Versions 4.2 and Higher Only)

Class 04 Item 78

Class 04 Item 78 – Programming Reserve 9 contains the following programming elements:

Elements	Description
01-32	Toll Dial Table for Forced Account Code The telephone numbers registered in Class 04.78 Elements 01-32 will force a station to enter a forced account code if the station has been programmed in <i>Class 10.73</i> , <i>Element 03</i> , $data=2$ – "Forced on long distance outgoing calls".
33-42	Emergency Dial Numbers The telephone numbers registered in Class 04.78 Elements 33-42 can be dialed without forced account code entry regardless of how <i>Class 10.73</i> , <i>Element 03</i> is programmed.

Note: These entries have no meaning for Toll Restriction in Classes 06.01, 06.02, and 06.03.

DSS Display

Class/Item	Element Field	Description	Data Field
04.78	<num33></num33>	Reserve9	911

Programming Field Description

Element Meaning: See element descriptions above.

Field: Range: 01-42

Data Field: Meaning: Enter dial data for forced account codes and Emergency

numbers.

Range: Up to **16** digits (0-9, #, *, [ALL] = n)

Default: e33=911 (Software versions 4.62/5.62 and higher only)

Related Databases:

Required: 04.71, Element 03 Forced Account Code Length; 10.73, Element 03 Forced

Account Code Station; 11.70, Element 02 Forced Account Trunk.

Associated: 04.71, Element 04 Number of Verified Account Codes; 05.01 System Speed Dial;

10.70 <03> Verified Account Code Display; 10.70 <05> SMDR Account Code

Printout; 14.01/15.01 Key Attendant.

Related Operation:

To make an outside call at a forced/verified account code station:

- 1. Go off-hook and press [FLT n] or [COL n]
- 2. Dial the desired phone number
- 3. Press [*] and wait for the account code entry tone
- 4. Enter an account code
- 5. If variable-length account codes are used press [*]

E-Response Help Call LCD Display

Class 04 Item 79

Class 04 Item 79 <NUM08> is used to program the Alphanumeric E-Response Help Call LCD Display. When the E-Response help call is placed, the LCD displays of the called extensions in the E-Response ICM Group will display the message programmed in *Class 04.79 <NUM08>* plus the calling party's extension number (*Class 10.02*) and station ID (*Class 10.04*). The E-Response Message may be a maximum of 16 characters in length.

DSS Display

Class/Iten	n Element Field	Description	Data Field
04.79	<num08></num08>	Programming Reserve 10	blank

Programming Field Description

Element Meaning: E-Response Help Call LCD Display

Field: Range: 08

Data Field: Meaning: Alphanumeric E-Response message

Range: Up to 16 Characters

Default: blank

Related Databases:

Associated: 04.35 Miscellaneous Function.04.36 Miscellaneous Relay timer, 14.01 Key

Assignment; 15.01 Attendant Key Assignment, 04.76 < NUM01>, 04.71

<NUM42>.

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU

System Speed Dial

Class 05 – System Speed Dial contains the programming items necessary to set up system speed dialing functions. The following programming items are included in Class 05:

- 05.01 System Speed Dial Number
- 05.02 System Speed Dial ID
- 05.03 System Speed Dial Invisible

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System Speed Dial – Number

Class 05 Item 01

Class 05 Item 01 – System Speed Dial – Number is used to register the system speed dial numbers. For software versions 4.2 and higher, the Class 05.01 table is used for both *system speed dial numbers* and *forced and verified account codes* as defined in *Class 04.71*, *Element 04 – Number of Verified Account Codes*. Class 04.71, Element 04 defines the number of verified account codes.

Note: Speed Dial number 89 or 899 – depending on the programming assigned in *Class 02.01* – are reserved for the *automatic outgoing CO* feature (software versions before 3.0 only).

Rules for Accessing CO Groups when Speed Dialing

For software versions prior to 3.0:

You must program an *outgoing CO group number* to enable quick mode operation (speed dialing in which the system automatically selects an outside line). If the speed dial number programmed in Class 05.01 does not include an outgoing CO group number and if a station is programmed in *Class 10.32* to allow optimized routing calls, all speed dial calls performed by that station will be subject to optimized routing. If a station is denied from making calls using optimized routing, that station cannot access speed dialing.

For Software Versions 3.0 and higher

If **00** is programmed as the value in data field 1, when a key telephone uses the system speed dial feature without first selecting a CO line, the outside line is selected according to the optimized routing plan. If optimized routing is not programmed, an outside line is selected from one of the CO groups available to that station. The outside line for system speed dialing performed by a single-line telephone is selected in the same manner.

Note: When a flash is entered in a speed address, the system automatically accesses the short flash timer set in *Class 11.16*. *Class 10.32 – Optimized Routing Call* ignores flashes in the speed dial number.

To Enter a system speed dial number in Class 05.01

From a DSS console:

To program a:	Enter this:	To get this result on the display:	
digit to be dialed	0-9, *, #	0-9, *, #	
pause	[PAUSE] + [0-9]	P (0-9)	
Note: Use the [SPK	KR] key on a programming	g KT to register a pause.	
dial alteration	[PAUSE] + [*]	T (DP to DTMF)	
	[PAUSE] + [#]	P (DTMF to DP)	
flash	[TRAN]	FS	
tandem	[SPEED] + number	SP (other SPD)	

Class 05 Item 01 – System Speed Dial – Number (Cont.)

DSS Display

Class/Item	Element Field	Description	Data Fields
			d1-d2
05.01	<num00></num00>	System Speed Dial - No.	00-

Programming Field Description

Element Meaning: Speed dial bin number.

Field: Range: 00-89 = If Class 02.01 is set to 0

000-899 =If Class 02.01 is set to 1

Data Field 1 Meaning: Outgoing CO group number.

(d1): Range: 0-60

Default: **00** (See note for versions 3.0 and higher.)

Data Field 2 Meaning: Speed dial outgoing digits.

(**d2**): Range: Up to **32** digits (0-9, *, #, pause, flash, null)

Default: None.

Related Databases:

Required: 02.01 System Speed Dial Type.

Associated: 04.71, Element 04 Number of Verified Account Codes; 05.02 System Speed Dial

ID; 05.03 System Speed Dial – Invisible; 07.03 CO Group; 10.30 Automatic Outgoing CO; 10.73 Forced Account Code Station; 11.70, Element 02 Forced

Account Code Trunk Access No.; Class 17 Optimized Routing.

Related Operation:

System Speed Dial

On-Hook [SPEED] + 00-89 or 000-899

System Speed Dial – ID

Class 05 Item 02

Class 05 Item 02 – System Speed Dial – ID is used to register an alphanumeric ID (figure 05.02) for each system speed dial number registered in *Class 05.01*. The speed dial ID is displayed on a key telephone's LCD display with the speed dial number when scrolling through the speed dial directory or when speed dialing the programmed number.



DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	05.02	<num00></num00>	System Speed Dial - ID	

Programming Field Description

Element Meaning: Speed dial bin number.

Field: Range: **00-89** if Class 02.01 is set to 0

000-899 if Class 02.01 is set to 1

Data Field: Meaning: ID code for system speed dial number.

Range: Alphanumeric up to **10** characters

Default: None

Related Databases:

Required: 02.01 System Speed Dial Type; 05.01 System Speed Dial – Number.

Associated: 05.03 System Speed Dial – Invisible.

Related Operation:

System Speed Dial [SPEED] + 00-89 or 000-899

Hardware Required:

Key telephones with LCD displays.

System Speed Dial – Invisible

Class 05 Item 03

Class 05 Item 03 – System Speed Dial – Invisible is used to program whether the speed dial number and speed dial ID are displayed on the KT and included in the SMDR printout.

DSS Display

Class/Item	Element Field	Description	Data Field
05.03	<num00></num00>	System SPD Dial - Invisible	0

Programming Field Description

Element Meaning: Speed dial bin number.

Field: Range: **00-89** if Class 02.01 is set to 0

000-899 if Class 02.01 is set to 1

Data Field: Meaning: Toggle between display/do not display and print on

SMDR/do not print on SMDR speed dial number

and ID.

Range: 0 = display

1 = do not display

Default: 0

Related Databases:

Required: 02.01 System Speed Dial Type; 05.01 System Speed Dial – Number. **Associated:** 05.02 System Speed Dial – ID; 10.30 Automatic Outgoing CO.

Related Operation:

System Speed Dial [SPEED] + 00-89 or 000-899

Hardware Required:

Key telephones with LCD displays.

Toll Restriction

Class 06 – Toll Restriction is used to set up the dial tables, plan tables and access codes which are used throughout the ADIX to place restrictions on CO calls. The items in Class 06 include:

- 06.01 Toll Restriction Table
- 06.02 Toll Restriction Plan Table
- 06.03 Toll Restriction Dial Table
- 06.04 Toll Restriction Predial
- 06.05 Toll Restriction Allow List
- 06.06 Toll Restriction Deny List
- 06.07 Toll Restriction SMDR Table
- 06.08 Toll Restriction Equal Access
- 06.09 Toll Restriction Equal Access Pin Code
- 06.10 Toll Restriction Equal Access Pin Position
- 06.11 Toll Restriction Equal Access Pin Prefix
- 06.12 Toll Restriction Equal Access CO Line Group

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Toll Restriction Table

Class 06 Item 01

Class 06 Item 01 – Toll Restriction Table is used to identify the *toll plan table number* that corresponds to each *toll restriction group number* for each *station toll class*. The Toll Restriction Table below (figure 06.01) illustrates the method used to determine an individual toll plan number according to the toll restriction group number of the CO line seized, and the *station toll class* (1-4, 8-15) assigned to the dialing station. If the system identifies that the number includes a *Predial Group Number* (*Class 11.41*), the toll restriction group number will be determined in *06.04 Predial*. If the number dialed includes an *equal access code*, once the system identifies this code programmed in Class 06.08, the toll restriction group number is determined in *Class 06.12 – Equal Access CO Line Group*. For example, if a station is assigned to *toll class 2* in *Class 10.23*, when that station seizes a line and dials a number, if that line is assigned to group 3 in *Class 11.40*, the system selects *Toll Plan Table 2*, as illustrated in figure 06.01. In this case, Class 06.01 should be programmed as follows:

[6.01 <TGP03-2> Table (0 \rightarrow 32) 2

Station Toll Class corresponds with Element 2 (e2) programmed in Class 10.23

Station Toll Class Toll Restriction **Group Number** 2 3 8 9 15 10 11 12 13 14 0 1 2 2 3 4 31 32

Toll Restriction Group Number corresponds with Element 1 (e1). It identifies the trunk group number assigned in Class 11.40

Enter the toll plan number from this area in the Class 06.01 data field

FIGURE 06.01 TOLL RESTRICTION GROUP TABLE

Class 06 Item 01 – Toll Restriction Table (Cont.)

DSS Display

_	Class/Item Element Fields		Description	Data Field
	06.01	<tgp01-1></tgp01-1>	Group Table (0→32)	0

Programming Field Description

Element Meaning: Toll restriction group number assigned to each CO

Field 1 (e1): line in *Class 11.40*.

Range: **00-32**

Element Meaning: Toll restriction class assigned to each station in

Field 2 (e2): *Class 10.23, data field 2.*

Range: **0-4**

Data Field: Meaning: Toll restriction plan table (Class 06.02) to be used

for the corresponding trunk number and station toll

restriction class.

Range: **0 - 32**Default: **0**

Related Databases:

Required: 06.02 Plan Table; 06.03 Dial Table; 06.04 Predial; 06.05 Allow List; 06.06 Deny

List; 10.23 Toll Restriction Class; 11.40 Toll Restriction Group No; 11.41 Predial

Group No.

Associated: 06.08 Equal Access; 10.52 Toll Restriction Class Alternating Group.

Related Operation:

Toll Restriction – Plan Table

Class 06 Item 02

Class 06 Item 02 – Toll Restriction – Plan Table references an *allow/deny/stop* flag that indicates the type of restriction and the number of the *dial table* that contains the dial data to be restricted under that toll plan. A maximum of eight dial table numbers can be registered per toll plan. There are forty dial tables available each containing up to ten dial data entries. The allow/deny/stop flag is assigned to each toll plan number in Class 06.02, data field 0 and indicates the following:

- **0 Deny** When data field 0 is set to *deny*, if the dial input matches the contents of the dial tables, dialing is prohibited. If it does not match, dialing is permitted.
- 1 Allow When data field 0 is set to *allow*, if the dial input matches the contents of the dial tables, dialing is permitted. If it does not match, dialing is prohibited.
- 2 Stop When data field 0 is set to *stop*, only the dialed digits matching the dial input are sent out. Any subsequent dialed digits are not sent out, e.g., the dial sender is dropped from the outgoing trunk even if *Class 10.38 Dial On Conversation* is set to enable.

Note: If data field 0 is programmed with a value of **2**, the sender is dropped after sending the allowed number of dialed digits, even if the station is enabled for 10.28 Dial On Conversation.

For example, using figure 06.02 as a guide, when the ADIX checks the data registered for Toll Plan 2, the assigned data indicates that the station is allowed all dialing except dialing which matches the dial data registered in dial table numbers 01 and 03.

Toll Plan	0 = Deny 1 = Allow	D	ial Ta	ble N	umbe	er (Ra	inge (00-40	7 8	
Number	2 = Stop	1	2	3	4	5	6	7	8	
1										
2	0	01	03							
3										
4										
5										
	\rangle									
31										
32										

FIGURE 06.02 TOLL PLAN TABLE

Class 06 Item 02 – Toll Restriction Table (Cont.)

DSS Display

	Class/Item	Element Field	Description	Data Fields d0-d1-d2-d3-d4-d5-d6-d7-d8
Ī	06.02	<num01></num01>	Р	0-00-00-00-00-00-00-00

Programming Field Description

Element Meaning: Toll plan number.

Field: Range: 01-32

Data Field 0 Meaning: For each toll plan number indicate the status.

(d0): Range: 0 = deny

1 = allow2 = allow, but stop after the dial digits listed are sent

Default: 0

Data Fields Meaning: Reference up to eight dial tables for each toll plan

1-8 (d1-d8): number.

Range: **01-40**

Default: 00

Related Databases:

Required: 06.01 Toll Restriction Table; 06.03 Dial Table; 06.04 Predial; 06.05 Allow List;

06.06 Deny List; 10.23 Toll Restriction Class; 11.40 Group No.

Associated: 06.08 Equal Access; 10.28 Dial On Conversation.

Related Operation:

Toll Restriction – Dial Table

Class 06 Item 03

Class 06 Item 03 – Toll Restriction – Dial Table is used to register dial data which is subject to toll restriction for each table number indicated in the *Class 06.02* toll plan table. Each table contains ten lines of eight digits in length for data entry. Each line can be expanded twice to reference the data contained in additional dial tables. The maximum data string including expansion tables is twenty-four digits. If the dial data entered includes an expansion, [NULL] must be entered for any unused spaces in the eight-digit field. For example, to restrict dialing of 201-935-8580 using Dial Tables 01 and 02 enter the following:

[06.03 <NUM 01-01> DIAL TABLE 201XXXXX-02-00] [06.03 <NUM 02-01> DIAL TABLE 9358580-00-00] X = Null

Up to twenty expansions on the dialed data in the first table can be entered by referencing two expansion dial tables.

DSS Display

Class/Item	Element Fields	Description	Data Fields
	e1-e2		d1-d2-d3
06.03	<num01-01></num01-01>	Dial Tbl.	-00-00

Programming Field Description

Element Meaning: Toll restriction dial table number from Class 06.02.

Field 1 (e1):

Range: **01-40**

Element Meaning: Entry line in the dial table.

Field 2 (e2): Range: 1-10

Data Field 1 Meaning: Dial data.

(d1): Range: Up to 8 digits. (0-9, #, All, Null)

Default: None

Data Fields Meaning: Expansion dial table numbers.

2-3 (d2-d3): Range: **01-40**

Default: 00

Related Databases:

Required: 06.01 Toll Restriction Table; 06.02 Plan Table; 06.04 Predial; 06.05 Allow List;

06.06 Deny List; 10.23 Toll Restriction Class; 11.40 Group No.

Associated: 06.08 Equal Access.

Related Operation:

Toll Restriction – Predial

Class 06 Item 04

Class 06 Item 04 – Toll Restriction – Predial is used to register digits that will precede a dialed number. If a trunk is programmed as a PBX or tie line in *Class 01.03*, the data entered in Class 06.04 as predial data is not checked by the ADIX toll restriction program when dialing out on that trunk. Class 06.04 has no effect unless the trunks applied for predial programming have been defined in *Class 11.40* – *Toll Restriction Group Number* and *Class 11.41* – *Predial Group Number*. For example, if Classes 06.04, 11.40 and 11.41 are programmed as follows:

[06.04 < PGP1-01> Pre-Dial 9-05] [11.40 < TRK012> TR Group No. 05] [11.41 < TRK012> Pre-Dial Group No. 1]

When a station dials an outgoing call on trunk 12 (registered as either PBX or tie line) using the prefix 9, the system checks toll restriction group 05 to determine the restriction.

DSS Display

Class/Item	Element Fields	Description	Data Fields
	e1-e2	•	d1-d2
06.04	<pgp1-01></pgp1-01>	Predial	-00

Programming Field Description

Element Meaning: Predial group number assigned in *Class 11.41*.

Field 1 (e1): Range: 1-4

Element Meaning: Entry line in the dial table.

Field 2 (e2): Range: 01-10

Data Field 1 Meaning: Predial data.

(d1): Range: Up to 4 digits. (0-9, #, All, Null)

Default: None

Data Field 2 Meaning: Toll restriction group number assigned in *Class 11.40*.

(d2): Range: 00-32

Default: 00

Related Databases:

Required: 01.03 Port Definition; 06.01 Table; 06.02 Plan Table; 06.03 Dial Table; 06.05

Allow List; 06.06 Deny List; 10.23 Toll Restriction Class; 11.40 Toll Restriction

Group No.; 11.41 Predial Group No.

Associated: 06.08 Equal Access.

Related Operation:

Toll Restriction – Allow List

Class 06 Item 05

Class 06 Item 05 – Toll Restriction – Allow List is used to define specific dial data as universally allowed, regardless of the toll restriction plan. Even if the dial data registered in Class 06.05 is denied in the Plan Table (*Class 06.02*) and Dial Table (*Class 06.03*), the ADIX allows the dialing as an exception. This table supersedes station toll class 1 through 4 assigned in *Class 10.23*.

Note: Programming in *Class 06.05* is meaningless if *Classes 06.01, 10.23, and 11.40* are not programmed.

DSS Display

Class/Item	Element Field	Description	Data Field
06.05	<num01></num01>	Allow List	911

Programming Field Description

Element Meaning: Entry line in allow list.

Field: Range: 01-32

Data Field: Meaning: Allowed dial data.

Range: Up to 8 digits. (0-9, #, All, Null)

Default: e1=911 (software versions 4.62/5.62 and higher only)

Related Databases:

Required: 06.01 Table; 06.02 Plan Table; 06.03 Dial Table; 06.04 Predial; 06.06 Deny List;

10.23 Toll Restriction Class; 11.40 Toll Restriction Group No.

Associated: 06.08 Equal Access.

Related Operation:

Toll Restriction – Deny List

Class 06 Item 06

Class 06 Item 06 – Toll Restriction – Deny List is used to define specific dial data as universally denied, regardless of the toll restriction plan. Even if the dial data registered in Class 06.06 is allowed in the Plan Table (*Class 06.02*) and Dial Table (*Class 06.03*), the ADIX denies the dialing as an exception. This table supersedes station toll class 1 through 4 assigned in *Class 10.23*. If *Class 06.06* and *Class 06.05* contain the same data values the deny list has priority.

Note: Programming in *Class 06.06* is meaningless if *Classes 06.01, 10.23, and 11.40* are not programmed.

DSS Display

Class/Item	Element Field	Description	Data Field
06.06	<num01></num01>	Deny List	

Programming Field Description

Element Meaning: Entry line in deny list.

Field: Range: **01-32**

Data Field: Meaning: Denied dial data.

Range: Up to 8 digits (0-9, #, All, Null)

Default: None

Related Databases:

Required: 06.01 Table; 06.02 Plan Table; 06.03 Dial Table; 06.04 Predial; 06.05 Allow List;

10.23 Toll Restriction Class; 11.40 Toll Restriction Group No.

Associated: 06.08 Equal Access.

Related Operation:

Toll Restriction – SMDR Table

Class 06 Item 07

Class 06 Item 07 – Toll Restriction – SMDR Table is used to define specific dial data to appear as toll call data on the SMDR printout. When *Class 04.53 – SMDR Toll Only Report* is programmed for **toll calls only**. For example, to identify all "1 + area code" dialing as a toll call to be marked with an asterisk in the SMDR printout, program Class 06.07 as follows:

[06.07 < NUM 01> SMDR TABLE 1NNN-0]

Three different classification marks can be programmed to flag a specific call type on the SMDR printout. These classification marks, included in the Programming Field Description below, are programmed in Class 06.07, Data Field 2. Dial data entered in Class 06.07 affects only the SMDR printout. It has no effect on the system toll restriction features.

Note: At default, the ADIX does not recognize any toll calls.

DSS Display

Class/Item	Element Field	Description	Data Fields
			d1-d2
06.07	<num01></num01>	SMDR Table	-0

Programming Field Description

Element Meaning: Entry line in the SMDR table.

Field: Range: **01-32**

Data Field 1 Meaning: Identifies the dialed digits to be included on the SMDR

(d1): printout.

Range: Up to 8 digits. (0-9, #, all, null, space)

Default: None

Data Field 2 Meaning: Identifies a classification mark for the digits entered in data

field 1 to be included on the SMDR printout in the note

column.

Range: 0 = * prints out next to the number in the note column

1 = # prints out next to the number in the note column

2 = no flag

Default: 0

Related Databases:

(d2):

Required: 04.50 SMDR Output Port; 04.53 SMDR–Toll Only Report; 10.18 SMDR Report;

11.29 SMDR Report.

Associated: None.

Related Operation:

SMDR Printout.

Toll Restriction – Equal Access Dial Table

Class 06 Item 08

Class 06 Item 08 – Toll Restriction – Equal Access Dial Table is used to determine the equal access dial data which corresponds to each equal access group number. Any station that uses this feature must be programmed for equal access in Class 10.31. When a station seizes a CO line and performs automatic equal access code dialing ([SPEED] + n + [*] or [#]), the system references the equal access group number specified for that line in Class 11.42, to determine the equal access number. The system then performs equal access dialing. See Class 11.42 – Equal Access Group Number for more information.

Notes:

* = with pin code, # = without pin code

The SMDR printout will mask (XXX...) all equal access dial data and pin number. These Xs (dialed digits) appear in the "called number" column of SMDR.

DSS Display

Class/Item Element Fields e1-e2		Description	Data Field
06.08	<igp1-01></igp1-01>	EQU. ACC.	

Programming Field Description

Element Meaning: Equal access group number programmed in *Class*

Field 1 (e1): 11.42.

Range: 1-4

Element Meaning: Equal Access Number.

Field 2 (e2): Range: 1-10

Data Field: Meaning: Equal access dial data.

Range: Up to **16** digits (**0-9**, *, #, **Null**)

Default: None

Related Databases:

Required: 06.09 Equal Access Pin Code; 06.10 Equal Access Pin Pos.; 06.11 Equal Access

Prefix; 06.12 Equal Access CO Line Group; 10.31 Equal Access; 11.42 Equal

Access Group No.

Associated: None.

Related Operation:

Equal Access, Toll Restriction.

Equal Access from a KT:

[SPEED] + n + [*] (n = 0 - 9, referencing access numbers 1 - 10)

F Equal Access from a SLT:

n + [*] + CO group access number (n = 0 - 9, referencing access numbers 1 - 10)

Toll Restriction – Equal Access Pin Code

Class 06 Item 09

Class 06 Item 09 – Toll Restriction – Equal Access Pin Code is used to determine the equal access pin code for each equal access number. This data is used whenever an equal access pin code is automatically dialed. This data does not apply to manually dialed calls.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
06.09	<igp1-01></igp1-01>	PIN.C	

Programming Field Description

Element Meaning: Equal access group number programmed in *Class*

Field 1 (e1): 11.42.

Range: **1-4**

Element Meaning: Equal access number.

Field 2 (e2): Range: 1-10

Data Field: Meaning: Equal access pin code.

Range: Up to **20** digits (**0-9**, *, #, **Null**, **All**)

Default: None

Related Databases:

Required: 06.08 Equal Access Dial Table; 06.10 Equal Access Pin Pos.; 06.11 Equal Access

Prefix; 06.12 Equal Access CO Line Group; 10.31 Equal Access; 11.42 Equal

Access Group No.

Associated: None.

Related Operation:

Equal Access, Toll Restriction.

Equal Access from a KT:

[SPEED] + n + [*] (n = 0 - 9, referencing access numbers 1 - 10)

F Equal Access from a SLT:

Toll Restriction – Equal Access Pin Position Class 06 Item 10

Class 06 Item 10 – Toll Restriction – Equal Access Pin Position is used to determine if the pin code for each equal access number is inserted before or after the dialed telephone number.

Note: If the pin position is set to a value of 1 -after the equal access number, the system will pause for three seconds before outputting the pin code.

DSS Display

Class/Item E		Element Fields e1-e2	Description	Data Field
ĺ	06.10	<igp1-01></igp1-01>	Equal Access Pin Pos.	0

Programming Field Description

Element Meaning: Equal access group number programmed in *Class*

Field 1 (e1): 11.42.

Range: **1-4**

Element Meaning: Equal access number.

Field 2 (e2): Range: 1-10

Data Field: Meaning: Determine if the equal access pin code is inserted

before or after the dialed data.

Range: 0 =before dialed telephone number

1 = after dialed telephone number

Default: None

Related Databases:

Required: 06.08 Equal Access Dial Table; 06.09 Equal Access Pin Number; 06.11 Equal

Access Prefix; 06.12 Equal Access CO Line Group; 10.31 Equal Access; 11.42

Equal Access Group No.

Associated: None.

Related Operation:

Equal Access, Toll Restriction.

Equal Access from a KT:

[SPEED] + n + [*] (n = 0 - 9, referencing access numbers 1 - 10)

© Equal Access from a SLT:

Toll Restriction – Equal Access Prefix Table Class 06 Item 11

Class 06 Item 11 – Toll Restriction – Equal Access Prefix Table is used to determine if an equal access number requires a prefix. This program is used only if *Class 06.10* is set to a value of 1.

Note: If the pin code position is set to 1 -after the equal access number in *Class 06.10*, the system will pass eleven digits of dial data before inserting the pin code.

DSS Display

Class/Item		Element Fields e1-e2	Description	Data Field
	06.11	<igp1-01></igp1-01>	Equal Access Prefix	0

Programming Field Description

Element Meaning: Equal access group number programmed in *Class*

Field 1 (e1): 11.42.

Range: **1-4**

Element Meaning: Equal access number.

Field 2 (e2): Range: 1-10

Data Field: Meaning: Toggle between prefix required /prefix not

required.

Range: 0 = prefix not required

1 = prefix required

Default: **0**

Related Databases:

Required: 06.08 Equal Access Dial Table; 06.09 Equal Access Pin Number; 06.10 Equal

Access Pin Position; 06.12 Equal Access CO Line Group; 10.31 Equal Access;

11.42 Equal Access Group No.

Associated: None.

Related Operation:

Equal Access, Toll Restriction.

Equal Access from a KT:

[SPEED] + n + [*] (n = 0 - 9, referencing access numbers 1 - 10)

© Equal Access from a SLT:

Toll Restriction – Equal Access CO Line Group

Class 06 Item 12

Class 06 Item 12 – Toll Restriction – Equal Access CO Line Group is used assign equal access dial tables to a trunk group or restriction. When a station dials an outgoing call with an equal access code, the ADIX determines the toll restriction based on the toll restriction group number programmed in Class 06.12 and the station's toll class programmed in Class 10.23. At that time, the ADIX will reference the appropriate toll plan number assigned in Class 06.01. Class 06.12 has priority over the equal access group assigned to a CO line in Class 11.42.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
06.12 <igp1-01></igp1-01>		Equal Access COL Gp.	0

Programming Field Description

Element Meaning: Equal access group number programmed in *Class*

Field 1 (e1): 11.42.

Range: 1-4

Element Meaning: Equal access number.

Field 2 (e2): Range: 1-10

Data Field: Meaning: Toll restriction group number.

Range: **0-32**Default: **0**

Related Databases:

Required: 06.08 Equal Access Dial Table; 06.09 Equal Access Pin Number; 06.10 Equal

Access Pin Position; 06.11 Equal Access Prefix; 10.31 Equal Access; 11.42 Equal

Access Group No.

Associated: None.

Related Operation:

Equal Access, Toll Restriction.

Equal Access from a KT:

[SPEED] + n + [*] (n = 0 - 9, referencing access numbers 1 - 10)

F Equal Access from a SLT:

Numbering Plans

Class 07 – Numbering Plans is used to set up the access numbers used throughout the ADIX. The items in Class 07 include:

- 07.01 Park Orbit Number
- 07.02 Hunting Group Access Number
- 07.03 CO Line Group Access Number
- 07.04 Paging Group Access Number
- 07.05 PBX Network Access Number
- 07.06 Feature Access Number

Note: All items in Class 07 require unique dial codes. Use the ADIX database check program that corresponds to your current software version to eliminate numbering duplications and conflicts.

Database Check Program	Check	
CHK2A.EXE	Use for databases on CPUL cards with software versions 3.03 or lower.	
CHK3A.EXE Use for databases on CPUL-1 cards (CPU16) with 4.0X to 4.2X software and		
V1.0X CPU32x cards with 5.0X to 5.2X software.		
CHK4U.EXE	Use for databases on CPU16x cards with 4.30 software and CPU32x cards with	
V1.00	5.30 software.	
CHK5U.EXE	Use for databases on CPU16x cards with 4.50 software and CPU32x cards with	
V2.00 5.50 software.		
CHK6U.EXE	Use for databases on CPU16x cards with 4.61 software and CPU32x cards with	
V3.00	5.61 software.	

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Attendant/System Park Orbit Numbers

Class 07 Item 01

Class 07 Item 01 – Attendant/System Park Orbit Number is used to assign dial codes for the attendant/system call park orbits. Default numbering plans for software versions below 4.0 are listed in the table below. For software versions 4.0 and higher there are no default numbering assignments.

Default Numbering Assignment for Software Versions Below 4.0

Number	Assignment	Change default in programming	
		class(es)	
61-69	Attendant/System Park Orbits (1-9)	07.01 Park Orbit Number	
71-79	Hunt Group Access Numbers	07.02 Hunting Group Access Number	
80	All Call Paging	07.04 Paging Group Access Number	
81-85	Page Groups 1-5 (Internal)	07.04 Paging Group Access Number	
86-89	Paging Zones 1-4 (External)	07.04 Paging Group Access Number	
90	Optimized Routing Access	07.03 CO Line Group Access Number	
91-99	CO Trunk Group Access Number – Groups 1-9	07.03 CO Line Group Access Number	
201-299 ICM extension numbers. CO trunk access numbers		10.02 Station Numbering	
	and extension numbers in physical port sequence	11.02 CO Line Access Numbers	
501-560	Feature Access Codes (SLT)	07.06 Feature Access Number	

DSS Display

Class/Item	Element Field	Description	Data Field
07.01	<num01></num01>	Park Orbit Number	

Programming Field Description

Element Meaning: Call park orbit number.

Field: Range: 01-60

Data Field: Meaning: Access code.

Range: Up to **4** digits (**0-9**, *, #)

Default: For software versions 4.0 and higher:

None

For software versions before 4.0:

Elements <01> to <09> default is **61** to **69** For Elements <10> to <60> default is None

Related Databases:

Required: 04.24 Attendant Call Park Orbit.

Associated: 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To perform call park pickup:

[ICM] + park orbit number.

Hunting Group Access Numbers

Class 07 Item 02

Class 07 Item 02 – Hunting Group Access Numbers is used to assign ICM numbers to access station hunt groups. The digits [*] and [#] are acceptable as part of the access code.

DSS Display

Class/Item	Element Field	Description	Data Field
07.02	<grp01></grp01>	Hunting Group Acc. No.	

Programming Field Description

Element Meaning: Hunt group number.

Field: Range: 01-60

Data Field: Meaning: Access code.

Range: Up to 4 digits (0-9, *, #)

Default: For software versions 4.0 and higher:

None

For software versions before 4.0:

Elements <01> to <09> default is **71** to **79** For Elements <10> to <60> default is None

Related Databases:

Required: 08.01 Hunt Group – Type; 08.02 Hunt Group – Station

Associated: 04.20 UCD Disconnect Timer; 04.21 Hunting Time; 04.71 Call Coverage/Voice

Mail Data, UCD Overflow Timer; 04.77 Auto Attn/Voice Mail Packet Codes;

08.03 Hunt Group - ID; 08.05 UCD Group; 11.34 DIL to Hunt Group.

Related Operation:

ICM Master Hunt Group, UCD, Voice Mail/Automated Attendant Integration.

To program DIL to a Hunt Group:

Dial [ICM] + hunt group no. or Class 11.34 – DIL to Hunt Group.

To call a hunt group:

Dial [ICM] + hunt group number

To transfer a CO or ICM call to a hunt group:

While on CO/ICM call, press [TRAN] + hunt group number + on-hook.

CO Line Group Access Numbers

Class 07 Item 03

Class 07 Item 03 – CO Line Group Access Numbers is used to assign ICM dialing numbers to access CO line groups. Use group number 61 in the element field for multiple CO group access. This option is available with software versions 3.0 and higher only. Enter group number 63 in the element field for the CO line group **optimized routing** access feature. This feature is used to access CO lines when dialing on ICM. The digits [*] and [#] are acceptable as part of the optimized routing access code. Class 07.03 does not apply to floating group CO access (using a [FLT n] key).

DSS Display

Class/Item	Element Field	Description	Data Field
07.03	<grp01></grp01>	COL Group Acc. No.	

Programming Field Description

Element Meaning: Outgoing CO group number.

Field: Range:

> **61** = multiple CO group access **63** = optimized routing access

62 = not used

Data Field: Meaning: Access code.

> Up to 4 digits (0-9, *, #) Range:

Default: For software versions 4.0 and higher:

For software versions before 4.0: Elements <01> to <09> default is **91** to **99**

For Elements <10> to <60> default is None

Related Databases:

Required: 10.21 Outgoing CO Line Group; 10.32 Optimized Routing Call; 11.38 Outgoing

CO Group.

Associated: 04.25 Element 7 Multiple CO Group; 10.33 Forced Optimized Routing; Class 17

Optimized Routing.

Related Operation:

Outgoing Calls.

To access multiple CO groups:

At the ICM dial tone enter the multiple CO group number.

To access a CO group:

Off-hook (ICM dial tone) + dial COL group access number + telephone number.

To access optimized routing:

Off-hook (ICM dial tone) + dial no. 63 access number + telephone number.

Paging Group Access Numbers

Class 07 Item 04

Class 07 Item 04 – Paging Group Access Numbers is used to define the ICM dial numbers used to access the system paging features. *All Call* includes the paging stations assigned to page group 30 and the external speakers assigned to page group 60. The table below lists the default page group numbers for software versions prior to 4.0. There are no default page group access numbers for software versions higher than 4.0.

Page Group Number	Feature	
01-30	Station Group Call	
31-60	Zone Page	
63	All Call	

DSS Display

Class/Item	Element Field	Description	Data Field
07.04	<num01></num01>	Paging Group Acc. No.	

Programming Field Description

Element Meaning: Paging group number

Field: Range: **01-60**,

63 (all call)

Data Field: Meaning: Access code.

Range: Up to 4 digits (0-9, *, #)

Default: For software versions 4.0 and higher:

None

Related Databases:

Required: 08.04 Page Group – Station/Zone; 10.38 Paging Access. **Associated:** 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To perform a page group call:

Press [ICM] + paging access code.

or, group page number

or, zone page number

or, all call page

or, all call press to page

PBX Network Access Numbers

Class 07 Item 05

Note: In Software Version 6.00, this item has been replaced by Class 28.

Class 07 Item 05 – PBX Network Access Numbers is used to define the ICM access code to be used for dialing a remote system connected through networking. Any numbers programmed in Class 07.05 are for use as access codes only. The dial access digits programmed in Class 07.05 do not output to the CO line. They are designed to access data stored in Class 04.26. If any predialing through the CO networking feature is required it must be programmed in Class 04.26 – Networking Plan. The Conversion Table Number (element 1) used in this item must match the corresponding Conversion Table Number programmed in Class 04.26, Element 1. If an automatic pause time is programmed in Class 11.14, it is inserted after the network access code.

Note: The networking related database is referenced by the conversion table number as follows:

Network Data	04.26 Networking Plan			07.05Network Access No.
Conversion Table No. (e1)	Total digits dialed (d1)	CO Group No. (d2)	Additional Predial (d3)	Network Access Code
01				01
02				02

For detailed information regarding network programming, refer to Chapter 3 – System Networking.

DSS Display

Class/Item	Element Field	Description	Data Field
07.05	<num01></num01>	PBX-Network Acc. No.	

Programming Field Description

Element Meaning: Conversion Table Number.

Field: Range: **01-32**

01-60 software version 4.3/5.3 and higher

Data Field: Meaning: Access code.

Range: Up to 4 digits (0-9, *, #)

Default: None

Related Databases:

Required: 04.26 Networking Plan; 10.21 Outgoing CO Line Group; 11.14 Automatic Pause

Time; 11.38 Outgoing CO Group.

Associated: None.

Related Operation:

Networking.

Off-hook (ICM) + dial (07.05 access number) + [04.26 (d1)]

Feature Access Numbers

Class 07 Item 06

Class 07 Item 06 – Feature Access Numbers is used to assign ICM dial numbers to access system features without using the [FEAT] key. These numbers are used primarily by single-line telephones and data modules. The Feature Access Code Table on the next page lists each feature that may be assigned an access code. There are no default access codes for software versions higher than 3.0. Feature access code assignment should be planned carefully to avoid conflicts with other numbering plans.

Notes: Two room status change codes were added in software versions 3.0 and higher. They enable hotel room status displays to be changed from the station. Additionally, software versions 3.0 and higher allow programming of feature access codes for external control of the remote CO forward feature using DISA.

Voice mail/auto attendant mailbox access numbers may be programmed in software versions 4.0 and higher only. Mailbox access numbers correspond to hunt groups (47-50), which are designated for voice mail/auto attendant ports.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	07.06	<num01></num01>	Feature Access Number	

Programming Field Description

Element Meaning: Feature Access Number.

Field: Range: **01-60**

Data Field: Meaning: Access code.

Range: Up to 4 digits (0-9, *, #)

Default: None

Related Databases:

Required: 01.03 Port Definition (for SLT or Data Modules).

Associated: 04.71 Call Coverage/Voice Mail Data; 04.77 Voice Mail/Automated Packet Codes.

Related Operation:

Feature Access from Single-Line Telephones or ADIX Data Modules, Voice Mail/Automated Attendant Integration.

Class 07 Item 06 – Feature Access Numbers (Cont.)

Feature Access Codes

For software versions 4.0 and higher, feature access numbers 48-51 correspond to a hunt group number to which an auto attendant or voice mail port is assigned.

Feature Code <numnn></numnn>	Feature	
01	Cancel	
02	SPD (for SLT and data modules only)	
03	SPD with Group (for SLT and data modules only)	
04	SPD without Group (for SLT and data modules only)	
05	Last No. redial (for SLT and data modules only)	
06	Trunk Queuing (for SLT and data modules only)	
07	Busy Number Callback (for SLT and data modules only)	
08	Hold/Hold Pickup (for SLT and data modules only)	
09	Group Call Pickup In Group	
10	Group Call Pickup In Group	
11	Directed Call Pickup	
12	Station Park Pickup (for SLT and data modules only)	
13	Remote Station Park Pickup	
14	Long CO Flash (for SLT and data modules only)	
15 16	Short CO Flash (for SLT and data modules only) ADD (for SLT and data modules only)	
(17)	ADD (for SET and data modules only)	
18	ICM Call Back (for SLT and data modules only)	
19	Message Wait (for SLT and data modules only)	
20	Call Forward Destination (for SLT and data modules only)	
21	Call Forward Mode (for SLT and data modules only)	
22	Call Forward Activation (for SLT and data modules only)	
23	DND (for SLT and data modules only)	
24	Meet-me Answering	
25	Voice Message ([Message Record] key or [FEAT]+[4][5])	
26	Morning Call Registration	
27	Station Password (for SLT and data modules only)	
28	Through Dialing (for SLT and data modules only)	
29	Through Dialing - Disconnect (for SLT and data modules only)	
30	All Attendant Call	
36	Room Status-Occupied and Cleaned (software v. 3.0 and up only)	
37	Room Status-Occupied and Cleaning Confirmed (software v. 3.0 and up only)	
38	Remote CO Forward Access Code for Reactivating/Cancellation (software v. 3.0 and up only) CO Group Incoming Call Answer	
39	OO GIOUP IIIOOTIIIIY OAII ATISWEI	
43	Automatic Relay Feature Access Number	
45	External Call Forward Set (for SLT and data modules only)	
46	UNA Pickup	
47	Account Code (for SLT and data modules only)	
48	Voice Mail/Auto Attendant Hunt Group 47 (software v. 4.0 and up only)	
49	Voice Mail/Auto Attendant Hunt Group 48 (software v. 4.0 and up only)	
50	Voice Mail/Auto Attendant Hunt Group 49 (software v. 4.0 and up only)	
51	Voice Mail/Auto Attendant Hunt Group 50 (software v. 4.0 and up only)	
52	I-CNIS OFF	
53	Transfer to Park (for SLT and data modules only)	

Group Data

Class 08 – Group Data is used to set up hunt groups and page groups. The items in Class 08 include:

- 08.01 Hunt Group Type
- 08.02 Hunt Group Station
- 08.03 Hunt Group ID
- 08.04 Paging Group Station/Zone
- 08.05 UCD Hunt Group
- 08.06 Text Message Group

Hunt Group – Type

Class 08 Item 01

Two types of hunting methods are available with the ADIX to search for an idle station within a group:

- **Terminal Hunting** Incoming calls start hunting from the first station in the group.
- **Distributed Hunting** Incoming calls start hunting from the station following the last station in the group that answered a call.

Class 08 Item 01 – Hunt Group – Type is used to assign a hunting type to a specific hunt group.

Note: In software versions 4.0 and higher, hunt groups 47-50 are designated for voice mail or auto attendant ports only and hunt groups 51-60 are designated for data module ports only.

See Chapter 3 – Station Hunt Groups for a detailed description of hunt group programming.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	08.01	<grp01></grp01>	Hunt Group - Type (0→1)	0

Programming Field Description

Element Meaning: Hunt group number.

Field: Range: 01-60

Data Field: Meaning: Toggle between terminal/distributed hunting.

Range: **0** = terminal hunting

1 = distributed hunting

Default: **0**

Related Databases:

Required: 04.21 Hunting Time; 07.02 Hunting Group – Access No.; 08.02 Hunt Group –

Station.

Associated: 04.34 UCD Answer; 08.03 Hunt Group ID; 08.05 UCD Hunt Group; 11.34 DIL to

Hunt Group.

Related Operation:

ICM Master Group Hunt, UCD.

Hunt Group – Station

Class 08 Item 02

Class 08 Item 02 – Hunt Group – Station is used to define the stations that belong to each master hunt group and the order which they will be called. Up to thirty-two stations can be registered in one group. Stations belonging to a hunt group are passed over when the following conditions exist:

- 1. The station is busy.
- 2. While receiving calls with higher priority.
- 3. When in the following modes:
 - Call Forward All Calls
 - DND
 - Absence Message is activated
 - Station Forced Release
 - The incoming line is pick-up restricted
- 4. If all the stations in a hunt group are in DND, the call is automatically routed to the attendant.
- 5. If all the stations in a hunt group are busy and attendant intercept is not set for the trunk, the call rings (or waits to ring) at the first station in order of the hunt group.
- 6. If off-hook signaling is enabled, a call will ring with a local tone if the station is busy.

Note 1: In software versions 4.0 and higher, hunt groups 47-50 are designated for voice mail or auto attendant ports only and hunt groups 51-60 are designated for data module ports only.

Note 2: Only hunt group 47 allows access to voice mail by pressing [MSG] + [#]. Additionally, the Conversation Recording feature may only be accessed via hunt group 47.

See Chapter 3 – Station Hunt Groups for a detailed description of hunt group programming.

Class 08 Item 02 – Hunt Group – Station (Cont.)

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field
08.02	<grp01-01></grp01-01>	Hunt Group - Station	0

Programming Field Description

Element Meaning: Hunt group number.

Field 1 (e1): Range: **01-60**

Element Meaning: Position in the hunting sequence.

Field 2 (e2): Range: 01-32

Data Field: Meaning: Station logical port.

Range: **0-448**Default: **0**

Related Databases:

Required: 07.02 Hunting Group – Access No.

Associated: 04.21 Hunting Time; 04.71 Call Coverage/Voice Mail Data; 04.77 Auto

Attn/Voice Mail Packet Codes; 08.01 Hunt Group Type; 08.03 Hunt Group – ID; 08.05 UCD Hunt Group; 11.34 DIL to Hunt Groups; 14.01 Key Assignment; 15.01

Attendant Key Assignment.

Related Operation:

Master Group Hunt, UCD, Voice Mail/Automated Attendant Integration.

Hunt Group – ID

Class 08 Item 03

Class 08 Item 03 – Hunt Group – ID is used to program an alphanumeric ID up to eight characters in length for hunt group identification. This ID appears at stations equipped with an LCD display when calling the hunt group.

Note: In software versions 4.0 and higher, hunt groups 47-50 are designated for voice mail or auto attendant ports only and hunt groups 51-60 are designated for data module ports only.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	08.03	<grp01></grp01>	Hunt Group - ID	

Programming Field Description

Element Meaning: Hunt group ID.

Field: Range: 01-60

Data Field: Meaning: Hunt group identification name

Range: Up to 8 alphanumeric characters

Default: None

Related Databases:

Required: 07.02 Hunting Group Access Number; 08.02 Hunt Group – Station.

Associated: 04.21 Hunting Time; 08.01 Hunt Group – Type; 08.05 UCD Hunt Group; 11.34

DIL to Hunt Groups; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To perform a Master Group Hunt:

Dial [ICM] + hunt group access number.

Hardware Required:

Any key telephone with a display.

Paging Group – Station/Zone

Class 08 Item 04

Class 08 Item 04 – Paging Group – Station/Zone is used to assign stations to a page group for group calls and zone speakers to page groups for zone paging. Each group can contain a maximum of sixty-four stations or speakers. A maximum of sixteen external paging zones (four IX-MISC cards) can be accommodated. The table below lists the page group numbering plan:

Page Group No.	Page Feature	Data Field Entry	Notes
(e1)			
01-29	Station Group Call, ICM Group Call, E-Response	Logical port numbers of stations in the group.	A station can belong to more than one group.
	Help Call	Stations in the group.	
30	Internal Group – All Call	Logical port numbers of	All station page.
		stations in the group.	
31-59	Zone Page	MISC logical port number(s).	
60	Zone – All Call	MISC logical port number(s).	All zone page.

IX-EDVIF Card vs. IX-MISC Card The table below lists the differences between the IX-EDVIF card and the IX-MISC card:

Function	IX-MISC Card	IX-EDVIF Card
Two-Wire/Four-Wire Paging Output	YES	YES
BGM Input	YES	YES
BGM Output	YES	YES
Zone BGM Input	YES	YES
Page Contact	YES (MAKE)	YES (MAKE/BREAK)
Zone Paging	4 Zones	4 Zones
Zone Page In	YES	YES
Relays, General	8	4
Sensor Inputs	4	2
MOH Input	YES	NO

The table below lists the physical port layout of the IX-EDVIF card and the IX-MISC card for miscellaneous functions:

Port	IX-MISC Card	IX-EDVIF Card
1	Zone 1	Zone 1
2	BGM Source	BGM Source
3	MOH Source	Undefined
4	Relays 1-8	Relays 1-4
5	Sensor 1-4	Sensor 1-2
6	Zone 2	Zone 2
7	Zone 3	Zone 3
8	Zone 4	Zone 4

Class 08 Item 04 – Paging Group – Station/Zone (Cont.)

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
08.04	<grp01-01></grp01-01>	Page Group - Sta/Zone	0

Programming Field Description

Element Meaning: Page group number.

Field 1 (e1): Range: **01-60**

Element Meaning: Stations/zones in the group.

Field 2 (e2): Range: 01-64

Data Field: Meaning: Station/miscellaneous logical port numbers.

Range: **001-448**

If (e1) = 01-30 – enter station logical port number.

If (e1) = 31-60 – enter miscellaneous logical port number.

Default: 0

Related Databases:

Required: 07.04 Paging Group Access No; 10.38 Paging Access.

Associated: 01.03 Port Definition; 04.40 DISA: Paging Call; 10.49 Meet-Me Answer Group;

14.01 Key Assignment; 15.01 Attendant Key Assignment.

ICM Group 04.22 ICM Calling Mode; 07.04 Paging Group Access Number; 08.04 Paging

Call: Group - Station/Zone; 08.05<GRPnn-06> Paging Group Type; 10.48 Calling

Mode.

E-Response 04.13 Call Forward No Answer; 04.22 ICM Calling Mode; 04.71<NUM41> E-**Help Call:** Response Help Call Time Out; 04.79<NUM08> E-Response Help Call Message;

07.04 Paging Group Access Number; 08.04 Paging Group - Station/Zone;

08.05<GRPnn-06> Paging Group Type; 08.05<GRPnn-07> E-Response Contact Relay; 10.48 Calling Mode; 10.74<EXTLnnn-3> E-Response Help Call Mode;

10.74<EXTLnnn-4> E-Response Help Call Extension.

Related Operation:

Group Call, Zone Page, All Page, Meet-Me Page.

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

UCD Hunt Group

Class 08 Item 05

Class 08 Item 05 – UCD Hunt Group contains elements which are used to define up to sixty groups as UCD groups, two messages and an overflow destination to handle UCD (Uniform Call Distribution) calls. UCD Hunt Group enhances the characteristics of the station hunt groups programmed in Class 08.02. The following calls are handled as UCD calls when they initially ring at stations belonging to a UCD group:

- Incoming calls on loop or ground start trunks.
- DID calls.
- DISA calls.
- Transferred calls
- Forwarded calls.

If the incoming call is not answered by a station in the UCD group, the ADIX system can answer the call. Two messages can be programmed in Class 08.05 to handle the call. An overflow destination can also be programmed using Class 08.05. UCD calls can be programmed to overflow to another UCD group or a hunt group. A UCD call can overflow only once.

Programming Specifications

Class 08.05 contains the following element fields:

Field:	Used to:	
Element 1 (e1)	Identify a hunt group programmed in <i>Class 08.02</i> or paging group programmed in <i>Class 08.04</i> .	
Element 2 (e2)		
If $(e2) = 01$	Define a the group as a UCD group or hunt group. A group must be defined here as a UCD group to activate the other (e2) operations for that group.	
If $(e2) = 02$	Identify Message 1 for the UCD group. This message is played if an incoming call to the UCD group is not answered by the time the value programmed in <i>Class 04.34 – UCD Answer Time</i> has expired.	
If $(e2) = 03$	Identify Message 2 for the UCD group. The second message follows the first message if a call is not answered by the time the value programmed in <i>Class 04.20</i> , <i>Element 59 – UCD Message Interval</i> has expired.	
If $(e2) = 04$	Identify the overflow destination for the UCD group. If a UCD call is not answered by the time the value programmed in <i>Class 04.71, Element 05 – UCD Overflow Timer</i> has expired, the call will be forwarded to the group programmed here.	
	Note: Camp-on duration (<i>Class 04.12</i>) must be longer than UCD overflow time for camped-on calls to overflow. Calls transferred to a UCD group will recall when the timer in Class 04.12 expires.	
If $(e2) = 06$	Identify a paging group from Class 08.04 as an ICM Group. Doing so allows the specified group to be programmed as the destination for an ICM Group Call or E-Response Help Call.	
If $(e2) = 07$	Identify a one-shot relay to be used with E-Response.	

Class 08 Item 05 – UCD Hunt Group (Cont.)

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
08.05	<grp01-01></grp01-01>	Reserve1	

Programming Field Description

Element Meaning: Station hunt group programmed in *Class 08.02*.

Field 1 (e1): Range: **01-60**

Element Meaning: See programming specifications on previous page.

Field 2 (e2): Range: **01-04**

Data Field: Meaning: Define group as UCD group or station hunt group.

if (e2) = 01 Range: 0 = regular hunt group

1 = UCD group

Default: 0

Data Field: Meaning: Define first message for the UCD group.

if (e2) = 02 Range: 31-52 Default: None

Data Field: Meaning: Define second message for the UCD group.

if (e2) = 03 Range: 31-52

Default: None

Data Field: Meaning: Define the overflow destination for the UCD group.

if (e2) = 04 Range: 0-60

Default: None

if (e2) = 06 Range: 0 = Paging Group

1 = ICM Group Call

Default: 0

Data Field: Meaning: Identify the E-Response Help Call Relay Number

if (e2) = 07 Range: 0-32

Default: **0**

Related Databases:

Required: 04.20 Elements 31-52 VSS Recording Time; 04.20 Element 59 UCD Message

Interval; 04.20 Element 60 UCD Disconnect Timer; 04.34 UCD Answer Time; 04.71 Element 02 UCD Back Tone; 04.71 Element 05 UCD Overflow Timer; 07.02 UCD/Hunting Group Access Number; 08.02 Hunt Group Station; 11.34 DIL

to Hunt Group.

Associated: 01.03 Port Definition; 01.04 Port Configuration; 04.12 Camp-On Duration; 04.55

True Attendant Position; 11.26 Attendant Intercept Line.

Hardware Required:

IX-CPUL-1, IX-CPU16, IX-CPU16M, IX-CPU32, IX-MSGU, IX-CMSG-1, IX-CMSG, IX-EMCH.

Text Message Group

(Software Versions 4.71/5.71 and Higher Only)

Class 08 Item 06

Class 08 Item 06 – Text Message Group is used to define the stations that belong to each Text Message Group. A maximum of 60 text message groups may be programmed. Up to 16 stations can be registered in one group.

DSS Display

Class/Item	Element Field	Description	Data Field
08.06	<num01></num01>	Text Message Group	0

Programming Field Description

Element Meaning: Text Message Group Number

Field: Range: 01-60

Data Field: Meaning: Logical port of each station in text message group.

Range: **0-448**Default: **0**

Related Databases:

Required: 02.20 Text Message Group; 04.71, Element 39 Text Message Duration; 10.72 Text

Message Receive Tone at DND Station; 14.01/15.01 Key Assignment.

Associated: 26.01/27.01 Station Text Message.

Direct Inward Dialing (DID) Conversion Data

Class 09 – Direct Inward Dialing (DID) Conversion Data is used to set up the ADIX direct inward dialing feature:

- 09.01 DID Conversion Table
- 09.02 DID Incoming Digits
- 09.03 DID Ignored Digits
- 09.04 DID Trunk ID
- 09.05 DID Network Class of Service

DID Conversion Table

Class 09 Item 01

Class 09 Item 01 – DID Conversion Table is used create the digit conversion table. This table is used to convert the actual dialed data on a DID line to the extension number where the call will ring. A DID call may be programmed to ring a specific extension or hunt group. If you wish to route a DID call to a hunt group, the Access Number of the specific hunt group (Class 07.02) must be programmed as the destination in this item (d2) for the desired entry. A DID call may also be programmed to follow the primary (Class 11.32) and delayed ringing (Class 11.33) assignment for the trunk. If you wish to route a DID call based on the Class 11.32 and 11.33 programming, the CO Access Number of the trunk (Class 11.02) must be programmed as the destination in this item (d2) for the desired entry. The attendant will intercept any undefined incoming numbers. When programming DID dial numbers, [*] and [#] cannot be used. In day mode, calls on DID trunks will recall the attendant if the line is programmed to enable attendant intercept in *Class 11.26*. Recall conditions are as follows:

- Undefined Number
- No Answer
- Extension Busy
- Station in DND Mode

Attendant intercept is not available in night mode. DID calls, however, can be programmed for *universal night answer* (UNA) by enabling a UNA line in *Class 11.27*. For example, program the system as follows to have all calls received with the incoming digits 2349 ring at extension 349 in day mode:

To program calls with the same incoming digits as above to ring at extension 201 in night mode:

Day/Night (e1)	Conversion Table No. (e2)	Incoming No. (d1)	Extension No. (d2)
1 (day)	1	2349	349
2 (night)	1	2349	201

Note: For software versions 4.31/5.31 and higher, the ADIX can be programmed to have four hundred day mode DID numbers and zero night mode DID numbers in *Class 04.70 Element 16*.

Class 09 Item 01 – DID Conversion Table (Cont.)

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Fields d1-d2
09.01	<num1-001></num1-001>	DID Conv.	-

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if Class 04.70

Element 16 = 1 - 400 day mode DID numbers.

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-200

Data Field 1 Meaning: Incoming digits received from the central office.

(d1): Range: Up to 4 digits (0-9, [NULL])

Default: None

Data Field 2 Meaning: Extension Number, hunt group access number, Trunk Access

Number.

(**d2**): Range: Up to **4** digits (0-9, [NULL])

Default: None

Important: For data field entry: If the number you are entering is less than four digits, enter the unused digits first using the [NULL] key. For example, to program 34, enter [NULL][NULL]34.

Related Databases:

Required: 07.02 Hunting Group Access No.; 09.02 DID Incoming Digits; 09.03 DID Ignored

Digits; 10.02 Station Numbering.

Associated: 04.15 Attn DIL Intercept; 04.25 Elements 08 and 09; 04.70 Element 16; 10.21

Outgoing CO Line Group; 10.43 Off-Hook Signaling; 11.02 CO Line Access Numbers; 11.26 Attendant Intercept Line; 11.32 Ringing Station; 11.33 Delayed

Ringing Station; 11.38 Outgoing CO Group.

Related Operation:

Direct Inward Dialing.

Hardware Required:

IX-4DITK; IX-DCDCA; IX-DCDCB, IX-T1DTI, IX-T1RCV, IX-4RCVS.

DID Incoming Digits

Class 09 Item 02

Class 09 Item 02 – DID Incoming Digits is used to define the total number of digits that will be received from an incoming call on a DID trunk from the telephone company. The total number of digits programmed in Class 09.02 must match the sum of the ignored digits programmed in Class 09.03 and the digits in data field 1 (d1) of the Conversion Table in Class 09.01.

DSS Display

Class/Item	Element Field	Description	Data Field
09.02		DID - Incoming Digits (0→6)	3

Programming Field Description

Data Field: Meaning: Number of incoming digits from the DID trunk.

Range: **0-6**Default: **3**

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 9.01 DID Conversion Table;

09.03 DID Ignored Digits.

Associated: 04.15 Attn DIL Intercept; 04.25 Elements 08 and 09; 07.02 Hunting Group Access

Number; 10.02 Station Numbering; 11.26 Attendant Intercept Line.

Related Operation:

Direct Inward Dialing.

Hardware Required:

IX-4DITK; IX-DCDCA; IX-DCDCB, IX-4RCVS, IX-T1DTI, IX-T1RCV.

DID Ignored Digits

Class 09 Item 03

Class 09 Item 03 – DID Ignored Digits is used to define the number of digits from the CO that are ignored on an incoming call on a DID trunk. When digits are defined as ignored, the ADIX will read the remaining digits in the number. For example, if the value programmed in Class 09.02 – DID Incoming Dial is 5, and the value programmed in Class 09.03 is 2, the first two digits received are ignored. The ADIX reads only the last three digits and converts them to the extension number programmed using the DID Conversion Table (Class 09.01).

DSS Display

Class/Item	Element Field	Description	Data Field
09.03		DID - Ignored Digits (0→6)	0

Programming Field Description

Data Field: Meaning: Number of incoming digits from a DID trunk that the system will

ignore.

Range: **0-6**Default: **0**

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 9.01 DID Conversion Table;

09.02 DID Incoming Digits.

Associated: 04.15 Attn DIL Intercept; 04.25 Elements 08 and 09; 07.02 Hunting Group Access

Number; 10.02 Station Numbering; 11.26 Attendant Intercept Line.

Related Operation:

Direct Inward Dialing.

Hardware Required:

IX-4DITK; IX-DCDCA; IX-DCDCB, IX-4RCVS, IX-T1DTI, IX-T1RCV.

DID Trunk ID

(Software Versions 4.2 and Higher Only)

Class 09 Item 04

Class 09 Item 04 – DID Trunk ID is used to assign an alphanumeric name to identify each DID number listed in the *Class 09.01 DID Conversion Table*. The DID trunk ID is displayed when an incoming call is ringing at a station. With software versions 4.50/5.50 and higher the DID trunk ID is displayed during the following operations:

- Call Forward
- Call Coverage key operation
- Group Pick-Up
- Recalls

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
09.04	<num1-001></num1-001>	Reserve1	

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 =night mode/extended day mode if Class 04.70 Element 16 = 1 - 400 day mode DID numbers

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-200

Data Field: Meaning: DID Trunk ID.

Range: Up to **16** alphanumeric characters

Default: None

Related Databases:

Required: 9.01 DID Conversion Table.

Associated: None.

Related Operation:

Direct Inward Dialing.

Hardware Required:

IX-4DITK; IX-DCDCA; IX-DCDCB, IX-4RCVS, IX-T1DTI, IX-T1RCV.

DID Network Class of Service

(Software Versions 6.00 and Higher Only)

Class 09 Item 05

Class 09 Item 05 – DID Network Class of Service is used to assign a network class of service for networked DID calls.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
09.04	<num1-001></num1-001>	Reserve2	

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 =night mode/extended day mode if Class 04.70 Element 16 = 1 - 400 day mode DID numbers

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-200

Data Field: Meaning: Network Class of Service

Range: 01-16
Default: None

Related Databases:

Required: 9.01 DID Conversion Table; 09.02 DID Incoming Digits, Class 28.

Associated: None

Hardware Required:

IX-CPUP/HW; IX-T1DTI (PPU 3.0)or IX-4EMTK

Station Class of Service

Use Class 10 – Station Class of Service to program variables and functions which will be applied throughout the ADIX at the station level. The following programming items are included in Class 10:

- **(10.01)**
- 10.02 Station Numbering
- 10.03 Station Distance
- 10.04 Station User ID
- 10.05 Station Password
- 10.06 DISA Service
- 10.07 Quick Mode Operation
- 10.08 Off-Hook ICM
- 10.09 Prime Line Access
- 10.10 Hookflash Timing
- 10.11 Data Module Communication
- 10.12 Key Assignment
- 10.13 Preringing
- 10.14 Dial Confirmation Tone
- 10.15 Handset Volume Control
- 10.16 Call Forwarding
- 10.17 Unscreened Transfer (SLT)
- 10.18 SMDR Report
- 10.19 Queuing Class
- 10.20 Off-Hook Trunk Queuing
- 10.21 Outgoing CO Line Group
- 10.22 Incoming CO Access Group
- 10.23 Toll Restriction Class

- 10.35 Off-Hook CO Answering
- 10.36 Answer Hold
- 10.37 Hold Recall
- 10.38 Paging Access
- 10.39 Direct Station-to-Station Call
- 10.40 Barge-In Station
- 10.41 Busy Override
- 10.42 Do Not Disturb
- 10.43 Off-Hook Signaling
- 10.44 Protected Station
- 10.45 Message Key
- 10.46 SLT Hookswitch Flash
- 10.47 Howler Alert
- 10.48 Calling Mode
- 10.49 Meet-Me Answer Group
- 10.50 ICM Group
- 10.51 Call Pick-Up Group
- 10.52 Toll Restriction Class

Alternating Group

- 10.53 Attendant Automatic Hold
- 10.54 Attendant Call Progress Tone
- 10.55 Attendant Overflow Level
- 10.56 Attendant Overflow Destination

- 10.24 System Speed Access
- 10.25 System Speed Toll Restriction
- 10.26 DP to DTMF Signal Alternating
- 10.27 Automatic Signal Alternating
- 10.28 Dial On Conversation
- 10.29 Preset Dial
- 10.30 Automatic Outgoing CO
- 10.31 Equal Access
- 10.32 Optimized Routing Call
- 10.33 Forced Optimized Routing
- 10.34 Route Advance Step

- 10.57 Doorphone Ringing
- 10.58 Doorphone Relay
- 10.59 Doorphone Tone
- 10.60 Data Module Link
- 10.70 Call Coverage of ICM Calls
- 10.71 Programming Reserve 2
- 10.72 Programming Reserve 3
- 10.73 Call Forward Modes
- 10.75 Programming Reserve 6
- 10.78 Fixed Call Forward Destination

(Not Used)

Class 10 Item 01

Class 10 Item 01 – Subsystem Number Station is not used.

Station Numbering

Class 10 Item 02

Class 10 Item 02 – Station Numbering is used to assign an extension number to each station logical port. The digits must be between 0 and 9. The table below lists the default numbering plans used with ADIX system software versions 3.0 and lower only.

Number	Assignment	Change default in programming class(es)
61-69	Attendant/System Park Orbits (1-9)	07.01 Park Orbit Number
71-79	Hunt Group Access Numbers	07.02 Hunting Group Access Number
80	All Call Paging	07.04 Paging Group Access Number
81-85	Page Groups 1-5 (Internal)	07.04 Paging Group Access Number
86-89	Paging Zones 1-4 (External)	07.04 Paging Group Access Number
90	Optimized routing Access	07.03 CO Line Group Access Number
91-99	CO Trunk Group Access Number – Groups 1-9	07.03 CO Line Group Access Number
201-299	ICM extension numbers. CO trunk access numbers	10.02 Station Numbering
	and Extension numbers in physical port sequence	11.02 CO Line Access Numbers
501-560	Feature Access Codes (SLT)	07.06 Feature Access Number

Note: Station numbering must be planned carefully to avoid conflicts with the numbering used for *Class 07 – Numbering Plans* and *Class 11.02 – CO Line Access Numbers*.

DSS Display

Class/Item	Element Field	Description	Data Field
10.02	<extl001></extl001>	Station Numbering	201

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Extension number.

Range: **1-4** digits (**0-9**, **Null**)
Default: Starting from **201**

Related Databases:

Required: 01.01 System Size; 01.03 Port Definition; 01.04 Port Configuration; 01.06 Number

of System Station Ports.

Associated: Class 07 Numbering Plans; 11.02 CO Line Access Numbers.

Related Operation:

ICM Station Calls.

Hardware Required:

IX-CPUL-1, IX-CPU16, IX-CPU16M – SW2 - System Size Setting; IX-CPU32 – S1.

Station Distance

Class 10 Item 03

Class 10 Item 03 – Station Distance is used to program a range in distance between the KSU and bypass units or doorphones to secure error free data transmission.

Note: If a busy bypass unit is in close proximity to the KSU, feedback will occur if the data value is set to 1 in Class 10.03 for the IX-BPAD logical port.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.03		Station Distance (0→1)	

Programming Field Description

Data Field: Meaning: Distance of a station from the common module or expansion

module.

Range: **Solid LED (0)** – less than 660 feet

Flashing LED (1) - 500-1000 feet

Default: Solid LED (0)

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration.

Associated: None.

Hardware Required:

DDPH, IX-BPAD.

Station User ID

Class 10 Item 04

Class 10 Item 04 – Station User ID is used to program an alphanumeric ID which is displayed on the station LCD during station-to-station calls. For example, if extension 250 is assigned the ID Fred F and the station user dials Wilma at extension 220, the LCD display at each station will appear as follows:

CALLING 220 NAOMI CALL FM JAMES 250

LCD display at extension 250

FIGURE 10.04

LCD display at extension 220

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.04	<extl001></extl001>	Station User ID	

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Station user ID.

Range: Alphanumeric up to 8 digits

Default: None

Related Databases:

Required: None.

Associated: 10.02 Station Numbering.

Related Operation:

ICM Station Calls, [FEAT] + [9][9] to display station ID.

Hardware Required:

Key Telephones with LCD displays.

Station Password

Class 10 Item 05

Class 10 Item 05 – Station Password is used to assign a password that is used to lock a station out of service and access system features through Direct Inward System Access (DISA). The ADIX will accept only the digits 0-9 in the password.

DSS Display

Class/Item	n Element Field	Description	Data Field
10.05	<extl001></extl001>	Station Password	

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Numeric station password.

Range: Up to 6 digits (0-9)

Default: None

Related Databases:

Required: 04.27 Station Password Digits.

Associated: 04.39 DISA: ICM Call; 04.40 DISA Paging Call; 04.41 DISA: Waiting Time;

04.42 DISA: Total Duration; 10.06 DISA Service; 11.25 DISA Line.

Related Operation:

To restrict a station using the Class 10.05 password:

Dial [FEAT] + [4][4] + password or [LOCK] + password to lock the station. Dial [FEAT] + [0][4][4] + password or [LOCK] + password to unlock the station.

To access the system through DISA using the Class 10.05 password:

Dial [*] + extension number + password + operation.

Hardware Required:

IX-RCVPM with IX-4RCVC or IX-RMPU for DISA.

DISA Service

Class 10 Item 06

Class 10 Item 06 – DISA Service is used to determine if a station password programmed in *Class 10.05* for a specific station logical port number can be used by an outside caller to access the system through DISA.

When DISA service is provided with the ADIX, the station subscriber may also use the system ICM features by calling from outside. Feature accessibility varies according to the password used for DISA access. PBX networking codes cannot be accessed through DISA.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.06		DISA Service (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Determine if DISA access is permitted at the station level using

the password from *Class 10.05*.

Range: Solid LED (0) – DISA access is disabled

Flashing LED (1) – DISA access is enabled

Default: Flashing LED (1)

Related Databases:

Required: 10.05 Station Password; 11.25 DISA Line.

Associated: 04.39 DISA:ICM Call; 04.40 DISA: Paging Call; 04.41 DISA: Waiting Time;

04.42 DISA Total Duration; 04.70 Element 18 - DISA Short-Cut Operation

(software version 4.50/5.50 only); 11.46 DISA Message Number.

Related Operation:

To access the system through DISA using the Class 10.05 password:

DISA callers must dial [#][#] to break the DISA message unless *Class 04.70 Element 18 – DISA Short-Cut Operation* is enabled.

If you are a subscriber dial [*] + extension number + password + operation.

If you are not a subscriber dial *extension number*.

Hardware Required:

IX-RMPU, or IX-RCVPM with IX-4RCVC, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Quick Mode Operation

Class 10 Item 07

Class 10 Item 07 – Quick Mode Operation is used to enable stations to automatically go into off-hook status (automatically turn the speaker on) by pressing any line key or [ICM].

Note: This program can be disabled for station ports using modular headset operation.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.07		Quick Mode Operation	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a station for quick mode operation.

Range: Solid LED (0) – quick mode off

Flashing LED (1) – quick mode on

Default: Flashing LED (1)

Related Databases:

Required: None. **Associated:** None.

Related Operation:

Quick Mode: Depress a key without going off-hook.

Hardware Required:

Key Telephone, Versa-Phone.

Off-Hook ICM

Class 10 Item 08

Class 10 Item 08 – Off-Hook ICM is used to allow a station immediate intercom dial tone upon going off-hook. If any of the following items are programmed, they have priority over Class 10.08 in the following order:

■ Priority 1 - Off-Hook CO Answering (*Class 10.35*)

■ Priority 2 - Automatic CO Outgoing (*Class 10.30*)

■ Priority 3 - Prime Line Access (*Class 10.09*)

■ Priority 4 - Off-Hook ICM (Class 10.08)

Note 1: It is recommended that Off-Hook ICM and Prime Line Access (*Class 10.09*) are disabled when using a headset to prevent call progress tones from being audible through the headset.

Note 2: It is recommended that Off-Hook ICM be set to 1 when using IX-COMLINK, to allow off-hook ICM.

DSS Display

Class/Item	Element Field	Description	Data Field
10.08		Off-Hook ICM (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a station for off-hook ICM operation.

Range: **Solid LED (0)** – do not allow off-hook ICM

Flashing LED (1) – allow off-hook ICM

Default: Flashing LED (1)

Related Databases:

Required: None.

Associated: 10.09 Prime Access; 10.30 Automatic Outgoing CO; 10.35 Off-Hook CO

Answering; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

Lift handset or press [SPKR].

Prime Line Access

Class 10 Item 09

Class 10 Item 09 – Prime Line Access is used to program a station to automatically access to one of the following ICM dial codes upon going off-hook:

- CO Line Direct Access No. (*Class 11.02, Class 11.21*)
- CO Group Access No. (Class 07.03, Class 11.21)
- Station Number (*Class 10.02*)
- Hunt Group Access Number (*Class* 07.02)
- Paging Group Access Number (*Class 07.04*)

In order to be used for CO direct or CO group access, CO lines must be enabled as prime lines in *Class 11.21*. If any of the following databases are programmed, they have priority over Class 10.09 in the following order:

- Priority 1 Off-Hook CO Answering (*Class 10.35*)
- Priority 2 Automatic CO Outgoing (*Class 10.30*)
- Priority 3 Prime Line Access (*Class 10.09*)
- Priority 4 Off-Hook ICM (*Class 10.08*)

Note: It is recommended that Off-Hook ICM (*Class 10.08*) and Prime Line Access are disabled when using a headset to prevent call progress tones from being audible through the headset. Optimized Routing access is not allowed as prime line access.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.09	<extl001></extl001>	Prime Line Access	

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Program an ICM access code for prime line access.

Range: Up to 4 digits using (0-9)

Default: None

Related Databases:

Required: 07.02 Hunting Group Access No.; 07.03 CO Line Group Access; 07.04 Paging

Group Access; 10.02 Station Numbering; 11.02 CO Line Access Numbers; 11.21

Prime Line.

Associated: 10.08 Off-Hook ICM; 10.30 Automatic Outgoing CO; 10.35 Off-Hook CO

Answering.

Related Operation:

Automatic CO or ICM Access, Off-Hook CO Answer, Prime Line Access: [SPKR] or Off-Hook.

Hookflash Timing

Class 10 Item 10

Class 10 Item 10 – Hookflash Timing is used to define the *on-hook* duration and *guard time* for a *hookswitch flash* by a single-line telephone to be accepted. For example, if Class 10.10, data field 1 is set to 07 and data field 2 is set to 03, the selected station is programmed for a 700ms *flash* (hookswitch) and a 300ms *guard bounce time*. In this example, the system recognizes any on-hook duration lasting longer than 100 milliseconds and less than 700 milliseconds as a hookswitch flash. Disconnect time would be an on-hook duration of 1 second (700ms flash + 300ms guard time.) This programming has no effect on digital telephones. Figure 10.10 illustrates hookflash timing:

Note: Hookflash timing is valid only for the first port of each card.

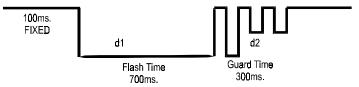


FIGURE 10.10 HOOKFLASH TIMING

DSS Display

Class/Item	Element Field	Description	Data Fields
			d1-d2
10.10	<extl001></extl001>	Hook Flash Timing	07-03

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field 1 Meaning: Hookflash time (time multiplied by 100 milliseconds).

(d1): Range: 0-15

Default: **07** (700 milliseconds)

Data Field 2 Meaning: Guard time (time multiplied by 100 milliseconds).

(d2): Range: 0-15

Default: **03** (300 milliseconds)

Related Databases:

Required: 01.03 Port Definition (for SLT). **Associated:** 10.46 SLT Hookswitch Flash.

Related Operation:

Hookswitch Flash.

Hardware Required:

IX-8SUBS, IX-8SUBM, IX-4SUBL, IX-RNGU, IX-8SUBS-1, IX-8SUBS-2, IX-4RCVS.

Data Module Communication

Class 10 Item 11

Class 10 Item 11 – Data Module Communication is used to specify whether a data module has the ability to make or receive ICM calls to another data module within the same subsystem or ICM group. Unless the logical ports of both the data module and the associated KT (programmed in *Class 10.60 – DM Link*) are programmed as *allowed* in Class 10.11, data communication is not possible.

DSS Display

Class/Item	Element Field	Description	Data Field
10.11		Data Module Communi.	

Programming Field Description

Element Meaning: Select the data module station logical port number using the DSS

buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a station for data module communication.

Range: Solid LED (0) – do not allow data module communication

Flashing LED (1) – allow data module communication

Default: Flashing LED (1)

Related Databases:

Required: 01.03 Port Definition (for data modules). **Associated:** 04.06 Pooled Modem Port; 10.60 DM Link.

Related Operation:

Data communication through data modules.

Hardware Required:

IX-DMS, IX-DMB, IX-8PSUB, IX-8BSUB, IX-RCVPM, IX-12PMD, IX-24PMD.

Key Assignment

Class 10 Item 12

Class 10 Item 12 – Key Assignment is used to assign a key pattern to each station. The key pattern assigned in Class 10.12 defines the function of each line key. These patterns are programmed in *Classes 14 – Key Assignment* and 15 – Attendant Key Assignment. Key patterns are assigned using a number between 1 and 128 for key telephones and 129 and 136 for attendant positions. Single-line telephones do not require a key pattern. The table below lists the default key patterns.

Note 1: It is recommended that you build a pattern in Class 14.01 or 15.01 before assigning it to a station in Class 10.12.

Note 2: The following program is recommended when using IX-COMLINK: Key Pattern (Class 10.12, 14.01, 15.01) — key 25=Speaker, key 26=Transfer, key 27=Feature, key 28=Hold/DND. Also recommended for some applications are ICM, SPEED and ADD.

Note 3: The IX-COMLINK does not support the use of the HEADSET key. If a headset is required, it must be connected to the HEADSET connector and used without a KT.

10.12 (d1)	Used For	Programming Database
001	IX-24KTD, IX-24KTS, IX-8KTD, IX-8KTS, ZT-D, ZT-S Digital Telephones	Class 14.01, (e1)=001
002	IX-24KTD, IX-24KTS, IX-8KTD, IX-8KTS, ZT-D, ZT-S Digital Telephones	Class 14.01, (e1)=002
003	IX-VT Versa-Phone	Class 14.01, (e1)=003
004	IX-12KTD-2, IX-12KTS-2 Digital Telephones	Class 14.01, (e1)=004
005-128	Unassigned station patterns	Class 14.01, (e1)=005 - 128
129	IX-24KTD, IX-24KTS, IX-8KTD, IX-8KTS KT + DSS unit(s)	Class 15.01, (e1) = 001
130	Attendant Console default pattern	Class 15.01, (e1) = 002
131	IX-24KTD, IX-24KTS, IX-8KTD, IX-8KTS Digital Telephones (SATT)	Class 15.01, (e1) = 003
132	IX-12KTD-2, IX-12KTS-2 Digital Telephones (SATT)	Class 15.01, (e1) = 004
133-136	Unassigned Attendant patterns	Class 15.01, (e1) = 005-008

DSS Display

Class/Item	Element Field	Description	Data Field
10.12	<extl001></extl001>	Key Assignment (1→136)	

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Key pattern number

Range: **001-136**

Default: (See Default Key Pattern Table above)

1 = for key telephones3 = for Versa-Phones

129 = for attendant KT/DSS positions **130** = for IX-ATT console positions

Class 10 Item 12 – Key Assignment (Cont.)

Related Databases:

Required: 01.03 Port Definition; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Associated: None.

Hardware Required:

All Key Telephones, Versa-Phones, Attendant Consoles, DSS Units.

Preringing For Single-Line Telephones

Class 10 Item 13

Class 10 Item 13 – Preringing For Single-Line Telephones is used to program a three hundred millisecond ring burst that is sent to a single-line telephone prior to the start of the normal CO or ICM ring cycle. This item may be used for facsimile machines or modems if quicker answering of calls is required.

Tip: For faster ring detection and answering on auto attendant, voice mail and fax ports, enable preringing.

DSS Display

Class/Item	Element Field	Description	Data Field
10.13		Pre Ringing (0→1)	

Programming Field Description

Element Meaning: Select the SLT station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a SLT for a prering burst.

Range: Solid LED (0) – no preringing

Flashing LED (1) – preringing

Default: Solid LED (0)

Related Databases:

Required: 01.03 Port Definition (SLT); 01.04 Port Configuration. **Associated:** 11.32 Ringing Station; 11.33 Delayed Ringing Station.

Hardware Required:

IX-8SUBS, IX-8SUBM, IX-4SUBL, IX-RNGU, IX-8SUBS-1, IX-8SUBS-2, IX-4RCVS.

Dial Confirmation Tone

Class 10 Item 14

Class 10 Item 14 – Dial Confirmation Tone is used to enable or disable the dial confirmation tone on each key telephone or Versa-Phone. The dial confirmation tone is audible through the handset or speaker when dialing.

DSS Display

Class/Item	Element Field	Description	Data Field
10.14		Dial Confirmation Tone	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a station for dial confirmation tones.

Range: **Solid LED (0)** – no tone

Flashing LED (1) – tone

Default: Flashing LED (1)

Related Databases:

Required: None. **Associated:** None.

Related Operation:

Dialing.

Hardware Required:

Key Telephones and/or Versa-Phones.

Handset Volume Control

Class 10 Item 15

Class 10 Item 15 – Handset Volume Control is used to program the handset volume default level. If a change is made to the handset volume while the station is off-hook, the volume is reset to the value programmed here upon going on-hook. This item cannot be programmed for ZT-D key telephones or single-line telephones.

DSS Display

Class/Item	Element Field	Description	Data Field
10.15	<extl001></extl001>	Handset Volume Control	2

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Program the handset volume control.

Range: 0 – stay at last position

1 - return to low2 - return to medium3 - return to high

Default: 2

Related Databases:

Required: None. **Associated:** None.

Related Operation:

Handset volume control.

Hardware Required:

Key Telephones and/or Versa-Phones.

Call Forwarding

Class 10 Item 16

Class 10 Item 16 – Call Forwarding is used to enable or disable the manual call forward feature at a station. This program does not affect fixed call forward operation.

DSS Display

Class/Item	Element Field	Description	Data Field
10.16		Call Forwarding (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/do not allow call forwarding.

Range: Solid LED (0) – do not allow Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: None

Associated: 04.13 Call Forward No Answer; 10.73 Call Forwarding Modes; 10.78 Fixed Call

Forward Destination.

Related Operation:

To set call forwarding:

■ On All calls:

Dial [SPKR] + [Forward] + [#][#] + [1] (solid LED).

■ On Busy calls only:

Dial [SPKR] + [Forward] + [#] [#] + [2] (flashing LED).

■ On No Answer calls only:

Dial [SPKR] + [Forward] + [#][#] + [3] (flashing LED on/off).

Unscreened Transfer (SLT Only)

Class 10 Item 17

Class 10 Item 17 – Unscreened Transfer (SLT Only) is used to enable or disable the unscreened transfer feature (transfer a call without waiting for the called extension to answer) at a station with a single-line telephone. For example, if a single-line telephone is not permitted to make an unscreened transfer in Class 10.17, when the SLT transfers a CO call to another telephone, the SLT user must wait for the other telephone to answer before the SLT user can hang up and thereby transfer the call. The single-line user is forced to use a screened transfer technique.

DSS Display

Class/Item	Element Field	Description	Data Field
10.17		Unscreened Tran. (SLT)	

Programming Field Description

Element Meaning: Select the SLT station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/do not allow unscreened transfers from a SLT.

Range: **Solid LED** (0) – do not allow

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: None.

Associated: 10.10 Hook Flash Timing; 10.46 SLT Hook-Switch Flash.

Related Operation:

Screened Transfer.

Hardware Required:

IX-8SUBS, IX-8SUBS-1, IX-8SUBS-2, IX-8SUBM, IX-4SUBL, IX-RNGU, IX-4RCVS.

SMDR Report

Class 10 Item 18

Class 10 Item 18 – SMDR Report is used to register a station to have its calls included in the SMDR printout. Calls made by a station programmed as 0 –not registered in Class 10.18 are not included in the SMDR printout. Additionally, if a station is programmed as 1 – registered in Class 10.18 and makes an outgoing call using a line programmed in *Class 11.29* as not included in SMDR report, that call information will not be included in the SMDR printout regardless of how this item is programmed.

DSS Display

Class/Item	Element Field	Description	Data Field
10.18		SMDR Report (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Register a station to have its calls included in the SMDR report.

Range: Solid LED (0) – not registered

Flashing LED (1) – registered

Default: Flashing LED (1)

Related Databases:

Required: 04.50 SMDR Output Port; 04.51 SMDR – Minimum Call Duration; 04.52 SMDR

Incoming; 04.53 SMDR Toll Only; 04.54 SMDR Account Code; 06.07 SMDR

Table; 11.29 SMDR Report.

Associated: 04.52 SMDR Incoming Call Report.

Related Operation:

SMDR Printout.

Hardware Required:

IX-SCIF, IX-HCIF, IX-EDVIF, Serial Printer.

Queuing Class

Class 10 Item 19

Class 10 Item 19 – Queuing Class is used to program the station hierarchy for the trunk queuing and busy number call back features. Stations programmed with a higher queuing class receive first priority for CO line connection.

DSS Display

Class/lte	em Element Field	Description	Data Field
10.19	<extl001></extl001>	Queuing Class (0→3)	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Program station queuing priority.

Range: 0 - highest priority

1 2

3 – lowest priority

Default: 0

Related Databases:

Required: None.

Associated: 04.10 Timed Trunk Queuing; 04.11 Off-Hook Trunk Queuing Duration; 10.20 Off-

Hook Trunk Queuing.

Related Operation:

Busy Trunk Queuing: If a trunk is busy dial [FEAT] + [2][3] + telephone number, or

[Timed Trunk Queu] + telephone number

Off-Hook Trunk Queuing: When an outside line is busy remain off hook

ICM Callback: If an ICM extension is busy dial [FEAT] + [4][3], or [ICM Call Back]

Busy Number Callback: When an outside number is busy or there is no answer press [FEAT] +

[2][4] or [Timed Trunk Queu] + time + on hook

Off-Hook Trunk Queuing

Class 10 Item 20

Class 10 Item 20 – Off-Hook Trunk Queuing is used to enable or disable a station from accessing the off-hook trunk queuing feature.

DSS Display

Class/Item	Element Field	Description	Data Field
10.20		Off-Hook Trunk Queuing	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Enable or disable a station from accessing the off-hook trunk

queuing feature.

Range: **Solid LED (0)** – disabled

Flashing LED (1) – enabled

Default: Solid LED (0)

Related Databases:

Required: 04.11 Off-Hook Trunk Queuing Duration; 10.19 Queuing Class.

Associated: None

Related Operation:

To access off-hook trunk queuing:

When all outside lines are busy remain off hook.

Outgoing CO Line Group

Class 10 Item 21

Class 10 Item 21 – Outgoing CO Line Group is used to program outgoing restrictions for trunk group access. Stations which are outgoing restricted on a given trunk group are permitted incoming access on the same trunk group. The data programmed in Class 10.21 applies toward all CO line outgoing access operations.

Note 1: When a station attempts an outgoing call which is subject to optimized routing, if the CO line group selected is restricted in Class 10.21, dialing is denied, but advances to the next step within the route table.

Note 2: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also restricts which CO can be accessed by a tie line in Class 10 Item 21.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
10.21	<extl001-1></extl001-1>	Outgoing COL Group	

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: **001-448**

Element Meaning: Service class mode.

Field 2 (e2): Range: 1 = day

2 = night

Data Field: Meaning: Select trunk groups 1-60 using the DSS buttons.

Note: DSS Screen 1 shows trunk groups 1-50. DSS Screen 2

shows trunk groups 51-60.

Range: **Solid LED (0)** – denied

Flashing LED (1) – allowed for all trunk groups

Default: Flashing LED (1)

Related Databases:

Required: 11.38 Outgoing CO Line Group.

Associated: Class 06 – Toll Restriction; 10.23 Toll Restriction Class.

Related Operation:

To change the station class of service at the attendant position:

Dial [CLASS] + extension number + mode.

Incoming CO Access Group

Class 10 Item 22

Class 10 Item 22 – Incoming CO Access Group is one of three programs required to program incoming CO access restriction. Class 10.22 is used to assign stations to one of sixty incoming CO access groups. To complete the programming for this feature, each group programmed here must be assigned to a trunk logical port number (*Classes 11.43 and 11.44*).

For detailed information regarding incoming access restriction programming, see *Chapter 3 – Incoming CO Access Restriction*.

DSS Display

_	Class/Item	Element Fields	Description	Data Field
Ī	10.22	<extl001></extl001>	Incoming CO Acc. Gp.	1

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Incoming CO access group number.

Range: **1-60**Default: **1**

Related Databases:

Required: 11.43 Incoming CO Access Class, 11.44 Access Group No.

Associated: None.

Related Operation:

CO Pick-Up Restriction.

Toll Restriction Level and Class

Class 10 Item 23

Class 10 Item 23 – Toll Restriction Level and Class is used to define the toll restriction class for each station. If a value of 1-4, 8-15 is entered in Class 10.23 data field 2 (d2), the system will reference *Class* 06.01 – Toll Restriction -Table. Stations can be programmed to have a different toll restriction class for day and night modes.

Important: If a station's outgoing call level entered in data field 1 (d1) is less than or equal to the outgoing call level programmed for the CO line, the station can make outgoing calls on the line. If a station's outgoing call level is higher than the outgoing call level assigned to the line, the station cannot make any outgoing calls on the line.

Note: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also allows you to assign toll restriction to calls dialed across the tie line in Class 10 Item 23.

The table below lists the different class levels:

Outgoing Restriction	
Enter this in a data field:	To program this:
0	No restriction of outgoing calls.
5	Deny any outgoing calls, except for system speed dial calls. Allow all incoming calls and calls on hold.
6	Deny any outgoing calls. Deny access to system speed dial. Allow all incoming calls and calls on hold.
7	Deny all outgoing and incoming calls, deny access to calls on hold. Allow intercom and camp-on calls.
Toll Restriction	
Enter this in a data field:	To program this:
1-4	Restriction through the Toll Restriction Tables programmed in <i>Class 06</i> .

Note: In software versions 3.0 and higher, the *station outgoing call level* is related to the CO line outgoing call level assigned for the line in *Class 11.41 – Predial Group Number* or *Class 11.43 – Incoming CO Access Class*.

For detailed information regarding Incoming Access Restriction programming, see *Chapter 3 – Incoming CO Access Restriction*.

Class 10 Item 23 – Toll Restriction Class (Cont.)

DSS Display

	Class/Item	Element Fields	Description	Data Fields
		e1-e2		d1-d2
I	10.23	<extl001-1></extl001-1>	Toll Level & Class	00-00

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: **001-448**

Element Meaning: Restriction mode. **Field 2 (e2):** Range: 1 = day/mode 1

2 = night/mode 2

Data Field 1 Meaning: Station outgoing call level.

(d1): Range: 0, 5, 6, 7 (see description on previous page)

Default: 0

Data Field 2 Meaning: Toll Restriction class number.

(d2): Range: 0-4 (see description on previous page)

Default: 0

Related Databases:

Required: Class 06 Toll Restriction; 10.52 Toll Restriction Class Alternating Group; 11.40

Toll Restriction Group Number; 11.41 Predial Group No; 11.43 Incoming CO

Access Class.

Associated: 10.25 System Speed Dial Toll Restriction.

Related Operation:

Toll Restriction

To change the station class of service (from an attendant position):

Dial [CLASS] + extension number + mode.

or

Press [Night Change] in the night mode the system switches to toll class of service 2.

System Speed Access

Class 10 Item 24

Class 10 Item 24 – System Speed Access is used to determine the stations permitted to access the system speed dial numbers.

Note 1: Class 10.24 does not restrict stations from using station speed dial numbers.

Note 2: Enabling system speed access is recommended when using IX-COMLINK. The programming in this item must match the value of the "SwitchDialOnConv" line in the PCKTADPT.INI file.

Note 3: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also determines if the tie lines can be access System Speed Dial in Class 10 Item 24.

For detailed information regarding system speed dial programming, see *Chapter 3 – System Speed Dial*.

DSS Display

Class/Item	Element Field	Description	Data Field
10.24		System SPD Access (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a station for system speed dial access.

Range: **Solid LED (0)** – do not allow system speed dial access

Flashing LED (1) – allow system speed dial access

Default: Flashing LED (1)

Related Databases:

Required: Class 05 – System Speed Dial.

Associated: 02.01 System SPD Type; 10.25 System SPD Toll Restriction.

Related Operation:

To make a call using the speed dial function:

Dial [SPEED] + speed dial number.

System Speed Toll Restriction

Class 10 Item 25

Class 10 Item 25 – System Speed Toll Restriction is used to determine if calls from a station using the system speed dial feature are subject to toll restriction. If a station is restricted here, the only system speed dial numbers that can be successfully dialed are those telephone numbers programmed as universally allowed in the toll restriction database (Class 06).

DSS Display

Class/Item	Element Field	Description	Data Field
10.25		System SPD Toll Rest.	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Determine if a station is subject to toll restriction using the system

speed dial numbers.

Range: **Solid LED (0)** – unrestricted

Flashing LED (1) – restricted

Default: Flashing LED (1)

Related Databases:

Required: Class 05 – System Speed Dial; Class 06 – Toll Restriction; 10.23 Station Toll

Class; 10.24 System SPD Access; 11.40 Toll Restriction Group No.

Associated: 10.52 Toll Restriction Class Alteration Group.

Related Operation:

Press [SPEED] + speed dial number.

Dial Pulse to DTMF Signal Alternating

Class 10 Item 26

Class 10 Item 26 – Dial Pulse to DTMF Signal Alternating is used to enable or disable the alternate tone/pulse dialing feature which enables a station to change signaling from dial pulse to DTMF while on a CO circuit.

Note: The alternate tone/pulse dialing feature is only valid for CO lines which have been programmed as **DP** in *Class 11.08 – Dial Type*.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.26		DP to DTMF Signal Alter.	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Determine if a station can alternate between DP and DTMF

signaling.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 11.08 Dial Type (DP); 11.10 DTMF Dial (Altered).

Associated: 10.27 Automatic Signal Alternating; 11.06 Inter-Digit Time; 11.13 Sender Time

Out.

Related Operation:

To toggle between DTMF and dial pulse during a call:

Press [FEAT] + [1][3] (or [Dial Reverse])

Hardware Required:

IX-8LGTK-1.

Automatic Signal Alternating

Class 10 Item 27

Class 10 Item 27 – Automatic Signal Alternating is used to program an automatic reversal of the signaling type (DP/DTMF) after *sender time out* on outgoing CO calls, or when dialing out through an incoming call. Class 10.27 applies to CO circuits programmed for dial pulse in *Class 11.08*. Class 10.27 must be enabled if a modem is connected to a SLT port on a IX-8SUBS, IX-8SUBM or IX-4SUBL card to avoid noise malfunction during data transmission. The address signaling speed of the DTMF signals is programmed in Class 11.10.

Note: When dial pulse CO lines are used by single-line telephones or as tie lines, the logical ports assigned as SLT and virtual stations for E&M tie lines/DID trunks must be programmed to enable this item in order to eliminate intermittent voice speech.

DSS Display

Class/Item	Element Field	Description	Data Field
10.27		Auto. Signal Alternate	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program automatic signal alternating from DP to DTMF after

sender time out or dialing out through and ICM call.

Range: **Solid LED (0)** – deny

Flashing LED (1) – allow

Default: (1) – allow ((0) – deny software versions before 4.62/5.62)

Related Databases:

Required: 11.08 Dial Type (DP); 11.10 DTMF Dial (Altered).

Associated: 10.26 Dial Pulse to DTMF Signal Altering; 11.06 Inter-digit Time; 11.13 Sender

Time Out.

Related Operation:

To toggle between DTMF and dial pulse during a call:

Press [FEAT] + [1][3] (or [Dial Reverse])

Hardware Required:

IX-8LGTK, IX-T1DTI.

Dial-On Conversation

Class 10 Item 28

Class 10 Item 28 – Dial-On Conversation is used to determine whether a station is allowed to perform *dial-on conversation*. If a station is disabled for dial-on conversation, the station cannot dial out after the *sender time out*. When the toll restriction plan includes a *stop flag*, outgoing dialing during conversation is not permitted, even if the station is enabled for the dial-on conversation feature.

Note 1: Unless toll fraud is an issue, Class 10.28 should be enabled to allow "through dialing" (i.e., VM, pagers, etc.). In the case of SLTs, Class 10.28 should be enabled to eliminate "talk off" and erratic modem and fax operation due to dial muting.

Note 2: Enabling dial on conversation is recommended when using IX-COMLINK. The programming in this item must match the value of the "SwtchSystemSpeed=1" line in the PCKTADPT.INI file.

Note 3: The setting in Class 11.47 that allows you to control of the distant end of a T1 E&M tie line should be set to off if you are using a PRI to dial out, or have modems going over the tie lines.

DSS Display

Class/Item	Element Field	Description	Data Field
10.28		Dial-On-Conversation	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny dial-on conversation.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: (1) – allow ((0) – deny software versions before 4.62/5.62)

Related Databases:

Required: 11.13 Sender Time Out.

Associated: Class 06 – Toll Restriction; 10.26 DP to DTMF Signal Altering; 10.23 Station Toll

Restriction Class.

Preset Dial Class 10 Item 29

Class 10 Item 29 – Preset Dial is used to allow a station to dial a number before going off-hook and have that number appear on the LCD display The call is stored in memory until the user picks up or selects a CO or ICM line.

DSS Display

Class/Item	Element Field	Description	Data Field
10.29		Pre-set Dial (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny preset dial.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: (1) – allow ((0) – deny software versions before 4.62/5.62)

Related Databases:

Required: None. **Associated:** None.

Related Operation:

To dial a number while on-hook using the preset dial feature:

For ICM calls dial the *extension* + go off-hook.

For outside calls: dial the *outside number* + [FLT or COL] + go off-hook.

Hardware Required:

Key Telephones with a LCD display.

Automatic Outgoing CO

Class 10 Item 30

Class 10 Item 30 – Automatic Outgoing CO is used to program a station to automatically seize a line and dial a preset number upon going off-hook. Data modules cannot use this feature. In software versions 3.0 and higher, the ADIX will automatically dial the number registered as *station speed dial 99* at the station.

Priority on going off hook is assigned in the following order:

- Priority 1 Off-Hook CO Answering (*Class* 10.35)
- Priority 2 Automatic CO Outgoing (*Class* 10.30)
- Priority 3 Prime Line Access (*Class* 10.09)
- Priority 4 Off-Hook ICM (*Class* 10.08)

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.30		Automatic Outgoing CO	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny automatic outgoing CO.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: Solid LED (0)

Related Databases:

Required: 12.01 Station Speed Dial; 13.01 Station Speed Dial.

Associated: 10.35 Off-Hook CO Answering.

Related Operation:

Automatic Outgoing CO.

Equal Access

Class 10 Item 31

Class 10 Item 31 – Equal Access is used to program a station to have access to the *equal access number automatic outgoing dialing* feature.

DSS Display

Class/Item	Element Field	Description	Data Field
10.31		Equal Access (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny equal access.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 06.08 Equal Access; 06.09 Equal Access PIN Code; 06.10 Equal Access PIN

Position; 06.11 Equal Access Prefix; 06.12 Equal Access; 11.42 Equal Access

Group No.

Associated: None.

Related Operation:

To dial an equal access number:

[SPEED] + number + [#] or [*].

[#] = must manually dial a pin code.

[*] = pin code is included.

Optimized Routing Call

Class 10 Item 32

Class 10 Item 32 – Optimized Routing Call is used to program a station to be permitted to make outgoing calls using *optimized routing*. Class 10.32 must be disabled to use the *super CO line group* speed dial feature (i.e., When using CO as trunk group entry in *Class 05.01*).

See *Class 17 – Optimized Routing*, for detailed information regarding optimized routing programming.

Note: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also allows the tie line users access to the code for Optimized Routing in Class 10 Item 32.

DSS Display

Class/Item	Element Field	Description	Data Field
10.32		Optimized Routing Call	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny optimized routing.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.34 Route Advance

Step; Class 17 Optimized Routing.

Associated: 04.25 Element 07; 07.03 Multiple CO Access; 10.33 Forced Optimized Routing.

Related Operation:

Optimized Routing.

Forced Optimized Routing

Class 10 Item 33

Class 10 Item 33 – Forced Optimized Routing is used to program specific stations to adhere to forced optimized routing on all outgoing calls. When Class 10.33 is set to *forced*, that station's general float keys [FLT] are defined as optimized routing keys. *Class 10.32* must be set to allow optimized routing in order for Class 10.33 to work.

See Class 17 – Optimized Routing, for detailed information regarding Optimized Routing programming.

Note: Disabling Forced Optimized Routing is recommended when using IX-COMLINK. This item must be disabled for any port connected to an IX-COMLINK. The IX-COMLINK utilizes the access codes programmed in Class 11.02 to access the CO trunks in the ADIX system and Class 10.33 disables the access codes. IX-COMLINK does not support optimized routing.

DSS Display

Class/Item	Element Field	Description	Data Field
10.33		Forced Optimized Routing	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Forced/not forced optimized routing.

Range: Solid LED (0) – optimized routing is not forced

Flashing LED (1) – optimized routing is forced

Default: Solid LED (0)

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.34 Route Advance Step; Class 17 Optimized Routing.

Associated: 07.03 < 63 > Optimized Routing Dial Access No.; 14.01 Key Assignment; 15.01

Attendant Key Assignment.

Related Operation:

Optimized Routing.

Route Advance Step

Class 10 Item 34

Class 10 Item 34 – Route Advance Step is used to define the number of steps (route choices), up to a maximum of seven advance steps (eight route choices). An optimized routing call will advance to the next step (route choice) if the first step or route choice (CO group) within the route table is busy.

See *Class 17 – Optimized Routing*, for detailed information regarding optimized routing programming.

Note: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also sets how far the tie line call can advance using Optimize Routing.

DSS Display

Class/Item	Element Field	Description	Data Field
10.34	<extl001></extl001>	Route Advance Step (0→3)	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Number of advance steps required to route an optimized call

through an alternate CO group.

Range: **0-7**

Default: **0** - use the first CO group only

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; Class 17 Optimized Routing.

Associated: 10.21 Outgoing CO Line Group; 10.33 Forced Optimized Routing.

Related Operation:

Optimized Routing.

Off-Hook CO Answering

Class 10 Item 35

Class 10 Item 35 – Off-Hook CO Answering is used to program stations to answer incoming CO calls by going off-hook without pressing a line key. This feature is applicable to CO calls manually transferred as well as direct ringing assignment.

Notes: To enable off-hook CO answering at a specific station, you must set Class 10.35 to *allow* and program the desired incoming lines to ring at the station in *Class 11.32 – Ringing Station*. This feature does not work on lines for which the station is assigned as a delayed ringing station in *Class 11.33*.

Class 10.35 must be denied for stations equipped with a headset.

DSS Display

Class/Item	Element Field	Description	Data Field
10.35		Off-Hook CO Answering	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny off-hook CO automatic answer.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 11.30 Ringing Method; 11.32 Ringing Station.

Associated: 04.16 Delayed Ringing Timer; 11.33 Delayed Ringing Station.

Related Operation:

Off-Hook CO Answer.

Answer Hold

Class 10 Item 36

When **Class 10 Item 36 – Answer Hold** is enabled, a station can hold/park a call in progress and answer a second call by pressing a single key: [HOLD], [Individual Park], or [COL n]. This is the automatic outside line answer/hold feature. It is available with the following types of calls:

- Transferred Calls
- DIL CO Calls
- ICM Tone Calls
- ICM Voice Calls
- DID Calls
- E&M Calls

Note: A single-line telephone can access this feature by performing a hookswitch flash.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.36		Answer Hold (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny answer hold.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: Solid LED (0)

Related Databases:

Required: 04.25 Elements 8 and 9; 10.41 Busy Overriding; 10.43 Off-Hook Signaling. **Associated:** 04.08 Hold Recall Timer; 10.37 Hold Recall; 10.46 Hookflash Timing (SLT).

Related Operation:

- To place one call on hold/park and answer a second call simultaneously: While on a call with second call ringing press [HOLD], [Individual Park], or [COL n].
- To return to the first call:
 With first call on hold/park disconnect the second call.

Hardware Required:

Bypass Unit.

Hold Recall Class 10 Item 37

Class 10 Item 37 – Hold Recall is used to deny or allow stations from receiving recalls from calls placed on hold. If the recall timer is set to 0 in *Class 04.08*, Class 10.37 is not valid.

Note: If Class 10.37 is set to deny for a specific station, calls on a CO line defined as an *Attendant Intercept Line* in *Class 11.26* that are placed on hold will not recall the attendant as an attendant recall.

DSS Display

Class/Item	Element Field	Description	Data Field
10.37		Hold Recall (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny hold recall.

Range: **Solid LED (0)** – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 04.08 Hold Recall Timer.

Associated: 04.15 Attendant DIL Intercept; 10.36 Answer Hold; 11.26 Attendant Intercept

Line.

Related Operation:

Hold Recall.

While on CO call, Press [HOLD/DND] key

or

Press [COL/FLT/OPT] key.

Paging Access

Class 10 Item 38

Class 10 Item 38 – Paging Access is used to program stations to access the paging and group call features. The table below lists the default dial codes for paging access for software versions 3.0 and lower:

Dial:	To Page:
80	All Call (Station Group 30 + External Zone 60)
81	Station Group No. 1
82	Station Group No. 2
83	Station Group No. 3
84	Station Group No. 4
85	Station Group No. 5
86	External Zone No. 1
87	External Zone No. 2
88	External Zone No. 3
89	External Zone No. 4

Note 1: Software versions 4.0 and higher have no default dial codes for paging (*Class 07.04*).

Note 2: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also allows or denies the tie line all t use the paging feature in Class 10 Item 38.

DSS Display

	Class/Item	Element Field	Description	Data Field
,	10.38		Paging Access (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny paging access and group call features.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 07.04 Paging Group Access Number; 08.04 Page Group Station/Zone.

Associated: None.

Related Operation:

Group Call, Zone Page, All Page.

Class 10 Item 38 – Paging Access (Cont.)

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

Direct Station-to-Station Call

Class 10 Item 39

Class 10 Item 39 – Direct Station-to-Station Call is used to allow or restrict station-to-station calls and transferred CO calls. This item restricts any station that is denied from calling any other station that is denied. Stations that are denied cannot transfer calls to other denied stations.

Note: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also can be used to deny tie lines from making direct station calls in Class 10 Item 39.

DSS Display

Class/Item	Element Field	Description	Data Field
10.39		Direct Sta-to-Sta Call	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny station-to-station calling.

Range: **Solid LED (0)** – allow

Flashing LED (1) – deny

Default: Solid LED (0)

Related Databases:

Required: 10.50 ICM Group.

Associated: None.

Related Operation:

Direct Station-to-Station Call (Dial ICM).

Barge-In Station

Class 10 Item 40

Class 10 Item 40 – Barge-In Station is used to allow or deny a station from joining another station's call in progress using the barge-in feature. A warning tone is sent to the internal call parties to alert them that a conference has been established. Barge-in is not possible until after *sender time out* has elapsed. Stations programmed as barge-in stations in Class 10.40 may not interrupt calls by stations programmed as *protected stations* in *Class 10.44*. In order to barge in by dialing a station number *Class 10.43 – Off-Hook Signaling* must be disabled.

DSS Display

Class/Item	Element Field	Description	Data Field
10.40		Barge In Station (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny the barge-in feature.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: **Solid LED (0)**

Related Databases:

Required: 10.43 Off-Hook Signaling (Disable); 10.44 Protected Station.

Associated: 11.06 Inter-Digit Time; 11.13 Sender Time Out; 14.01 Station Flexible Key

Assignment; 15.01 Attendant Key Assignment.

Related Operation:

To barge-in:

- 1. Dial an extension number and wait for busy tone.
- 2. Press [ADD] or [DSS n].

Busy Overriding

Class 10 Item 41

Class 10 Item 41 – Busy Overriding is used to allow stations to call extensions that are busy or in DND mode using the bypass ringing feature. Stations enabled for busy override can override all stations except those designated as protected stations in *Class 10.44*.

In **Software Versions 3.0 and higher**, *Class 04.25 Elements 08 and 09* are available to program stations for busy bypass tone calling (busy override) of CO calls in progress, ICM calls in progress, or both. However, stations enabled to send busy bypass signaling in Class 10.41, or stations that are assigned an [Over Ride] key can perform busy bypass tone calling regardless of the values programmed in Class 04.25 or *10.43 – Off Hook Signaling*. The table on page 6-112 illustrates the relationship between Classes 04.25, 10.41, 10.43, 14.01 and 15.01.

In **Software Versions 4.50/5.50** attendant paging override can be allowed or denied using this item. If Class 10.41 is enabled at stations other than attendant positions, those stations cannot override any paging, including attendant paging. If Class 10.41 is enabled, busy tone is sent to the station affected by the paging override. If this feature is disabled, busy tone is sent to the attendant when paging override is attempted.

Note: If a station has an [Over Ride] key, the station has override capability regardless of this program.

DSS Display

Class/Item	Element Field	Description	Data Field
10.41		Busy Overriding (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny busy override.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: Solid LED (0)

Related Databases:

Required: 10.44 Protected Station.

Associated: 04.25 (Elements 8 and 9); 10.36 Answer Hold; 10.42 Do Not Disturb; 10.43 Off-

Hook Signaling (Software Versions 3.0 and higher only).

Related Operation:

To override a station busy signal:

When you dial a busy extension:

- 1. Press [Over Ride]
- 2. Wait for the station user to answer

Do Not Disturb (DND)

Class 10 Item 42

Class 10 Item 42 – Do Not Disturb is used to allow stations to use the DND feature. This feature, when set at a station, prevents the following types of calls from ringing:

- Incoming CO Ringing
- DID Ringing
- DISA Ringing
- ICM Calls
- Doorphone Calls
- Page/Group Calls
- Hunt Group Calls/UCD

DND mode does not affect the following calls:

- Recalls
- Private Line Ringing (if *Class 11.22* is enabled)
- Busy Overriding Calls (*Class 10.41*)

Note: DND mode prevents stations from receiving calls through the station speaker. Stations programmed as protected stations in Class 10.44 cannot receive camp-on calls at all.

DSS Display

Class/Item	Element Field	Description	Data Field
10.42		DND (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny DND.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: None.

Associated: 10.41 Busy Overriding.

Related Operation:

To place your station in DND mode:

On-hook, press [HOLD/DND].

Off-Hook Signaling

Class 10 Item 43

Class 10 Item 43 – Off-Hook Signaling is used to program stations to receive incoming calls when they are off-hook or have the speaker on. Off-hook signaling does not apply to recalls and doorphone calls or doorphones, data modules and SLT ports programmed as facsimile, voice mail, or automated attendant ports in Class 1.03. Off-hook signaling must be disabled for barge-in by dialing station numbers or station monitoring to be possible. This item is applicable to stations with or without a busy bypass unit (IX-BPAD). Class 04.25 Elements 8 and 9 must be enabled for this feature to work.

DSS Display

Class/Item	Element Field	Description	Data Field
10.43		Off-Hook Signaling (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny off-hook signaling.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: Class 04.25 Elements 8 and 9.

Associated: 10.36 Answer Hold; 10.41 Busy Overriding; 10.44 Protected Station.

Hardware Required:

Standard, IX-BPAD.

Related Operation:

Call a busy station = modified busy signal

Called station LCD = "Call FM 210".

Protected Station

Class 10 Item 44

Class 10 Item 44 – Protected Station is used to program a station as a *protected*. If a station is protected, it cannot be overridden by stations programmed as barge-in stations. Protected stations deny barge-in and monitoring from occurring.

DSS Display

Class/Item	Element Field	Description	Data Field
10.44		Protected Station (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Define a station as protected/not protected against barge-in.

Range: Solid LED (0) – not protected

Flashing LED (1) – protected

Default: Solid LED (0)

Related Databases:

Required: None.

Associated: 10.40 Barge-In Station; 10.41 Busy Overriding; 11.22 DND Override CO Ringing

Message Key

Class 10 Item 45

Class 10 Item 45 – Message Key is used to identify stations that have been assigned a [MESSAGE] message key. Stations must be programmed to have a message key in order to use the *message waiting* feature and receive voice mail message indications. Extensions programmed as *no message key* in Class 10.45 cannot receive message indications regardless of whether or not they have been assigned a message key in Classes 14.01 or 15.01. ZT-D and ZT-S telephones do not have a [MESSAGE] key at default. Without the [MESSAGE] key, the attendant DSS will show messages sent to the target station.

Note: This program enables stations to receive message indication. A station disabled in Class 10.45 can still send a message to another station.

DSS Display

Class/Item	Element Field	Description	Data Field
10.45		Message Key (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Program a message key.

Range: Solid LED (0) – no message key

Flashing LED (1) – message key

Default: (1) – message key ((0) – no message key software versions before

4.62/5.62)

Related Databases:

Required: 10.12 Key Assignment; Class 14 Flexible Key Assignment; Class 15 Attendant

Key Assignment.

Associated: None.

Related Operations:

Voice Mail Integration, Message Waiting.

To Leave/Answer a Message:

After ICM dialing + [MESSAGE] + [#]

To Cancel:

Receiving Station: [MESSAGE] + [*][*]

Sending Station: [MESSAGE] + [*] + extension no.

Hardware Required:

All Key Telephones, Single-Line Telephones with Message Lamps and Versa-Phones.

Hookswitch Flash

Class 10 Item 46

Class 10 Item 46 – Hookswitch Flash is used to enable/disable a single-line telephone to use the hookswitch flash feature to place calls on hold and access other ADIX features. Single-line telephones which are denied hookswitch flash, cannot place calls on hold, transfer calls, nor use any features which require hookswitch flash to enter a feature access code.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.46		Hook-Switch Flash (SLT)	

Programming Field Description

Element Meaning: Select the SLT station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny hookswitch flash at a SLT station.

Range: **Solid LED (0)** – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: None

Associated: 04.29 DP-SLT Consultation Hold.

Related Operation:

SLT features.

Hardware Required:

Single-Line Telephones, IX-8SUBS, IX-SUBS-1, IX-SUBS-2, IX-8SUBM, IX-4SUBL, IX-4RCVS, IX-RNGU.

Howler Alert

Class 10 Item 47

Class 10 Item 47 – Howler Alert is used to program stations to receive a howler alert through the handset after staying off-hook longer than forty seconds without dialing.

DSS Display

Class/Item	Element Field	Description	Data Field
10.47		Howler Alert (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny howler alert.

Range: **Solid LED (0)** – deny **Flashing LED (1)** – allow

Default: Flashing LED (1)

Related Databases:

Required: None

Associated: 04.29 DP-SLT Consultation Hold.

Related Operation:

Remain off-hook without performing any operation.

Calling Mode

Class 10 Item 48

Class 10 Item 48 – Calling Mode is used to program the initial ICM calling mode for digital telephones. The calling mode can be programmed as either *tone* or *voice*. The following programming conditions apply to Class 10.48:

- If *Class 04.22* is set to **1**, and Class 10.48 is set to **1**, the calling party has calling mode control.
- If *Class 04.22* is set to **0**, the called party has calling mode control and can change the calling mode by dialing [FEAT] + [6][5].
- If the called party selects *tone*, all calls are tone.
- If the called party selects *voice*, all calls are voice and can be toggled to *tone*.

Note: This feature must be initialized by pressing [FEAT] + [6][5] after initial system start-up or defaulting the system if tone calling is selected.

DSS Display

Class/Item	Element Field	Description	Data Field
10.48		Calling Mode (0→1)	

Programming Field Description

Element Meaning: Select the station logical port number using the DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Define the calling mode at digital telephones.

Range: **Solid LED (0)** – voice call

Flashing LED (1) – tone call

Default: **Solid LED (0)**

Related Databases:

Required: 04.22 ICM Call Mode.

Associated: 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Related Operation:

Station-to-station calls: dial extension no. + [#].

To change calling mode (by called party):

On-hook + [FEAT] [6][5]

or

On-hook + [Dial Reverse]

Meet-Me Answer Group

Class 10 Item 49

Class 10 Item 49 – Meet-Me Answer Group is used to define the logical port number of the zone page speaker that each station is permitted to answer using the *meet-me answer* feature. The paging zone logical port number is assigned in *Class 01.03*. The paging zone is assigned in *Class 08.04*.

Note: This item applies to external zones only.

DSS Display

Class/Item	Element Field	Description	Data Field
10.49	<extl001></extl001>	Meet-Me Answer Group	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Logical port number for zone page.

Range: 0 = disable meet-me feature

001-448

Default: **0**

Related Databases:

Required: 01.03 Port Definition; 08.04 Page Group - Station/Zone.

Associated: 04.40 DISA Paging Call.

Related Operation:

To perform meet-me answering of paging calls:

At ICM dial tone dial [FEAT] + [3][5] or [Meet Me].

ICM Group

Class 10 Item 50

Class 10 Item 50 – ICM Group is used to assign stations to ICM groups. When a station is assigned to an ICM group, that station can only have intercom communication with stations in the same group. Group 0 is reserved as a global group that can communicate with all other groups. This program has no effect on CO access by different station groups.

Note: The setting in Class 11 Item 47 that allows you to control of the distant end of a T1 E&M tie line also allows you to restrict which ICM stations can be called by the tie line in Class 10 Item 50.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	10.50	<extl001></extl001>	ICM Group	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: ICM group number.

Range: 0 = global group

1-32

Default: 0

Related Databases:

Required: None.

Associated: 10.39 Direct Station-to-Station Call; 10.51 Call Pick-Up Group.

Related Operation:

Station-to-Station Calls.

Call Pick-Up Group

Class 10 Item 51

Class 10 Item 51 – Call Pick-Up Group is used to assign stations to call pick-up groups. When a station is assigned to a call pick-up group, that station can pick up calls ringing at a station within its pick-up group. A station assigned to pick-up group 0 in this item **cannot** pick-up calls ringing at other extensions.

DSS Display

Class/Item	Element Field	Description	Data Field
10.51	<extl001></extl001>	Call Pickup Group (0→60)	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Call pick-up group number.

Range: 0 = restricted pick-up group

1-60

Default: 1

Related Databases:

Required: 04.25 Calls for Pick-Up.

Associated: None.

Related Operation:

Group Call Pick-Up:

Internal Group Call Pickup: [FEAT] + [3][1] or [Call Pickup In]

External Group Call Pickup: [FEAT] + [3][2] + group no. or [Call Pickup Out] + group no.

Directed Call Pickup: [FEAT] + [3][3] + extension no. or [Spec. Call Pickup]

Toll Restriction Class Alternating Group

Class 10 Item 52

Class 10 Item 52 – Toll Restriction Class Alternating Group is used to allow an attendant station to switch the station service class of a group of stations between modes 1 and 2. This is done manually using the group number assigned in Class 10.52, or automatically when the system is in night mode.

DSS Display

Class/Item	Element Field	Description	Data Field
10.52	<extl001></extl001>	TR Class Alt. Gp.	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Group number.

Range: 0 = no group

1-60

Default: 0

Related Databases:`

Required: 10.21 Outgoing CO Group; 10.23 Toll Restriction Class. **Associated:** 15.01 Attendant Key Assignment; Class 06 Toll Restriction.

Related Operation:

To change the station class of service at the Attendant position:

[Station Service] $+[*] + group \ no. \ (01-60) + mode \ no.$, or [GP. Night Change] $+ group \ no. \ (01-60)$, or [Night] where $Mode \ No. = 1 \ (day), 2 \ (Night)$

Attendant Automatic Hold

Class 10 Item 53

Class 10 Item 53 – Attendant Automatic Hold is used to determine whether the attendant console can place a call in progress on hold automatically by pressing a line key with an incoming call.

Note: This feature works on outgoing calls only after the sender time out has elapsed.

DSS Display

Class/Item	Element Field	Description	Data Field
10.53		ATT Automatic Hold	

Programming Field Description

Element Meaning: Select the attendant station logical port number using the DSS

buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny attendant automatic hold.

Range: Solid LED (0) – deny

Flashing LED (1) – allow

Default: (0) – deny ((1) – allow software versions before 4.62/5.62)

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration. **Associated:** 11.06 Inter-Digit Time; 11.13 Sender Time Out.

Related Operation:

Attendant Automatic Hold.

While on CO call, press [COL n] or [FLT n] key of incoming call.

Hardware Required:

Attendant Console.

Attendant Call Progress Tone

Class 10 Item 54

Class 10 Item 54 – Attendant Call Progress Tone is used to determine whether the attendant console can deny call progress tones, such as a dial tone, which are not needed for console operation. Call progress tones include the following:

Dial Tones	Record
	er
	Tones
Ring Back	Busy
Tones	Tones
Optimized	Warnin
Tones	g Tones
DND	Waitin
Tones	g Tones
Absence	Camp-
Message	On
Tones	Tone
	(SLT)

DSS Display

Class/Item	Element Field	Description	Data Field
10.54		ATT Call Progress Tone	

Programming Field Description

Element Meaning: Select the attendant station logical port number using the DSS

buttons.

Field: Range: **001-448**

Data Field: Meaning: Allow/deny attendant call progress tones.

Range: **Solid LED** (0) – deny

Flashing LED (1) – allow

Default: Flashing LED (1)

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration.

Associated: None.

Related Operation:

Attendant Call Progress Tone.

Hardware Required:

Attendant Console.

Attendant Overflow Level

Class 10 Item 55

Class 10 Item 55 – Attendant Overflow Level is used to program the number of calls an attendant station can handle before incoming calls are automatically transferred to the attendant overflow destination programmed in *Class 10.56*. Overflow occurs when the number of calls exceeds the value programmed in Class 10.55. For example, if the attendant (logical port number 001) wants to forward overflow calls (more than ten) to a second station (logical port number 021), the programming would be as follows:

[10.55 < EXTL001 > ATT Overflow Level 10] [10.56 < EXTL001 > ATT Overflow Destination 021]

The following types of calls are subject to attendant overflow:

- Hold Recalls
- CO Incoming Calls
- Attendant All Call

The following types of calls are not subject to attendant overflow:

- Call Backs
- Serial Recalls
- CO Private Lines
- Wake-Up Calls

The value programmed in Class 10.55 can be changed without going into programming mode.

DSS Display

Class/Item	Element Field	Description	Data Field
10.55	<extl001></extl001>	ATT Overflow Level	0

Programming Field Description

Element Meaning: Logical port number of the attendant station.

Field: Range: **001-448**

Data Field: Meaning: Attendant call overflow level.

Range: $\mathbf{0} = \text{no overflow}$

1-30

Default: 0

Related Databases:

Required: 10.56 Attendant Overflow Destination.

Associated: None.

Related Operation:

To change the programmed overflow level at the Attendant Station:

From the attendant station dial: [FEAT] + [Over Ride] + [#] + number of calls + [Release]

Attendant Overflow Destination

Class 10 Item 56

Class 10 Item 56 – Attendant Overflow Destination is used to select the station to which calls directed to the attendant will overflow to when the attendant overflow level programmed in *Class 10.55* has been exceeded.

DSS Display

Class/Item	Element Field	Description	Data Field
10.56	<extl001></extl001>	ATT Overflow Dest.	0

Programming Field Description

Element Meaning: Logical port number of the attendant station.

Field: Range: **001-448**

Data Field: Meaning: Logical port number of overflow destination.

Range: **001-448**

Default: **0**

Related Databases:

Required: 10.55 Attendant Overflow Level.

Associated: None.

Related Operation:

Incoming Call Handling.

To change the programmed overflow destination at the attendant station:

From the attendant station dial: [FEAT] + [Over Ride] + extension number

Doorphone Ringing

Class 10 Item 57

Class 10 Item 57 – Doorphone Ringing is used to program up to sixteen stations to ring when there is an incoming call from a doorphone.

Important: If Class 10.57 is not programmed, a doorphone will not operate.

DSS Display

Class/Item	Element Field	Description	Data Field
10.57	<extl001></extl001>	Door-Phone Ringing	0

Programming Field Description

Element Meaning: Logical port number of the **doorphone**.

Field: Range: **001-448**

Data Field: Meaning: Select station logical port numbers for doorphone ringing.

Range: Solid LED (0) – no doorphone ringing

Flashing LED (11) – doorphone ringing

Default: Solid LED (0)

Related Databases:

Required: 01.03 Port Definition; 04.17 Doorphone Answer Time; 10.59 Doorphone Tone.

Associated: 10.58 Doorphone Relay.

Related Operation:

Doorphone. Press the Call button.

Hardware Required:

IX-DPHM, IX-8PSUB, IX-DDPH.

Doorphone Relay

Class 10 Item 58

Class 10 Item 58 – Doorphone Relay is used to program a doorphone to trip a relay when the call button is pressed. Class 10.58 is used to identify the relay which is associated with the doorphone. For this program to work, the relay must be defined as a doorphone relay in *Class 04.37*. The operation duration of the relay lasts from the time the call button is pressed until the call is answered or the doorphone answer time programmed in *Class 04.17* has elapsed.

DSS Display

Class/Item	Element Field	Description	Data Field
10.58	<extl001></extl001>	Door-Phone Relay (0→32)	0

Programming Field Description

Element Meaning: Logical port number of the **doorphone**.

Field: Range: **001-448**

Data Field: Meaning: Relay number.

Range: $\mathbf{0} = \text{no relay}$

0-32

Default: 0

Related Databases:

Required: 04.35 Miscellaneous Function Port; 04.37 Miscellaneous Function.

Associated: 04.17 Doorphone Answer Time; 10.57 Doorphone Ringing; 10.59 Doorphone

Tone

Related Operation:

Doorphone.

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU, IX-8PSUB, IX-DPPH.

Doorphone Tone

Class 10 Item 59

Class 10 Item 59 – Doorphone Tone is used to program the ringing tone for each doorphone. Four different tones are available:

- Melody 1 on the IX-DPHM Card
- Melody 2 on the IX-DPHM Card
- ICM Ringing Tone
- ICM Recall Tone

DSS Display

Class/Item	Element Field	Description	Data Field
10.59	<extl001></extl001>	Door-Phone Tone (1→4)	1

Programming Field Description

Element Meaning: Logical port number of the **doorphone**.

Field: Range: **001-448**

Data Field: Meaning: Ringing tone selection

Range: 1 = Melody 1

2 = Melody 2

3 = ICM Ringing Tone 4 = ICM Recall Tone

Default: 3 (1 software versions before 4.62/5.62)

Related Databases:

Required: 01.03 Port Definition; 10.57 Doorphone Ringing.

Associated: 10.58 Doorphone Relay.

Related Operation:

Doorphone.

Hardware Required:

IX-DPHM, IX-8PSUB, IX-DDPH, IX-DPHM, IX-HWCL, IX-CPU16M; Key Telephones and Versa-Phones.

Station Data Module Link

Class 10 Item 60

Class 10 Item 60 – Station Data Module Link is used to link a data module with an associated key telephone or Versa-Phone. This attribute must be defined for both the data module and the connected telephone station. For example, if a KT (station logical port number = 005) and a data module (station logical port number = 010) are operated together, program Class 10.60 as follows:

[10.60 < EXTL005 > DM LINK 010] [10.60 < EXTL010 > DM LINK 005]

In software version 4.20/5.20 or later, Class 10.60 is also used to define the DSS units that are connected and operated together with KTs or Versa-Phones beyond the limitation of SATT assignment. The buttons and LEDs of the DSS unit will not light. The DSS must use one of the station key patterns for the key assignment.

DSS Display

Class/Item	Element Field	Description	Data Field
10.60	<extl001></extl001>	DM Link	0

Programming Field Description

Element Meaning: Station logical port number.

Field: Range: **001-448**

Data Field: Meaning: Logical port number of linked station.

Range: **001-448**

Default: 0

Related Databases:

Required: 01.03 Port Definition (for a data module). **Associated:** 10.11 Data Module Communication.

Related Operation:

Data Communication.

Hardware Required:

IX-DMS.

Programming Reserve (CCV ICM)

(Software Versions 4.2 and Higher Only)

Class 10 Item 70

Class 10 Item 70 – Programming Reserve contains two element fields. The first element field is used to identify the logical port number. The second element field is used for the following programming items:

Element 2	
(e2) =	Description
1	Call Coverage of ICM Calls is used to program which stations are subject to call coverage. If call coverage is turned on, an incoming call to a station is indicated at each covering station.
2	Call Progress Tone is used to enable or disable the tone burst heard at a station when camp-on or conference occurs.
3	Verified Account Code Display is used determine which stations will have verified account codes displayed on the LCD.
4	Group Monitoring Enable/Disable is used to designate whether the speaker is available when the user presses [SPKR] during off-hook state.
	When the speaker is disabled, the user cannot monitor from the speaker while off-hook. This eliminates the possible "howling noise" associated with this situation.
	Note: The user may press [SPKR] even if this function is disabled.
5	Forced Account Code Printout is used to determine which stations defined as <i>forced account code stations</i> in <i>Class 10.73</i> will have their forced account code calls appear on the SMDR printout.
8	 SLT Disconnect Signal Station (software versions 4.3 and up only) This programming item is used to enable or disable the disconnect signal feature on a per station (SLT) basis. The following conditions are required: ■ This feature requires an IX-8SUBS-1 or IX-8SUBS-2 card. ■ This item is not required for the SLT ports assigned as the VM/AA or VM port in Class 01.04 (data field = 0-4-1).

Important: A reset is required in software versions prior to 4.20 to effect any changes in Class 10.70 for call coverage.

Class 10 Item 70 – Programming Reserve (Cont.)

DSS Display

Class/Item Element Field e1-e2			Description	Data Field
Ī	10.70	<extl001-1></extl001-1>	CCV ICM	0

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: See the description on the previous page.

Field 2 (e2): Range: 1, 3, 4, 5, 8

Data Field: If (e2) =

 $\langle EXTLxxx-1 \rangle$ Range: **0** = covered station does not have call coverage of ICM calls

1 = covered station has call coverage of ICM calls

Default: 1 (0 software versions before 4.62/5.62)

 $\langle EXTLxxx-2 \rangle$ Range: **0** = enable tone burst for camp-on/conference indication

1 = disable tone burst for camp-on/conference indication

Default: **0**

 $\langle EXTLxxx-3 \rangle$ Range: $\mathbf{0} = \text{display the account code on the LCD}$

1 = do not display the account code on the LCD

Default: **0**

 $\langle EXTLxxx-4 \rangle$ Range: **0** = station's speaker is unavailable at off-hook

1 = station's speaker is available at off-hook

Default: 1

 $\langle EXTLxxx-5 \rangle$ Range: **0** = do not mask forced account calls on SMDR report

1 = mask forced account calls on SMDR report

Default: 0

 $\langle EXTLxxx-8 \rangle$ Range: **0** = disable disconnect (loop-open) signal

1 = enable disconnect (loop-open) signal

Default: 0

Related Databases:

If (E2) = 1: 04.70, Element 2; 04.71 Call Coverage/Voice Mail Data; 11.70 Call Coverage

Trunk; 14.01 Key Assignment; 15.01 Attendant Key Assignment.

If (E2) = 3: 04.71 Number of verified Account codes; 05.01 Verified Account Code Table;

10.73 Forced Account Code Station; 11.70 Forced Account Code Trunk.

If (E2) = 5: 04.71 Forced Account Code Length; 10.73 Forced Account Code Station; 11.70

Forced Account Code Trunk.

If (E2) = 8: 04.71 Loop Open Duration.

Related Operation:

Call Coverage.

Programming Reserve 2

(Software Versions 4.50/5.50 and Higher Only)

Class 10 Item 71

Class 10 Item 71 – Programming Reserve 2 contains two element fields. The first element field is used to identify the station logical port number. The second element field is used for the following programming item:

Element 2	
(e2) =	Description
2	Busy Camp-On From Single-Line Telephones is used to enable or disable busy camp-on from single-line telephones. If this item is enabled a SLT can camp-on (CO and ICM) to a busy station (excluding a SLT) or hunt group. When a SLT is camped-on to a busy station, it is handled by the system as regular camp-on. The following conditions apply: No camp-on recall for ICM calls. Camp-on recall for CO calls.
3	SLT/ VML Conference from Consultation Hold is used to disable SLT to conference from Consultation Hold

Note: This feature should be enabled for voice mail ports so they can camp-on calls to busy stations.

DSS Display

Class/Item		Element Field e1-e2	Description	Data Field
Ī	10.71	<extl001-1></extl001-1>	Reserve 2	0

Programming Field Description

Element	Meaning:	Station logical port number.
Field 1 (e1):	Range:	001-448
Element	Meaning:	See the description above.
Field 2 (e2):	Range:	2, 3
Data Field:	If $(e2) =$	
<extlxxx-2></extlxxx-2>	Range:	0 = disable busy camp-on from a SLT
		1 = enable busy camp-on from a SLT
	Default:	0
<extlxxx-3></extlxxx-3>	Range:	0 = enable SLT conference from consultation hold
		1 = disable SLT conference from consultation hold
	Default:	0

Related Databases:

Required: None. **Associated:** None.

Related Operation:

While SLT is on CO/ICM call, depress hookswitch, dial extension no. + on-hook.

Programming Reserve 3

(Software Versions 4.71/5.71 and Higher Only)

Class 10 Item 72

Class 10 Item 72 contains two element fields. The first element field is used to identify the station logical port number. The second element field is used for the following programming item:

Element 2 (e2) =	Description
3	Text Message Receive Tone at DND Station is used to enable or disable the text message confirmation tone from playing at a station in DND mode when a text message arrives.
7	Enable/Disable Answering Machine Emulation is used to enable or disable an extension to use the Answering Machine Emulation feature.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
10.72	<extl001-1></extl001-1>	Reserve 3	0

Programming Field Description

Element	Meaning:	Station logical port number.
Field 1 (e1):	Range:	001-448
Element	Meaning:	See the description above.
Field 2 (e2):	Range:	3, 7
Data Field: <extlxxx-2></extlxxx-2>	If (e2) = Range:	0 = disable text message confirmation tone at DND stations
	Default:	1 = enable text message confirmation tone at DND stations0
<extlxxx-7< th=""><th>Range:</th><th>0 = disable ability to use Answering Machine Emulation feature</th></extlxxx-7<>	Range:	0 = disable ability to use Answering Machine Emulation feature
		1 = enable ability to use Answering Machine Emulation
		feature
	Default:	0

Related Databases:

Element 39:	02.20 System Text Message; 08.06 Text Message Group; 10.72 Element 2=3; 14.01/15.01 Key Assignment; 26.01/27.01 Station Text Message.		
Element 40:	14.01/15.01 Key Assignment; Class 24 Caller ID/ANI Conversion Data; Class 25		
	DNIS Conversion Data.		
Required:	Note: Packet 23 (Class 04.77 <num23>) Voice Mail Stop Recording/ Delete</num23>		
	Message, d1 must be set to 2222 for Voice Mail Monitor (Answering Machine		
	Emulation) to function.		
	04.70 < NUM38 > Automatic/User Initiated Monitor, 04.77 < NUM22 > Disconnect		
	Packet, 04.77 <num23> Voice Mail Stop Recording/ Delete Message, 14.01<key< th=""></key<></num23>		
	Pattern> Station Key Assignment, 15.01< Key Pattern> Attendant Key Assignment		

Call Forwarding Modes

(Software Versions 4.0 and Higher Only)

Class 10 Item 73

Class 10 Item 73 – Call Forwarding Modes contains two element fields. The first element field is used to identify a station logical port number. The second element is used for the following programming elements:

Element 2 (e2) =	Description
1	Fixed Call Forward Mode is used to define the default call forward mode for each station. If fixed call forwarding is used, change this data value to 1-busy/no answer or 2-no answer. At default, the system will forward all calls and the primary station will never ring when in fixed call forward mode.
2	Manually Activated Call Forward Default Mode is used to assign the default mode for manually activated call forwarding, using the [FORWARD] key on the telephone. If desired, the mode programmed here can be changed by the station user.
3	Forced Account Code Station is used to define a station as either a forced account code station or verified account code station. Four modes of operation are programmable here: Forced - Toll Call Only, Forced -All Calls, Verified - Toll Calls Only, Verified - All Calls. Forced account code stations must enter a string of digits equal in length to the programming in <i>Class 04.71</i> , <i>Element 03</i> . Verified account code stations must enter an account code that exactly matches a data entry in <i>Class 05.01</i> . Account code entry is required when these stations attempt to seize or make a call using a CO lines specified as a forced account code trunk in <i>Class 11.70</i> . Toll Calls are defined in <i>Class 04.78</i> , <i>Elements 01-32</i> . Numbers defined in <i>Class 04.78</i> – <i>Emergency Dial Table</i> override all forced/verified account code entry.
4	E911 Area Routing Trunk Group. This item is used to associate each system extension with a specific trunk group (Class 11.38) when the Proposed "40,000 Square Foot Rule" is selected as the method for Enhanced 911 Service in Class 04.70 <num35> (data field 1=1). For example, a building with three floors assigns the stations on floor 1 to trunk group 1 in Class 10.73<extlnnn-4>, stations on floor 2 to trunk group 2 in Class 10.73<extlnnn-4>, and stations on floor 3 to trunk group 3 in Class 10.73<extlnnn-4>.</extlnnn-4></extlnnn-4></extlnnn-4></num35>

Note: Regardless of the value programmed in element 2 (e2) = 1, fixed call forward will not operate unless a destination station is programmed in $Class\ 10.78 - Fixed\ Call\ Forward\ Destination$.

Important: Fixed call forward must be initialized by manually activating and deactivating the [FORWARD] key at the station level after initial system start-up or defaulting the system. If initialization is not performed, the fixed call forward feature will not operate.

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field
10.73	<extl001-1></extl001-1>	FWD Mode	0

Class 10 Item 73 – Call Forwarding Modes (Cont.)

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: See the description above.

Field 2 (e2): Range: 1, 2, 3, 4

Data Field: If (e2) =

 $\langle EXTLxxx-1 \rangle$ Range: **0** = forward all calls to the destination programmed in *Class*

10.78

1 = forward calls to the destination programmed in *Class*

10.78 only if the station is busy/no answer

2 = forward calls to the destination programmed in *Class*

10.78 only if there is no answer at the station

Default: 1 (0 software versions before 4.62/5.62)

 $\langle EXTLxxx-2 \rangle$ Range: **0** = all call forward for manual operation

1 = busy/no answer forward for manual operation
2 = no answer forward for manual operation

Default: 0

<EXTLxxx-3> Meaning: Identify forced account code mode at station level when

calling out on a forced account code trunk (Class 11.70).

Range: 0 = unforced

1 = forced account code station – all outgoing calls
2 = forced account code station – toll calls only
3 = verified account code station – all outgoing calls
4 = verified account code station – toll calls only

Default: 0

<EXTLxxx-4> Range: **01-60**

Default: 1

Related Databases:

Required: 10.78 Fixed Call Forward Destination.04.70<NUM35>d1=1; 11.38 Outgoing CO

Trunk Group; 29.10 Emergency Send Dial

If (**E2**) = 1, 2: 04.13 Call Forward No Answer.

If (E2) = 3: 04.71 Number of Verified Account Codes; 04.78 Elements 33-42. Associated: 11.22 DND Override CO Ringing, 17.18 Emergency Specific Code

Related Operation:

To manually activate call forward:

At ICM dial tone press [FORWARD] + extension number.

At ICM dial tone press [FORWARD] + forward type 1, 2 or 3.

Optimized Routing: [ICM] + [9][1][1]

[FLT] + [0][0] + [9][1][1].

[OPT] + [9][1][1]

 $[ICM] + OPT\ access\ code + [9][1][1]$

Station Based Timers

Class 10 Item 74

Class 10 Item 74 – Programming Reserve 5 contains two element fields. The first element field is used to identify the station logical port number. The second element field is used for the following new programming items.

Element 2 (e2) =	Description
1	Station Hold Recall Timer is used define the length of time a call will remain on hold on a station-by-station basis. This timer is also used for Call Park and Group Call Park. The value entered denotes the length of time a call will remain on hold before the station that placed it on hold is recalled. A call placed on hold will recall the attendant if recall is not answered after the time programmed in Class 04.15 – Attendant DIL Intercept has elapsed. This is a per station setting. If no setting is made, the programming in Class 04.08 will determine the hold recall time.
2	Station Camp-On Duration Timer is used to define the length of time the campon condition is maintained on a station-by-station basis. When the time programmed elapses, a recall is made to the originating station. At that time, if the line is enabled in <i>Class 11.26 – Attendant Intercept Line</i> for attendant intercept, if the originating station does not answer the recall within the attendant DIL intercept time (programmed in <i>Class 04.15</i>), recall will be directed to the attendant station.
	This is a per station setting. If no setting is made, the programming in <i>Class 04.12</i> will determine the camp-on time.
3	E-Response Help Call Extension Enable/Disable. This item is used to program a station as an E-Response Help Call extension. Stations enabled in this item to make an E-Response help call will automatically call the E-Response Help Group programmed in Class 10.74 <extlnnn-04> if left off hook for a duration that exceeds the E-Response Help Call Time programmed in Class 04.71 <num41>, or after pausing between digits dialed for longer than 10 seconds without completing the call. A station may be enabled for E-Response when the system is in the Day Mode only, or both Day Mode and Night Mode according to the programming in this item.</num41></extlnnn-04>
4	E-Response Help Call Group. An ICM Group may be identified as the E-Response Help Call Group for a specific system extension on a station-by-station basis. In order for this item to take effect, a station must first be enabled to use E-Response in Class 10.74 <extlnnn-03>. An ICM Group is defined in Class 08.04 and Class 08.05 <grpnn-6>. Information on creating ICM Groups is available on page Error! Bookmark not defined. of this bulletin.</grpnn-6></extlnnn-03>
Note: To make	e any changes take effect, a station reset is required.

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Class 10 Item 74 – Station Based Timers (Cont.)

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
10.74	<extl001-1></extl001-1>	Programming Reserve 5	0

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: **001-448**

Element Meaning: See the description above.

Field 2 (e2): Range: 1, 2, 3,4

Data Field: If (e2) =

1 Range: 0-255 seconds

 $\mathbf{0}$ = use setting in Class 04.08

Default 0

2 Range: 0-255 seconds

 $\mathbf{0}$ = use setting in Class 04.12

Default 0

3 Meaning: E-Response Help Call Station Enable/Disable

Range: 0=Disable, 1=Day Only, 2=Day and Night

4 Default 0

Meaning: E-Response Help Call Group Number

Range: 0-60

Default 0

Related Databases:

If (e2) = 1

Required: 10.37 Hold Recall.

Associated: 04.15 Attendant DIL Intercept, 04.55 True Attendant; 11.26 Attendant Intercept

Line.

If (e2) = 2

Associated: 04.15 Attendant DIL Intercept; 11.26 Attendant Intercept Line.

If (e2) = 3,4

Required: 04.13 Call Forward No Answer; 04.22 ICM Calling Mode; 04.71<NUM41> E-

Response Help Call Time Out; 04.79<NUM08> E-Response Help Call Message; 07.04 Paging Group Access Number; 08.04 E-Response Help Call Group - Station/Zone; 08.05<GRPnn-06> Paging Group Type; 10.48 Calling Mode; 10.74<EXTLnnn-3> E-Response Help Call Mode; 10.74<EXTLnnn-4> E-

Response Help Call Extension.

Associated: 08.05<GRPnn-07> E-Response Contact Relay.

Programming Reserve 6

(Software Version 4.62/5.62 and Higher)

Class 10 Item 75

Class 10 Item 75 – Programming Reserve 6 contains two element fields. This programming item is a multipurpose item used to set the station class of service. The first element field is used to identify the logical port number. The second element field is used for the following programming item:

Element 2 (e2) =	Description
1	Green LED on IX-12KTD-2 Display Lamp is used to associate the green LED on the Omega-Phone IX-12KTD-2 display lamp with a key on the telephone. At default this item is set to 136 ([Message]) for station logical port 001 and 36 ([Message]) for all other station logical ports.
2	Station No Answer Call Forward Timer is used to define the length of time a call will ring at one station without being answered before it is forwarded to another station. This is a per station setting. If no setting is made, the programming in <i>Class 04.13</i> will determine the station forward timer.
4	Network Class of Service serves two purposes: 1.) It is referenced when a Network Access Code (Class 28.01) that points to an Internal Network Conversion table (Class 28.03) is dialed from the specified station. The Network Class of Service determines how the call is routed based on the programming in Class 28.03. 2.) It determines the number of route advance steps the user may use based on the programming in Class 28.06. Route advance steps are programmed in Class 28.05.

Note: To make any changes take effect, a station reset is required.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
10.75	<extl001-1></extl001-1>	Programming Reserve 6	136

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: Green LED on Display Lamp

Field 2 (e2): Range: 1, 2

Class 10 Item 75 – Programming Reserve 6 (Cont.)

Data Field: If (e2) =

<EXTLxxx-1> Range: **Standard Stations = 01-24, 29-36**

Attendant Stations = 01-24, 129-136

Default 136 for station logical port 001

36 for all other station logical ports

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-448

Element; Meaning: See the description above.

Field 2 (e2): Range: 2

Data Field: If (e2) =

4 Range **0-255** seconds

 $\mathbf{0}$ = use setting in Class 04.13

Default

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: Network Class of Service

Field 2 (e2): Range: 4

Data Field: <EXTLxxx-4>

Range: 1-16 (Class 28.03 Class of Service Translation)

Default 1

Related Databases:

Required: 14.01 Key Assignment; 15.01 Attendant Key Assignment; 28.03 Network Internal 28.01 Network Number; 28.02 Network Attribute; 04.13 Call Forward-No Answer

Hardware Required

IX-12KTD-2 Digital Key Display Telephone.

Fixed Call Forward Destination

(Software Versions 4.0 and Higher Only)

Class 10 Item 78

Class 10 Item 78 – Fixed Call Forward Destination is used to program the destination where calls will be forwarded from each station logical port number when the *fixed call forward feature* operates. If a destination is not assigned for a station, that station cannot use the fixed call forward feature. In that case, the station can only set call forwarding manually. Once fixed call forwarding is set, it can only be disabled by deleting the destination programmed in Class 10.78. This feature operates in conjunction with the fixed call forward mode programmed in *Class 10.73 – Call Forwarding Modes, Element 2 (e2) value 1*. A station can change the fixed call forward destination by manually activating call forwarding.

Note: Regardless of the value programmed in *Class 10.73*, *Element 2 (e2)* = 1, fixed call forward will not operate unless a destination station is programmed in *Class 10.78 – Fixed Call Forward Destination*.

Important: Fixed call forward must be initialized by manually activating and deactivating the [FORWARD] key at the station level after initial system start-up or defaulting the system. If initialization is not performed, the fixed call forward feature will not operate.

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field
10.78	<extl001-1></extl001-1>	Fixed FWD. Dest.	

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: **001-448**

Element Meaning: Programming mode.

Field 2 (e2): Range: 1

Data Field: Meaning: Extension number or hunt group access number to be used as the

destination for fixed call forwarding.

Range: **1-4** digits (**0-9**, *, #)

Default: None

Related Databases:

Required: 04.13 Call Forward No Answer; 10.73 Call Forwarding Modes.

Associated: 10.50 ICM Group

Line Class

Use **Class 11 – Line Class** to program variables and functions which will be applied to designated incoming and outgoing lines. The following programming items are included in Class 11:

- **(11.01)**
- 11.02 CO Line Access Numbers
- 11.03 Line ID
- 11.04 Dial Waiting Time
- 11.05 Dial Starting Time
- 11.06 Inter-Digit Time
- 11.07 Minimum Pause Time
- 11.08 Dial Type
- 11.09 DTMF Dial Speed
- 11.10 DTMF Dial (Altered)
- 11.11 Dial Pulse Speed
- 11.12 Dial Pulse Break Ratio
- 11.13 Sender Time Out
- 11.14 Automatic Pause
- 11.15 CO Flash Time
- 11.16 Centrex Flash Time (Short Flash)
- 11.17 Ring Interval Time
- 11.18 Line Loss
- 11.19 Disconnect Signal
- 11.20 E&M On-Hook Detect
- 11.21 Prime Line
- 11.22 DND CO Override

- 11.30 Ringing Method
- 11.31 Ringing Tone
- 11.32 Ringing Station
- 11.33 Delayed Ringing Station
- 11.34 DIL to Hunt Group
- 11.35 Loud Ringer Relay Number
- **(11.36)**
- 11.37 Forced Release Condition
- 11.38 Outgoing CO Group
- 11.39 Incoming CO Group
- 11.40 Toll Restriction Group Number
- 11.41 Predial Group Number
- 11.42 Equal Access Group Number
- 11.43 Incoming CO Access Class
- 11.44 Access Group Number
- 11.45 Auto Answer Message 1
- 11.46 Auto Answer Message 2
- 11.47 DISA / T1 E&M Virtual Station
- 11.48 DISA Message Number
- **(11.49)**
- **(11.50)**
- 11.70 Call Coverage Trunk

Ringing

- 11.23 UCD Line
- 11.24 Automatic Answer Line
- 11.25 DISA Line
- 11.26 Attendant Intercept Line
- 11.27 UNA Line
- 11.28 UNA Relay Number
- 11.29 SMDR Report

- 11.72 UCD Overflow Calls
- 11.73 ISDN Line Class (Reserve 4)
- 11.74 ISDN Line Class (Reserve 5)
- 11.77 ISDN Line Class (Reserve 8)

(Not Used)

Class 11 Item 01

Class 11 Item 01 – Sub-System Number is not used.

CO Line Access Numbers

Class 11 Item 02

Class 11 Item 02 – CO Line Access Numbers is used to program dial access codes to seize individual trunks through ICM dial tone or second dial tone. Trunk access numbers are assigned a default value based on physical port location. For example, if the first trunk card is installed in universal card slot two (physical ports 009 through 016), at the time of system default, the access numbers would be 209 through 216 for trunk logical ports 001-008. If you wish to change the default values, the system will accept numbers between one and four digits in length which use a combination of the digits 0 through 9. The symbols [*] and [#] cannot be used. When programming CO line access numbers you must be careful to avoid conflicts with station numbers.

Trunk access numbers are not related to *trunk groups*. A trunk can be assigned a trunk access number and also be assigned to a trunk group. In addition to outgoing calls, a trunk can be seized during the following operations either automatically by the system or by dialing the trunk access number:

■ Ringing CO Line Calls

■ Calls Ringing as Camp-On

■ Calls on System Hold

■ Privacy Released Calls

Group Park

■ Via programming in the Caller ID/ANI Conversion Table (Class 24.02)

Note 1: If Class 10.33 – Forced Optimized Routing is used, Class 11.02 access is denied.

Note 2: The following program for outgoing call trunk access numbers is recommended when using IX-COMLINK: The trunk access number(s) programmed in Class 11.02 must match the value in the "Trunk 1~200" lines in the PCKTADPT.INI file. (Example Trunk 1=101, Trunk 1=102.)

DSS Display

Class/Item	Element Field	Description	Data Field
11.02	<trk001></trk001>	CO Access Number Plan	XXX

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Access code used to seize the trunk.

Range: Up to 4 digits (0-9)

Default: Physical port number + 200

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration.

Associated: 07.01 Park Orbit No.; 07.02 Hunting Group Access No.; 07.03 CO Line Group

Access No.; 07.04 Paging Group Access No.; 07.06 Feature Access No.; 10.02

Station Numbering; Class 24.02 Caller ID/ANI Conversion Table.

Class 11 Item 02 – CO Line Access Numbers (Cont.)

Related Operation

To access a CO line through ICM Dialing: Dial: [ICM] + CO trunk access number.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-4EMTK, IX-4DITK, IX-T1DTI.

Line ID Class 11 Item 03

Class 11 Item 03 – Line ID is used to program an eight-character, alphanumeric identification for each trunk circuit. The alphanumeric trunk identification (trunk ID) is displayed when receiving an incoming call or when transferring an incoming call after the line is answered. The trunk ID is not displayed for calls in a camp-on state. The trunk ID is displayed in positions one through eight of the second line of the LCD on incoming calls, and positions seven through fourteen on line one of the LCD on transferred calls to ADIX key telephones equipped with displays and attendant consoles.

DSS Display

Class/Item	Element Field	Description	Data Field
11.03	<trk001></trk001>	LINE ID	

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Alphanumeric trunk identifier.

Range: Up to 8 characters

Default: None

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration.

Associated: 11.32 Ringing Station.

Related Operation

LCD Change: [FEAT] + [6][3], Incoming Calls Ringing at KTs with Displays or Attendant

Consoles.

Hardware Required:

Applies to all loop/ground start, Caller ID, DID, DISA, T1 and E&M trunk circuits.

Dial Waiting Time

Class 11 Item 04

Class 11 Item 04 – Dial Waiting Time is used to define the length of time the system will wait, after trunk seizure from a toll restricted station, before the first digit dialed is received. If the first digit is not received within the time set in this item, the trunk DTMF sender is disconnected. Class 11.04 works in conjunction with Class 11.06 – Inter-Digit Timing and Class 11.13 – Sender Time Out. At the time the first digit is dialed, dial waiting time stops and inter-digit timing starts. This parameter applies to any station with a toll restriction class other than 0 (Class 10.23 – Toll Restriction Class).

Note: This item determines when an SLT can be monitored and also can affect SLT forced account code operation.

DSS Display

Class/Item	Element Field	Description	Data Field
11.04	<trk001></trk001>	Dial Waiting Time	20

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Timer for dial waiting on a specific trunk.

Range: **10-25** seconds
Default: **20** seconds

Related Databases:

Required: 10.23 Toll Restriction Class.

Associated: 11.06 Inter-Digit Time; 11.13 Sender Time Out.

Related Operation

Outgoing Calls.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-4EMTK, IX-4DITK, T1DTI.

Dial Starting Time

Class 11 Item 05

Class 11 Item 05 – Dial Starting Time is used to define the length of time the system will wait, after trunk seizure, to output the first digit using any of the automatic dialing features. Dial starting time means *dialing signal guard time* for the ADIX automatic dialing features.

Note: This timer does not affect network dialing. The network dialing pause is programmed in *Class* 11.14. This timer should be lengthened for ground start trunks.

DSS Display

Class/Item	Element Field	Description	Data Field
11.05	<trk001></trk001>	Dial Starting Time	5

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Pause before outputting the first digit on a specific

trunk.

Range: **0-15** (x100 milliseconds). Default: **5** (500 milliseconds).

Related Databases:

Required: None

Associated: 04.47 Auto Repeat Dial - Duration; 04.48 Auto Repeat Dial Off-Hook; 04.49

Auto Repeat Dial Repetition; Class 05 System Speed Dial; 10.29 Preset Dial; 10.30

Automatic Outgoing CO; 12.01 Station Speed Dial.

Related Operation

Outgoing Calls, Auto Repeat Dial, Preset Dial, Trunk Queuing, Speed Dial.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-4EMTK, IX-4DITK, IX-T1DTI.

Inter-Digit Time

Class 11 Item 06

Class 11 Item 06 – Inter-Digit Time is used to program the inter-digit timer for dialing on a CO line. Inter-digit timing starts after the first digit is dialed. It is used to monitor the following system functions:

- Determines the length of time the ADIX waits between each digit dialed.
- When time out occurs while dialing from a toll restricted station, the system disconnects the trunk DTMF/DP sender. If over-digit dialing is required from a toll restricted station after inter-digit time out and sender time out has occurred, the station must be programmed to allow *dial on conversation* in *Class 10.28*.
- Inter-digit time out works in conjunction with Class 11.13 Sender Time Out. After the inter-digit time has elapsed, the trunk circuit DTMF/DP sender is disconnected (only if station is toll restricted) and the timing of sender time out starts. Sender time out determines the operation of numerous features including trunk-to-trunk conferences.
- When placing a CO call from a display station, the dialed data will remain in the LCD display until sender time out, after the inter-digit timer has elapsed. For example, if inter-digit time is set to ten seconds and sender time out is set to ten seconds. After placing a CO call, the dialed data will remain on the LCD for twenty seconds after the last digit is dialed.

DSS Display

Class/Item	Element Field	Description	Data Field
11.06	<trk001></trk001>	Inter-Digit Time	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Inter-digit timer.

Range: **1-15** (x2 seconds)

Default: 1 (2 seconds) (10 software versions before 4.62/5.62)

Related Databases:

Required: None

Associated: 10.23 Toll Restriction Level and Class; 10.28 Dial On Conversation; 11.13 Sender

Time Out.

Related Operation

Outgoing Calls.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-4EMTK, IX-T1DTI.

Minimum Pause Time

Class 11 Item 07

Class 11 Item 07 – Minimum Pause Time is used to program the minimum length of time, in milliseconds, that the system will pause between digits dialed on a dial pulse trunk. Minimum pause time applies to all dialing from dial pulse trunks, either manual dialing or automatic dialing.

Note: Class 11.07 must be assigned to the trunk logical port corresponding to the first physical port (Class 01.03) on the IX-8LGTK card. The data entered for the first circuit of the IX-8LGTK card **applies to all eight of the card's circuits.** Programming for any other circuit is meaningless.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
11.07	<trk001-1></trk001-1>	Minimum Pause Time	7

Programming Field Description

Element Meaning: Trunk logical port number.

Field 1 (e1): Range: 001-448 **PPS Element** Meaning: **Field 2 (e2):** Range: 1 = 10 pps

2 = 20 pps

Data Field: Meaning: Minimum pause time multiplied by 100 milliseconds.

> **1-15** (x 100 milliseconds) Range: Default: 10 pps = 7 (700 milliseconds)

20 pps = 5 (500 milliseconds)

Related Databases:

Required: 11.08 Dial Type.

Associated: 11.11 DP Speed; 11.12 DP Break Ratio.

Related Operation

All dialing on dial pulse trunks.

Hardware Required:

Dial Type DP/DTMF

Class 11 Item 08

Class 11 Item 08 – Dial Type DP/DTMF is used to program the address signaling type for each trunk as either *dial pulse* or *DTMF*. Trunks programmed as dial pulse may be switched to DTMF dialing by using the *alternate tone/pulse dialing* feature. This feature is useful for those customers who are served by a dial pulse Central Office that wishes to use OCC services.

The dial type of each ISDN channel must be set to DP in order to accommodate D channel signaling. Regardless of the setting in this item, DTMF signaling is used to signal the B channels.

DSS Display

Class/Ite	m Element Field	Description	Data Field
11.08		Dial Type (0:DP 1:DTMF)	1

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons. Range: 001-448

Data Field: Meaning: Dial Pulse or DTMF, Minimum pause time multiplied

by 100 milliseconds.

Range: **Solid LED (0)** –Dial Pulse-Required for ISDN Trunks.

Flashing LED (1) – DTMF

Default: Flashing LED (1)

Related Databases:

Required: 11.07 Minimum Pause Time; 11.09 DTMF Dial Speed; 11.11 Dial Pulse Speed;

11.12 DP Break Ratio.

Associated: 10.27 Automatic Signal Alternating; 10.28 Dial On Conversation;11.06 Inter-Digit

Time; 11.10 DTMF Dial Speed (Altered); 11.13 Sender Time Out.

Related Operation

To toggle between DTMF and dial pulse during a call:

Press [FEAT] + [1][3] (or [Dial Reverse])

Hardware Required:

DTMF Dial Speed

Class 11 Item 09

Class 11 Item 09 – DTMF Dial Speed is used to program the dialing speed of trunks programmed for *DTMF address signaling*.

Important: Class 11.09 must be programmed for the first trunk in the system. The data entered for the first circuit of the trunk card defined (Class 01.03) with the lowest physical port number applies to all trunk cards programmed for DTMF dialing.

The first data entry field requires a two-digit input (in milliseconds) to determine the duration or width of the DTMF signal dialed. The second data entry field also requires a two-digit input (in milliseconds) to determine the duration or pause time between DTMF signals dialed. For example, if (d1) = 03 and (d2) = 02, the system would then produce a dialing pattern in a series of DTMF signals that would be on for 150ms, pause for 100ms, on for 150ms, repeat.

DSS Display

	Class/Item	Element Field	Description	Data Fields d1-d2
Ī	11.09	<trk001></trk001>	DTMF Dial Speed	02-02

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons. Range: 001-448

Data Field 1: Meaning: Dial/on time programmed in milliseconds.

(d1) Range: 1-13 (equals number x 50 milliseconds)

14 = 750 milliseconds

15 = 3 seconds

Default: 2 (100 milliseconds)

Data Field 2: Meaning: Pause/off time programmed in milliseconds.

(d2) Range: 1-13 (equals number x 50 milliseconds)

14 = 750 milliseconds

15 = 3 seconds

Default: 2 (100 milliseconds)

Related Databases:

Required: 11.08 Dial Type.

Associated: 11.10 DTMF Dial Speed (Altered).

Related Operation

Dialing on DTMF trunks.

Hardware Required:

IX-8LGTK; IX-T1DT1; IX-EMTK.

DTMF Dial Speed (Altered)

Class 11 Item 10

Class 11 Item 10 – DTMF Dial Speed (Altered) is used to program the *address signaling* speed of DTMF signals generated after the *alternate tone/pulse dialing* feature is activated. The first data entry field requires a two-digit input (in milliseconds) to determine the duration or width of the DTMF signal dialed. The second data entry field also requires a two-digit input (in milliseconds) to determine the duration or pause time between DTMF signals dialed. The DTMF dial speed programmed in this item is activated by the programming in *Class 10.27 — Automatic Signal Altering* after sender time-out.

DSS Display

	Class/Item	Element Field	Description	Data Fields d1-d2
I	11.10	<trk001></trk001>	DTMF Dial Altered	03-03

Programming Field Description

Element Meaning: Select the trunk logical port number using the

Field: DSS buttons.

Range: **001-448**

Data Field 1: Meaning: Dial/on time programmed in milliseconds.

(d1) Range: 1-15 (x 50 milliseconds)

Default: 3 (150 milliseconds)

Data Field 2: Meaning: Pause/off time programmed in milliseconds.

(d2) Range: 1-15 (x 50 milliseconds)

Default: 3 (150 milliseconds)

Related Databases:

Required: 10.26 DP to DTMF Signal Alternation; 10.27 Automatic Signal Alternating; 11.08

Dial Type.

Associated: None.

Related Operation

To toggle between DTMF and dial pulse during a call:

Press [FEAT] + [1][3] (or [Dial Reverse])

Hardware Required:

Dial Pulse Speed

Class 11 Item 11

Class 11 Item 11 – Dial Pulse Speed is used to program the *address signaling speed* to the Central Office when using *dial pulse* trunks. Each trunk card installed in the system may be programmed individually to dial at 10pps or 20pps, however, individual circuits on a trunk card must have the same pps setting.

Note: Class 11.11 must be assigned to the trunk logical port corresponding to the first physical port (*Class 01.03*) on the trunk card. **The data entered for the first circuit of the trunk card applies to all eight of the card's circuits.** Programming for any other circuit is meaningless.

CAUTION!: The Canadian Department of Communications (DOC) prohibits the use of dial pulse trunks with a dial speed of 20pps.

DSS Display

Class/Item	Element Field	Description	Data Field
11.11		DP Speed (0:10pps 1:20pps)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons. Range: 001-448

Data Field: Meaning: Dial pulse time.

Range: **Solid LED** (0) - 10 pps

Flashing LED (1) - 20 pps

Default: Solid LED (0)

Related Databases:

Required: 11.08 Dial Type; 11.12 Break Ratio. **Associated:** 11.07 Minimum Pause Time.

Related Operation

Outgoing Pulse Dial.

Hardware Required:

Dial Pulse Break Ratio

Class 11 Item 12

Class 11 Item 12 – Dial Pulse Break Ratio is used to program the *percent break* of the dial pulse. Percent break is the ratio or break (on-hook state) interval of the total pulse cycle. Percent break is typically between 58 and 62 percent. The default value for this parameter is 61 percent.

Note: Class 11.12 must be assigned to the trunk logical port corresponding to the first physical port (*Class 01.03*) on the IX-8LGTK card. **The data entered for the first circuit of the IX-8LGTK card applies to all eight of the card's circuits.** Programming for any other circuit is meaningless.

CAUTION!: The Canadian Department of Communications (DOC) prohibits the use of a break ratio other than 61 percent. Dial pulse trunks in Canada must be programmed with a dial speed of 10pps at a break ratio of 61 percent.

DSS Display

Class/Item	Element Field	Description	Data Field
11.12	<trk001></trk001>	DP Break Ratio (20→99)	61

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Percent break.

Range: **20%-99%**Default: **61%**

Related Databases:

Required: 11.08 Dial Type.

Associated: 11.07 Minimum Pause Time; 11.11 Dial Pulse Speed.

Related Operation

Dial Pulse Dialing, Alternate tone/pulse dialing.

Hardware Required:

Sender Time Out

Class 11 Item 13

The primary function of **Class 11 Item 13 – Sender Time Out** is to notify the system CPU that dialing on a CO line is completed. The system uses sender time out as a flag to define a call as completed and start other features associated with the call. Sender time out works conjunction with inter-digit time (*Class 11.06*). Sender time out starts after inter-digit time has elapsed.

The following features do not operate until sender time out has elapsed.

- **LCD Call Duration Timer** The LCD call duration timer is displayed in positions one though five of line two on the LCD after sender time out has elapsed.
- **SMDR Valid Call Timer** For a CO call to be defined as valid, the station must be off-hook for the duration of sender time out. Once sender time out has elapsed, the SMDR minimum call duration timer starts (*Class 04.51*).
- Account Code Input Account codes for SMDR purposes cannot be input until sender time out has elapsed. This only applies to outgoing calls.
- Conferences The following conferences: Add-On, Multiline, Trunk-To-Trunk, Barge-In and Remote CO Forwarding do not become operational until sender time out has elapsed.
- **DID Number External Call Forward** Voice path between the distant party and the forwarded destination is not established until sender time out expires.
- Automatic Hold
- Automatic Signal Alternating
- Remote Call Forwarding Message
- DID Remote Call Forward
- ACD valid outgoing call timer for PBX wrap-up time
- Call Monitoring for key telephones
- Barge-In for key telephones.

DSS Display

Class/Item	Element Field	Description	Data Field
11.13	<trk001></trk001>	Sender Timeout (0→255s)	4

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Time in seconds before sender time out occurs.

Range: **0-255**

Default: 4 (10 software versions before 4.62/5.62)

Class 11 Item 13 – Sender Time Out (Cont.)

Related Databases:

Required: None.

Associated: 04.45 Remote CO Forward Message No.; Class 05 System Speed Dial; 10.27

Auto. Signal Alternating; 10.28 Dial On Conversation; 10.30 Automatic Outgoing

CO; 11.06 Inter-Digit Time.

Related Operation

Outgoing Calls, Auto Repeat Dial, Preset Dial, Trunk Queuing, Speed Dial, Conference, SMDR, Barge-In, Monitor.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-T1DTI.

Automatic Pause Time

Class 11 Item 14

Class 11 Item 14 – Automatic Pause Time is used to automatically insert a pause if the first digit(s) dialed match the predial numbers registered in the Predial Data Table (*Class 06.04*). This item is utilized if the ADIX is served by Centrex, PBX off premises extensions, E&M tie lines (*Class 01.03*) or any other services that require predialed digits before dialing the number. Automatic pause works in conjunction with calls dialed manually or any type of automatic dialing feature.

Note: This pause is automatically inserted after any combination of digits that are prefixed in *Class* 17.13 regardless of the setting in *Class* 01.03.

DSS Display

Class/Item	Element Field	Description	Data Field
11.14	<trk001></trk001>	Automatic Pause Time (0→9)	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Automatic pause time in seconds.

Range: **0** = 3 seconds **1-9** seconds

Default: 1 (3 software versions before 4.62/5.62)

Related Databases:

Required: 01.03 Port Definition; 06.04 Predial Data Table.

Associated: 05.01 System Speed Dial-No.; 12.01 Station Speed Dial; 17.13 Add Dial Table.

Related Operation

System Speed Dial Registration: (refer to *Class 05*) Station Speed Dial Registration: (refer to *Class 12*)

Auto Repeat Dial: CO call-busy or no answer, press [Auto Repeat Dial]

Last Number Redial: Dial [SPEED] + [#]

Hardware Required:

CO Flash Time (Long Flash)

Class 11 Item 15

Class 11 Item 15 – CO Flash Time (Long Flash) is used to program the length of *flash* – the duration of on-hook status or an open in loop current for a specified interval. This flash is sent to the Central Office, for trunk disconnect and dial tone reorder. CO flash is generated by use of the [FLASH] key or with the dial access code [FEAT] + [1][1].

Note: Flash is also programmable using system and station speed dial addressing.

DSS Display

Class/Item	Element Field	Description	Data Field
11.15	<trk001></trk001>	CO Flash Time (1→30)	8

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: CO Flash time (x 100 milliseconds).

Range: **1-30** (x 100 milliseconds)

Default: **8** (800 milliseconds)

Related Databases:

Required: 14.01 Key Assignment; 15.01 Attendant Key Assignment.

Associated: 05.01 System Speed Dial-No.

Related Operation

While on CO call, press [FLASH] or [FEAT] + [1][1].

CO Dial Tone Reorder.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-T1DTI.

Centrex Flash Time (Short Flash)

Class 11 Item 16

Class 11 Item 16 – Centrex Flash Time (Short Flash) is used to program the length of *flash* – the duration of on-hook status or an open in loop current for a specified interval. The flash programmed in Class 11.16 is sent to Centrex, PBX OPX extensions or E&M tie lines for a second dial tone request. This flash is normally used for transfer functions or feature access from distant-end equipment. The Centrex flash time should be programmed within the station flash boundaries of the distant-end equipment.

DSS Display

Class/Item	Element Field	Description	Data Field
11.16	<trk001></trk001>	Centrex Flash Time (1→30)	3

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Centrex Flash time (x 100 milliseconds).

Range: 1-30 (x 100 milliseconds)

Default: 3 (1 software versions before 4.62/5.62)

Related Databases:

Required: 07.06 Feature Access Code; 10.12 Key Assignment; 14.01 Key Assignment; 15.01

Attendant Key Assignment.

Associated: 05.01 System Speed Dial-No.

Related Operation

Speed Dial, Centrex Applications: [FEAT] + [1][2], or [Short Flash].

Hardware Required:

IX-8CITK, IX-8LGTK.

Ring Interval Time

Class 11 Item 17

Class 11 Item 17 – Ring Interval Time is used to monitor the incoming CO ringing station. This timer starts at ring voltage detection (trunk PPU). If, at the end of this time, ring voltage is not present, trunk ringing ceases.

Note: Class 11.17 must be assigned to the trunk logical port corresponding to the first physical port (*Class 01.03*) on the IX-8LGTK card. **The data entered for the first circuit of the IX-8LGTK card determines the operation of all eight circuits on the card.** Programming of any other circuits is meaningless.

DSS Display

Class/Item	Element Field	Description	Data Field
11.17	<trk001></trk001>	Ring Interval Time	50

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Ring interval time (x 100 milliseconds).

Range: **1-225** (x 100 milliseconds)

Default: **50** (5 seconds)

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration.

Associated: 11.32 Ringing Station.

Related Operation

Incoming Call Indication. Incoming CO Ringing.

Hardware Required:

IX-8LGTK, IX-8CITK, IX-T1DTI.

Line Loss Class 11 Item 18

Class 11 Item 18 – Line Loss applies to trunk-to-trunk conference with the IX-4TRAN card. The built-in amplifier in the IX-4TRAN card will provide compensation for the line loss based on the value defined in Class 11.18. The loss is defined between the local CO and the ADIX.

Note: Class 11.18 has no function in systems not equipped with a IX-4TRAN card.

DSS Display

Class/Item	Element Field	Description	Data Field
11.18	<trk001></trk001>	Line Loss (0→7x2db)	4

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Line loss in dB (multiplied by 2).

Range: **0-7** (x 2 dB)
Default: **4** (8 dB)

Related Databases:

Required: None.

Associated: 02.10 CO Monitor Guard Time; 02.11 CO Interrupt Tone Duration; 02.12 CO

Interrupt Tone Repetition; 02.13 CO Interrupt Tone Allowance; 02.14 CO

Continuous Tone Duration; 02.15 CO Silence Duration; 02.16 CO Silence – Noise

Allowance.

Related Operation

Trunk-to-Trunk Conference, Multiline Conference, Remote Call Forwarding.

Hardware Required:

IX-4TRAN.

Disconnect Signal

Class 11 Item 19

Class 11 Item 19 – Disconnect Signal is used to monitor (in time) the disconnect signal sent from the central office when the remote party hangs up. If the system detects the disconnect signal at any time after sender time out, the CO lines are disconnected, regardless of the condition of the lines at the time. If Class 01.04 is enabled for disconnect detection, this program determines the length of time for valid disconnect.

Tip: If the line is enabled for disconnect detection in *Class 01.04 – Port Configuration*, it is recommended that a value of ten or higher is programmed for this item (100ms or higher) to avoid calls disconnecting in progress.

DSS Display

Class/Item	Element Field	Description	Data Field
11.19	<trk001></trk001>	Disconnect Signal	70

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Software versions 4.0 and higher: Disconnect signal time

multiplied by 10 milliseconds.

Software versions prior to 4.0: Disconnect signal time

multiplied by 10 milliseconds.

Range: **10-150** (x 10 milliseconds)

Default: **70** (700 milliseconds)

Related Databases:

Required: 01.04 Port Configuration (*must be assigned as disconnect signal detect*).

Associated: None.

Related Operation

Trunk-to-Trunk Conference, Remote CO Forwarding, CO Access through DISA.

Hardware Required:

IX-4TRAN.

E&M On-Hook Detect

Class 11 Item 20

Class 11 Item 20 – E&M On-Hook Detect is used to define the length of time required to detect an *on-hook* signal on an E&M tie line. After the system detects an on-hook signal on the "E" line of an E&M tie line, it will not disconnect the line and return it to an idle state until the time programmed in Class 11.20 has elapsed.

Note: In a digital trunk (T1) configuration, this timer sets the wait time for wink back from the CO before returning a reorder and sending a protocol error.

DSS Display

Class/Item	Element Field	Description	Data Field
11.20	<trk001></trk001>	E & M On-Hook Detect	15

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Time in seconds.

Range: 1-15 seconds

Default: 15 (3 software versions before 4.62/5.62)

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration.

Associated: None

Related Operation

E&M Tie Line Networking.

Hardware Required:

IX-4EMTK.

Prime Line Class 11 Item 21

Class 11 Item 21 – Prime Line is used to define a trunk line(s) as a *prime line*. When a trunk is defined as a prime line, stations can access it automatically upon going off-hook. This item works in conjunction with Class 10.09 – *Prime Line Access*. For example, if a station is programmed for prime access to a particular CO group in Class 10.09, and if at least one CO line in that group is programmed to allow prime line access in Class 11.21, each time the station goes off-hook, it will automatically access one of those lines. If no line in the group is programmed to allow prime line access, this feature is invalid.

DSS Display

Class/Item	Element Field	Description	Data Field
11.21		Prime Line (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons.

Range: 001-448

Data Field: Meaning: Program prime lines.

Range: **Solid LED (0)** – not a prime line

Flashing LED (1) – prime line

Default: Solid LED (0)

Related Databases:

Required: 07.03 COL Group Access Number; 10.09 Prime Line Access; 11.02 CO Line

Access Numbers.

Associated: 10.21 Outgoing CO Line Group; 11.38 Outgoing CO Group.

Related Operation

Prime Line Access.

Do Not Disturb (DND) Override CO Ringing

Class 11 Item 22

Class 11 Item 22 – Do Not Disturb (DND) Override CO Ringing is used to assign lines that are capable of overriding station DND on an incoming call. To receive DND override ringing, the station must be assigned as a ringing station for that line in either Class 11.32 – Ringing Station, or Class 11.33 - Delayed Ringing Station.

Class 11.22 does not apply to incoming calls on DID trunks. DID incoming calls to stations in DND mode will receive a busy tone (DND tone on software versions 1.21 and lower).

Note: When DND override ringing is allowed, the stations assigned to ring in Class 11.32 or Class 11.33 cannot activate DND or Call Forward for incoming calls on the line. Call coverage and barge-in capabilities and monitoring on the trunk are also eliminated.

DSS Display

Class/Item	Element Field	Description	Data Field
11.22		DND CO Override Ringing	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons. Range:

001-448

Data Field: Meaning: Program lines for DND override ringing.

> **Solid LED (0)** – no DND override ringing Range:

Flashing LED (1) – DND override ringing

Solid LED (0) Default:

Related Databases:

Required: 11.32 Ringing Station, 11.33 Delayed Ringing Station.

Associated: 10.42 Do Not Disturb (DND).

Related Operation

DND.

Uniform Call Distribution (UCD) Line

(Software Versions before 4.20 Only)

Class 11 Item 23

For software versions 4.30/5.30 and higher use Class 08.05 – UCD Hunt Group to program UCD.

Class 11 Item 23 – UCD Line is used to program a CO line for Uniform Call Distribution. The system automatically answers calls on UCD lines by playing message 31 if they have not been answered within the time set in Class 04.34 – UCD Answer. Message 31 is replayed every thirty seconds until a hunt group station answers the call. In software versions 3.0 and higher, the interval between messages and the UCD disconnect timer is programmable using Class 04.20 – VSS Recording Time. In software version 4.0, a second message (message 32) and an overflow destination (Class 11.72)can be programmed.

Note: To program a UCD line to ring a hunt group, clear the ringing assignment using *Class 11.32*.

UCD Messages Table

Message Number	Description
31 – UCD Call Answer	"We are sorry all operators are busy now. Your call will be answered as soon as an operator becomes available. Please stay on the line. Thank you."
32 – UCD Second Message (software v. 4.0 and higher)	This is not a prerecorded message. It must be recorded onto the IX-CMSG/ IX-CMSG-1 card.

See Chapter 3 – Uniform Call Distribution for a detailed description of UCD programming.

DSS Display

Class/Item	Element Field	Description	Data Field
11.23		UCD Line (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons.

Range: **001-448**

Data Field: Meaning: Program lines as UCD lines.

Range: Solid LED (0) – not a UCD line

Flashing LED (1) – UCD line

Default: Solid LED (0)

Related Databases:

Required: 8.02 Hunt Group Station; 08.05 UCD Hunt Group (Software Version 4.2 and

higher); 11.32 Ringing Station; 11.34 DIL to Hunt Group; 11.72 UCD Overflow

(Software Version 4.0).

Associated: 04.16 Delayed Ringing Timer; 04.20 VSS Recording Time, Elements 59 and 60;

04.34 UCD Answer Time; 8.01 Hunt Group Type; 11.33 Delayed Ringing Station.

Class 11 Item 23 – UCD Line (Cont.)

Related Operation

Uniform Call Distribution.

Hardware Required:

IX-8LGTK, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

Automatic Answer Line

Class 11 Item 24

Class 11 Item 24 – Automatic Answer Line is used to program a CO line for automatic answer. This program works in conjunction with *Class 04.32 – Automatic CO Answer Start Time* and *Class 04.33 –* Automatic CO Answer Day. This item requires the use of the IX-MSGU/CMSG-1.

DSS Display

Class/Item	Element Field	Description	Data Field
11.24		Auto Answer Line (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons.

Range: **001-448**

Data Field: Meaning: Program lines as automatic answer lines.

Range: **Solid LED (0)** – not an automatic answer line

Flashing LED (1) – automatic answer line

Default: Solid LED (0)

Related Databases:

Required: 04.14 Automatic CO Answer; 04.32 Auto CO Answer Start Time; 04.33 CO

Answer Day; 11.45 Auto Answer Message 1; 11.46 Auto Answer Message 2.

Associated: 04.20 VSS Recording Time; 11.16 Centrex Flash Time; 11.17 Ring Interval Time.

Related Operation

To program/cancel Automatic CO Answering:

At ICM dial tone do one of the following:

press [Automatic Answer] (flashing LED, time selection) to set to Message Level 1,

[Automatic Answer] + [Automatic Answer] (solid LED, day selection) to set to Message Level 2

 $[\underline{\text{Automatic Answer}}] + [\underline{\text{Automatic Answer}}] + [\underline{\text{Automatic Answer}}] + [\underline{\text{Automatic Answer}}] \text{ (LED off) to cancel automatic CO}$

answer.

Hardware Required:

IX-8LGTK, IX-MSGU, (IX-CMSG/IX-CMSG-1 for custom messages).

DISA Line Class 11 Item 25

Class 11 Item 25 – DISA Line is used to program CO lines as DISA lines to provide Direct Inward System Access service to incoming calls.

Conditions

- DISA calls require DTMF receivers regardless of the type of trunk digital (IX-T1DTI) or analog (IX-8LGTK).
- If the DTMF receiver circuits are busy or not programmed and attendant intercept is enabled, the call will ring at the attendant as a recall in day or night mode. If it is not enabled, the call will follow day/night mode DIL ringing but delayed ringing will not occur.
- If a doorphone is dialed through DISA, the doorphone will lock-up.
- A DISA caller dialing a hunt group in which all members are busy will receive the following message: "The station you have dialed is now busy." The call will recall to a true attendant (*Class 04.55*) fifteen seconds after the message has played. If attendant intercept is not enabled, the call is disconnected after fifteen seconds.

See *Chapter 3 – DISA* for a detailed description of DISA programming.

DSS Display

Class/Item	Element Field	Description	Data Field
11.25		DISA Line (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons.

Range: 001-448

Data Field: Meaning: Program lines as DISA lines.

Range: Solid LED (0) – not a DISA line

Flashing LED (1) – DISA line

Default: **Solid LED (0)**

Related Databases:

Required: 01.04 Port Configuration; 04.15 Attendant DIL Intercept; 04.39 DISA-ICM Call;

04.40 DISA-Paging Call; 04.41 DISA-Waiting Time; 04.42 DISA-Total Duration; 10.06 DISA Service; 11.26 Attendant Intercept Line; 11.47 DISA Virtual Station.

Associated: 04.20 VSS Recording Time; 10.02 Station Numbering; 10.05 Station Password;

11.19 Disconnect Signal; 11.48 DISA Message Number.

Class 11 Item 25 – DISA Line (Cont.)

Related Operation

To dial-in through DISA:

Do one of the following:

If you are a subscriber, dial the DISA number + [*] + ext. no. + password;

If you are not a subscriber dial the DISA number + ext. no.

Hardware Required:

IX-8LGTK, IX-RCVPM with IX-4RCVC, or IX-RMPU (IX-4TRAN if loop disconnect signal is not provided), IX-MSGU, (IX-CMSG/IX-CMSG for custom messages).

Attendant Intercept Line

Class 11 Item 26

Class 11 Item 26 – Attendant Intercept Line is used to enable attendant intercept of unanswered incoming calls on CO lines. When CO lines are enabled for attendant intercept, unanswered calls on the line will ring at the attendant position after the time set in Class 04.15 – Attendant DIL Intercept has elapsed. This feature is disabled when the system is in night mode. Incoming CO calls that do not have a night ringing assignment are forwarded to the primary station.

Note: Regardless of the programming in this item, calls will recall the attendant after the hold recall timer (Class 04.08) and attendant DIL intercept timer (Class 04.15) have elapsed. DID calls to a UCD group in DND will forward to the attendant regardless of the programming in this item.

DSS Display

Class/Item	Element Field	Description	Data Field
11.26		ATT Intercept Line (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons.

Range: **001-448**

Data Field: Meaning: Program lines as attendant intercept lines.

Range: Solid LED (0) – not an attendant intercept line

Flashing LED (1) – attendant intercept line

Default: Flashing LED (1)

Related Databases:

Required: 04.15 Attendant DIL Intercept.

Associated: 04.08 Hold Recall Timer; 04.12 Camp-On Duration; 04.13 Call Forward No

Answer; 04.16 Delayed Ringing.

Related Operation

All Incoming CO Ringing, Hold Recall, DISA, except Remote Programming Access and UCD.

Universal Night Answer (UNA) Line

Class 11 Item 27

Class 11 Item 27 – Universal Night Answer (UNA) Line is used to program lines for universal night answer. The CO lines assigned for UNA in Class 11.27 can be picked up by UNA operation while the system is in night mode.

DSS Display

Class/Item	Element Field	Description	Data Field
11.27		UNA Line (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons.

Range: **001-448**

Data Field: Meaning: Program lines as UNA lines.

Range: **Solid LED (0)** – not a UNA line

Flashing LED (1) – UNA line

Default: Flashing LED (1)

Related Databases:

Required: None.

Associated: 07.06 Feature Access Numbers < NUM 46>; 11.28 UNA Relay No.; 14.01 Key

Assignment; 15.01 Attendant Key Assignment

Related Operation

To change to universal night answer mode:

Dial one of the following:

[FEAT] + [3][6], or

[Night Change], or

[UNA Pickup], or

Dial Code (*Class 07.06 < NUM 46>*).

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

Universal Night Answer (UNA) Relay Number Class 11 Item 28

Incoming calls on the CO lines assigned as UNA lines will energize the relays assigned in **Class 11 Item 28 – Universal Night Answer (UNA) Relay Number** to operate external loud ringers while the system is in night mode. These relays must also be programmed as UNA Relays in *Class 04.37 – Miscellaneous Function*.

DSS Display

Class/Item	Element Field	Description	Data Field
11.28	<trk001></trk001>	Relay Number(0→32)	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Relay number.

Range: 0 = no relay operation

1-32

Default: 0

Related Databases:

Required: 01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.37 Miscellaneous

Function; 11.27 UNA Line.

Associated: 07.06 Feature Access Numbers < NUM 46>; 14.01 Key Assignment; 15.01

Attendant Key Assignment.

Related Operation

To change to universal night answer mode:

Dial one of the following:

[FEAT] + [3][6], or

[Night Change], or

[UNA Pickup], or

Dial Code (*Class 07.06 < NUM 46>*).

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

SMDR Report

Class 11 Item 29

Class 11 Item 29 – SMDR Report is used to program the CO lines which will be included in the SMDR information printout. The SMDR printout will only include call information for calls on CO lines which are enabled (flashing LED) in this item.

DSS Display

Class/Ite	em Element Field	Description	Data Field
11.29		SMDR Report (0→1)	

Programming Field Description

Element Meaning: Select the trunk logical port number using the DSS

Field: buttons. Range: 001-448

Range:

Range: **001-448**

Data Field: Meaning: Program lines included on the SMDR report.

Solid LED (0) – line not included in SMDR report

Flashing LED (1) – line is included in SMDR report

Default: Flashing LED (1)

Related Databases:

Required: 04.50 SMDR Output Port; 10.18 SMDR Report.

Associated: 04.51 SMDR – Minimum Call Duration; 04.52 SMDR – Incoming Call Report;

04.53 SMDR – Toll Only Report; 04.54 SMDR – Account Code Only;

06.07 Toll Restriction – SMDR Table.

Related Operation

SMDR.

Hardware Required:

IX-SCIF, IX-EDVIF, IX-HCIF.

Ringing Method

Class 11 Item 30

Class 11 Item 30 – Ringing Method is used to program the type of system extensions that are allowed to ring when there is an incoming call on the selected line.

- When the system goes into the night mode, the ringing method is **1 both** only.
- When a line is assigned as **0 attendant** in Class 11.30, delayed ringing is not activated.
- When a line is assigned as a DISA, DID or DND override ringing line, Class 11.30 is meaningless.
- Regardless of the ringing method assigned here, *Class 11.32 Ringing Station* must also be programmed.
- When a line is assigned as **0 attendant**, the attendant station is the only station programmed as a ringing station in *Class 11.32* that will ring.
- When a line is assigned as **2 any station except attendant**, all of the stations programmed as ringing stations in *Class 11.32* will ring except for the attendant.
- When a line is assigned as **1 both**, all extensions programmed as ringing stations in *Class* 11.32 will ring.
- Do not assign as **0 attendant** when using hunt groups.

DSS Display

Class/Item	Element Field	Description	Data Field
11.30	<trk001></trk001>	Ringing Method(0→2)	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Define the ringing method.

Range: 0 = attendant

1 = both

2 = any station except the attendant

Default: 1

Related Databases:

Required: 11.32 Ringing Station.

Associated: 11.22 DND Override CO Ringing; 11.25 DISA Line; 11.33 Delayed Ringing

Station.

Related Operation

Incoming Call Ringing.

Ringing Tone

Class 11 Item 31

Class 11 Item 31 – Ringing Tone is used to program the ringing tone for each CO line. One of the four tones listed below can be selected for incoming ringing at stations:

Tone Number	Tone	Duration
0	432/480	1 second on, 3 seconds off.
1	432/624/16	0.8 seconds on, 0.2 seconds off, 0.2 seconds on, 3 seconds off.
2	432, 480	0.4 seconds on, 0.2 seconds off, 0.4 seconds on, 3 seconds off.
3	MOH	Continuous

DSS Display

Class/Item	Element Field	Description	Data Field
11.31	<trk001></trk001>	Ringing Tone (0→3)	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Define the ringing tone.

Range: 0-3 = see the table above

Default: 0

Related Databases:

Required: None.

Associated: 11.32 Ringing Station; 11.33 Delayed Ringing Station.

Hardware Required

IX-HWCL/HWCE, IX-MISC/IX-EDCTU or IX-CPU16M for MOH.

Ringing Station

Class 11 Item 32

Class 11 Item 32 – Ringing Station is used to program the station(s) that will ring on a CO line. A maximum of sixteen stations can be registered to receive incoming ringing for each CO line. In software versions 3.0 and higher, an additional sixteen stations can be programmed as *delayed ringing stations* in *Class 11.33*. For sixteen additional ringing stations, the value in *Class 04.16 – Delayed Ringing* must be set to **0 – no delayed ringing**. Class 11.32 has priority over data set in *Class 11.34 – DIL to Hunt Group*.

Note: When $Class\ 11.30 - Ringing\ Method$ is programmed as $\mathbf{0} - \mathbf{attendant}\ \mathbf{only}$, the logical port number of the attendant must also be programmed as a ringing station in this item.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
11.32	<trk001-1></trk001-1>	Ringing Station	

Programming Field Description

Element Meaning: Select the trunk logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: Toggle between day/night modes.

Field 2 (e2): Range: 1 = day mode

2 = night mode

Data Field: Meaning: Define up to sixteen stations as ringing station/non

ringing station using for the specified CO line using the

DSS buttons.

Range: Solid LED (0) – non-ringing station

Flashing LED (1) – ringing station

Default: None (First sixteen ports defined as ringing stations

software versions before 4.62/5.62)

Related Databases:

Required: 11.30 Ringing Method; 11.31 Ringing Tone.

Associated: 10.22 Incoming CO Access Group; 10.35 Off-Hook CO Answering; 10.43 Off-

Hook Signaling; 11.22 DND Override CO Ringing; 11.26 Attendant Intercept Line; 11.33 Delayed Ringing Station; 11.34 DIL to Hunt Group; 11.43 Incoming

CO Access Class.

Related Operation

Incoming CO Automatic Answer.

Hardware Required

IX-8LGTK, IX-HWCL/HWCE, IX-MISC/IX-EDCTU or IX-CPU16M for MOH.

Delayed Ringing Station

Class 11 Item 33

Class 11 Item 33 – Delayed Ringing Station is used to program the stations that will receive delayed ringing for each CO line. An incoming call on the line will ring at the primary stations assigned in *Class 11.32 – Ringing Station*, until the time set in *Class 04.16 – Delayed Ringing* has elapsed. Then the call will begin ringing at the delayed ringing stations as well as the primary stations with an incoming alarm tone ringing signal. The delayed ringing assignment remains the same for both day and night modes.

In software versions 3.0 and 4.0, if a line is programmed in *Class 04.16 – Delayed Ringing* as $\mathbf{0} - \mathbf{no}$ **delayed ringing**, stations assigned in Class 11.33 will ring at the same time as stations programmed in *Class 11.32 – Ringing Stations*.

In software versions 4.0 and higher, CO lines designated as UCD lines in *Class 11.23 – UCD Line* can also have a delayed ringing assignment. The line will ring according to the primary ringing assignment until the time programmed in *Class 11.72 – UCD Overflow, Element (e2) value 2* has elapsed. The call will then be transferred to the overflow destination programmed in *Class 11.72 – UCD Overflow, Element (e2) value 1*. If no value is programmed for this element, the call will start ringing at the delayed ringing stations programmed for the line.

DSS Display

Class/Item	Element Field	Description	Data Field
11.33	<trk001></trk001>	Delayed Ringing Station	

Programming Field Description

Element Meaning: Select the trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Define a station as a delayed ringing station using the

DSS buttons.

Range: **Solid LED (0)** – not a delayed ringing station

Flashing LED (1) – delayed ringing station

Default: Solid LED (0)

Related Databases:

Required: 04.16 Delayed Ringing Timer; 11.30 Ringing Method; 11.31 Ringing Tone; 11.32

Ringing Station.

Associated: 04.15 Attendant DIL Intercept; 11.26 Attendant Intercept Line; 11.34 DIL to Hunt

Group.

Hardware Required

IX-8LGTK, IX-HWCL/HWCE, IX-MISC/IX-EDCTU or IX-CPU16M for MOH.

Direct In Line (DIL) to Hunt Group

Class 11 Item 34

Class 11 Item 34 – Direct In Line (DIL) to Hunt Group is used to program incoming calls on a CO line to ring at the stations in a hunt group. A line may not be programmed for both DIL to a hunt group in Class 11.34 and specific station(s) ringing in Class 11.32 – Ringing Station at the same time.

CO lines assigned as **0** –attendant only in *Class 11.30* – *Ringing Method* cannot be used for DIL to a hunt group regardless of the programming for this item. If a CO line is programmed as an attendant intercept line in *Class 11.26*, and the time programmed in *Class 04.15* – *Attendant DIL Intercept* has elapsed, the hunt call will end. The incoming call will then change to an *attendant recall*.

Note: UCD does not work in the night mode.

DSS Display

	Class/Item	Element Fields e1-e2	Description	Data Field
I	11.34	<trk001-1></trk001-1>	DIL to Hunt Group	0

Programming Field Description

Element Meaning: Select the trunk logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: Toggle between day/night modes.

Field 2 (e2): Range: 1 = day mode

2 = night mode

Data Field: Meaning: Hunt group number.

Range: 0 = no hunt group

1-60

Default: 0

Related Databases:

Required: 04.21 Hunting Time (0-255s); 04.38 Hunting Method in CO Line Group; 07.02

Hunting Group Access No.; 08.01 Hunt Group – Type; 08.02 Hunt Group

-Station; 11.32 Ringing Station.

Associated: 04.15 Attendant DIL Intercept; 08.03 Hunt Group-ID; 08.05 UCD Group <e1>;

11.26 Attendant Intercept Line; 11.30 Ringing Method.

Loud Ringer Relay Number

Class 11 Item 35

Class 11 Item 35 – Loud Ringer Relay Number is used to program a loud ringer relay to activate when there is an incoming call on a CO line. The relay number assigned here must be programmed as a loud ringer in *Class 04.37 – Miscellaneous Function*.

DSS Display

	Class/Item	Element Field	Description	Data Field
I	11.35	<trk001></trk001>	Loud Ringer Relay No.	0

Programming Field Description

Element Meaning: Select the trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Relay number.

Range: **0-32**Default: **0**

Related Databases:

Required: 01.03 Port Definition; 04.35 Miscellaneous Function Port; 04.37 Miscellaneous

Function.

Associated: None.

Hardware Required:

IX-MISC, IX-EDVIF, IX-EDCTU.

(Not Used)

Class 11 Item 36

Class 11 Item 36 – Distinctive Ringing Detect is not used.

Forced Release Condition

Class 11 Item 37

Class 11 Item 37 – Forced Release Condition is used to define the *tip and ring* condition when a CO line is forced-released by the attendant. Consult your local telephone company if the data is set to **1 – loop close** – make busy. (In most cases this will make busy the circuit to incoming CO calls.)

DSS Display

Class/Item	Element Field	Description	Data Field
11.37		Forced Release Condition	

Programming Field Description

Element Meaning: Select the trunk logical port numbers using the

DSS buttons.

Field: Range: **001-448**

Data Field: Meaning: Toggle between loop open/loop close.

Range: Solid LED (0) – loop open

Flashing LED (1) – loop close

Default: **Solid LED (0)**

Related Databases:

Required: None.

Associated: 11.38 Outgoing CO Group

Related Operation:

Trunk Force Release

To remove an outside CO group from service:

From the attendant position at ICM dial tone do one of the following: Press [Forced Release] + [2][*] + CO group number, + [Release].

To remove an outside CO Line from service:

Off-hook + press [Forced Release] + [2] + trunk logical port no. + [Release].

Hardware Required:

IX-8LGTK.

Outgoing CO Group

Class 11 Item 38

Class 11 Item 38 – Outgoing CO Group is used to define the *floating CO line* groups for each CO line. There is no limit to the number of CO lines that can be included in one CO line group. This item is also used for remote CO forwarding. This feature is not available for KF registered systems. Class 11.38 establishes the CO groups which become the route choice selection in the route tables (*Class 17.06*) contained in optimized routing.

DSS Display

_	Class/Item	Element Field	Description	Data Field
I	11.38	<trk001></trk001>	Outgoing CO Group (1→60)	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Outgoing CO group number.

Range: **1-60**Default: **1**

Related Databases:

Required: None

Associated: 04.38 Hunting Method in CO Line Group; 04.44 Remote CO Forward Outgoing

Group; 05.01 System Speed Dial No.; 07.03 CO Line Group Access No.; 10.09 Prime Line Access; 11.21 Prime Line; Class 12 Station Speed Dial; Class 17

Optimized Routing.

Related Operation:

Floating CO Line Access, Optimized Routing, Remote CO Forwarding.

Hardware Required:

IX-8LGTK, IX-8CITK, IXT1DTI.

Incoming CO Group

Class 11 Item 39

Class 11 Item 39 – Incoming CO Group is used to define the *incoming CO line* group for each CO line. There is no limit to the number of CO lines that can be included in one CO line group. These groups are only used for remote CO forwarding.

Note: DID trunks should be programmed in this item along with Class 11.38 to ensure that incoming DID calls will terminate to dedicated [FLT n] keys. Group night also uses this item to separate ringing.

DSS Display

Class/Item	Element Field	Description	Data Field
11.39	<trk001></trk001>	Incoming CO Group (1→60)	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Incoming CO group number.

Range: **1-60**Default: **1**

Related Databases:

Required: 04.43 Remote CO Forward Incoming CO Group. **Associated:** 04.44 Remote CO Forward Outgoing Group.

Related Operation:

Remote CO Forwarding.

Toll Restriction Group Number

Class 11 Item 40

Class 11 Item 40 – Toll Restriction Group Number is used to assign each CO line to a group that is referenced by the ADIX toll restriction feature. The toll restriction group number works in conjunction with the toll restriction class programmed for each station in *Class 10.23* to configure the *Class 06.01 – Toll Restriction Table*.

DSS Display

Class/Item	Element Field	Description	Data Field
11.40	<trk001></trk001>	TR Group Number (0→32)	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Toll restriction group number.

Range: **0-32**Default: **0**

Related Databases:

Required: 06.01 Toll Restriction – Class Table; 06.02 Plan Table; 06.03 Dial Table; 06.04

Pre Dial; 06.05 Allow List; 06.06 Deny List; 10.23 Toll Restriction Class.

Associated: 10.25 System Speed Toll Restriction.

Related Operation:

Toll Restriction.

Predial Group Number

Class 11 Item 41

Class 11 Item 41 – Predial Group Number must be programmed for all CO lines which are PBX lines or tie lines. Each CO line group listed here must be identified with the predial in order to apply the toll restriction correctly. If this data is not registered for each line assigned as a PBX line or tie line in *Class 01.03 – Port Definition*, the predial data entered in *Class 06.04 – Predial* will not be considered in determining the toll restriction.

In software versions 3.0 and higher, there are two data entries for this item. Data field 2 is the *predial group number* (the same as the data for earlier software). Data field 1 corresponds to the outgoing call level for that line. It is related to the outgoing call level assigned to the station in $Class\ 10.23 - Toll\ Restriction\ Class\ (d1)$. The outgoing call level assigned in Class 10.23 must be lower than or equal to the call restriction level programmed for the line in data field 1 of Class 11.41 to permit dialing of outgoing calls. If the station's outgoing call level is higher than the outgoing call level assigned to the line, the station will not be allowed to make any outgoing calls on the line.

DSS Display

Class/Item	Element Field	Description	Data Fields
software versions 3.0	and higher		d1-d2
11.41	<trk001></trk001>	Pre-Dial Group Number	00-0
software versions befo	ore 3.0		
11.41	<trk001></trk001>	Pre-Dial Group Number	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field 1 Meaning: CO line outgoing call level. (software versions 3.0 and higher only).

(d1): Range: 0-7

Default: 0

Data Field 2 Meaning: Predial group. (software versions 3.0 and higher only).

(d2): Range: 0-4

Default: 0

Data Field: Meaning: Predial group. (software versions before 3.0).

Range: **0-4**Default: **0**

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 06.01 Toll Restriction—Class

Table; 06.02 Plan Table; 06.03 Dial Table; 06.04 Predial; 06.05 Allow List; 06.06

Deny List; 10.23 Toll Restriction Class.

Associated: 06.07 SMDR Table; 10.25 System Speed Toll Restriction.

Class 11 Item 41 – Predial Group Number (Cont.)

Related Operation:

Toll Restriction.

Equal Access Group Number

Class 11 Item 42

Class 11 Item 42 – Equal Access Group Number is used to define the equal access group number for each CO line. Based on this data, when a station performs *automatic equal access outgoing dialing*, the system automatically determines what equal access code is used.

DSS Display

Class/Item	Element Field	Description	Data Field
11.42	<trk001></trk001>	Equal Access Gp. Number	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Equal access group number.

Range: 1-4
Default: 1

Related Databases:

Required: 06.08 Equal Access; 06.09 Equal Access Pin Code; 06.10 Equal Access Pin

Position; 06.11 Equal Access Prefix; 06.12 Equal Access CO Line Group; 10.31

Equal Access.

Associated: None.

Related Operation:

Automatic Equal Access Outgoing Dial:

[COL n/FLT n] + [SPEED] + equal access code no. (0-09) + [#] or [*] (# = without pin code, * = with pin code)

Hardware Required:

IX-8LGTK, IX-T1DTI.

Incoming CO Access Class

Class 11 Item 43

Class 11 Item 43 – Incoming CO Access Class is used to program the *incoming access restriction level* for each line. A unique incoming access restriction is programmable for both the day and night modes. In software versions 3.0 and higher, Class 11.43 is used to program the restriction for both incoming and outgoing calls. In software versions before 3.0 restrictions apply only to incoming calls.

Number	Restriction
0	Unrestricted Any station in any access group can access the line.
1	Restriction Level 1 A station in the line access group can access the line. Stations outside of the access group cannot pick-up incoming calls and calls on hold on the line.
2	Restriction Level 2 Stations outside of the line access group cannot pick-up incoming calls or barge into the line, but can pick-up a transferred calls and calls on hold.
3	Restriction Level 3 The access restrictions are the same as Level 2, however, there is only a solid LED indication provided when the line is accessed by stations outside of the access group.
4	Restriction Level 4 Deny recalls and outgoing calls on the line.

See Chapter 3 – Incoming CO Access Restriction for more information on access restriction.

DSS Display

	Class/Item	Element Fields e1-e2	Description	Data Field
Ī	11.43	<trk001-1></trk001-1>	Incoming CO Acc. Class	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field 1 (e1): Range: **001-448**

Element Meaning: Toggle between day and night modes.

Field 2 (e2): Range: 1 = day mode

2 = night mode

Data Field: Meaning: Restriction level.

Range: **0-4**Default: **0**

Related Databases:

Required: 10.22 Incoming CO Access Group; 11.44 Access Group Number.

Associated: 11.32 Ringing Station; 11.33 Delayed Ringing Station; 11.34 Direct In Line to

Hunt Group.

Related Operation:

Incoming CO Access, (also applies to outgoing calls for software versions 3.0 and higher).

Hardware Required:

IX-8LGTK, IX-8CITK, IX-T1DTI.

Access Group Number

Class 11 Item 44

Class 11 Item 44 – Access Group Number is used to program each incoming CO access group (*Class 10.22*) as either *access restricted* or *unrestricted* on each CO line. If a station belongs to a CO access group which is access restricted in this item, the system will determine the level of restriction according to the value programmed for the line in *Class 11.43 – Incoming CO Access Class*.

See *Chapter 3 – Incoming CO Access Restriction* for a detailed description of access restriction programming.

DSS Display

Class/Item	Element Field	Description	Data Field
11.44	<trk001></trk001>	Access Group No. (0→1)	

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Use DSS buttons to toggle between access

restricted/unrestricted for each group.

Range: Solid LED (0) – access restricted

Flashing LED (1) – access unrestricted

Default: Flashing LED (1)

Related Databases:

Required: 10.22 Incoming CO Access Group; 11.43 Incoming CO Access Class.

Associated: None.

Related Operation:

Incoming CO Access, also applies to outgoing calls for software versions 3.0 and higher.

Hardware Required:

IX-8LGTK, IX-T1DTI.

Auto Answer Message 1

Class 11 Item 45

Class 11 Item 45 – Auto Answer Message 1 is used to program the message that is played to an outside party when a CO line call is answered automatically at level 1 (*Class 04.32*). The tables below list the message numbers corresponding to Class 11.45 data field entry:

Auto Answer Message Number	VSS Message Number
0	06
1	07
2	08
3	09

VSS Message Numbers 06-09
"Our offices are now closed. Please call again during our regular business hours. Thank you."

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	11.45	<trk001></trk001>	Auto Answer Message-1	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Message number.

Range: **0-3**Default: **0**

Related Databases:

Required: 04.32 Auto CO Answer Start Time; 04.33 CO Answer Day; 11.24 Auto Answer

Line.

Associated: 04.20 VSS Recording Time; 11.46 Auto Answer Message 2; 15.01 Attendant Key

Assignment.

Related Operation:

To program/cancel Automatic CO Answering:

At ICM dial tone do one of the following:

press [Automatic Answer] to set to Message Level 1,

[Automatic Answer] + [Automatic Answer] to set to Message Level 2

[<u>Automatic Answer</u>] + [<u>Automatic Answer</u>] + [<u>Automatic Answer</u>] to cancel automatic CO answer.

Hardware Required:

IX-MSGU (IX-CMSG/IX-CMSG-1 for custom messages).

Auto Answer Message 2

Class 11 Item 46

Class 11 Item 46 – Auto Answer Message 2 is used to program the message that is played to an outside party when a CO line call is answered automatically at level 2 (*Class 04.33*). The tables below list the message numbers corresponding to Class 11.46 data field entry:

Auto Answer Message Number	VSS Message Number
0	10
1	11
2	12
3	13

VSS Message Numbers 10-13
"Our offices are closed today. Please call again during our regular business hours. Thank you."

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	11.46	<trk001></trk001>	Auto Answer Message-2	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Message number.

Range: **0-3**Default: **0**

Related Databases:

Required: 04.14 Automatic CO Answer; 04.32 Auto CO Answer Start Time; 04.33 CO

Answer Day; 11.24 Auto Answer Line.

Associated: 04.20 VSS Recording Time; 11.45 Auto Answer MSG 1; 15.01 Attendant Key

Assignment.

Related Operation:

To program/cancel Automatic CO Answering:

At ICM dial tone do one of the following:

press [Automatic Answer] to set to Message Level 1,

[Automatic Answer] + [Automatic Answer] to set to Message Level 2

[<u>Automatic Answer</u>] + [<u>Automatic Answer</u>] + [<u>Automatic Answer</u>] to cancel automatic CO answer.

Hardware Required:

IX-MSGU (IX-CMSG/IX-CMSG-1 for custom messages).

DISA/T1 E&M Virtual Station

Class 11 Item 47

Class 11 Item 47 – DISA/T1 E&M Virtual Station is designed to assign virtual station class of service to DISA trunk logical ports for non-subscriber DISA access. This item does not affect subscriber access to DISA. The purpose of this program is to provide "dummy" class of service (i.e. limited) access to DISA operations. The virtual extension numbers assigned in this item do not represent actual system extensions. They are assigned for the specific reason of assigning access rights to DISA services for DISA callers.

Class 11.47 is also used to assign virtual logical port numbers for T1 circuits configured as E&M tie lines. The IX-T1DTI card references this logical port number for toll restriction and outgoing restriction.

Unused circuits on the following cards can be assigned as DISA or T1 E&M virtual stations:

- IX-4SUBL Card
- IX-4DITK Card

DSS Display

Class/Item	Element Field	Description	Data Field
11.47	<trk001></trk001>	DISA Virtual Station	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: Virtual station logical port number.

Range: **0-448 0** = none

Default: 1

Related Databases:

Required: 01.03 Port Definition; 04.39 DISA-ICM Call; 04.40 DISA-Paging; 04.41 DISA-

Waiting Time; 04.42 DISA-Total Duration; 10.06 DISA Service; 11.25 DISA

Line.

Associated: 10.02 Station Numbering; 10.05 Station Password; 11.48 DISA Message Number.

Related Operation:

DISA.

[#][#] = break DISA message (Class 11.48) + [*] + Virtual ext. no. + Virtual station password

Hardware Required:

IX-RCVPM with IX-4RCVC, or IX-RMPU.

DISA Message Number

Class 11 Item 48

Class 11 Item 48 – DISA Message Number is used to define the message that is played when a call is answered on a DISA line. The table below lists the message numbers corresponding to Class 11.48 data field entry:

Note: DISA callers must dial [#][#] to break or halt the message playback in order to dial their access codes. Version 4.50/5.50 provides a DISA short-cut operation (*Class 04.70 <e18>*). This program, when enabled, allows DISA callers to dial their access codes without first dialing [#][#].

DISA Message Number	VSS Message Number	Message
0	N/A	DISA dial tone.
1	02	This is the Direct Dial-In Service. If you are calling from a touchtone telephone and know the party's extension number, please dial it after the tone. If you need assistance, please stay on the line and an operator will assist you.
2	03	This is the Direct Dial-In Service. If you are calling from a touchtone telephone and know the party's extension number, please dial it after the tone. We are sorry, but no collect calls can be accepted. If you need assistance, please stay on the line and an operator will assist you.
3	N/A	Single-frequency tone.

DSS Display

Class/Item	Element Field	Description	Data Field
11.48	<trk001></trk001>	DISA Message Number	1

Programming Field Description

Element Meaning: Trunk logical port number.

Field: Range: **001-448**

Data Field: Meaning: DISA message number.

Range: **0-3** (see description above)

Default: 1

Related Databases:

Required: 04.39 DISA – ICM Call; 04.40 DISA-Paging; 04.41 DISA – Waiting Time; 04.42

DISA – Total Duration; 10.06 DISA Service; 11.25 DISA Line.

Associated: 04.20 VSS Recording Time; 04.70 <e18> DISA Short-Cut (Ver. 4.50); 10.05

Station Password; 15.01 Attendant Key Assignment.

Related Operation:

DISA

Dial [#][#] = break message + [*] + station no. + password = ICM dial tone

Hardware Required:

IX-MSGU (IX-CMSG/IX-CMSG-1 for custom messages).

(Not Used)

Class 11 Item 49

Class 11 Item 49 – DIL Line is not used.

(Not Used)

Class 11 Item 50

Class 11 Item 50 – Ring Through Page is not used.

Call Coverage Trunk

Class 11 Item 70

Class 11 Item 70 – Call Coverage Trunk contains two element fields. The first element field is used to identify the trunk logical port number. The second element field is used for the following programming items:

Element 2 (e2) =	Description
1	Call Coverage Trunk (software versions 4.0 and higher only) is used to program which CO lines are subject to the <i>call coverage</i> feature. If call coverage is enabled, an incoming call on this line is indicated at any extension with a Call Coverage key for the station at the which the call is ringing.
2	Forced Account Code (software versions 4.2, 5.2 and higher only) is used to program which CO lines are subject to the <i>forced account code</i> feature. When a station that is programmed as a <i>forced account code station</i> in <i>Class 10.73</i> attempts to make an outgoing call from the specified CO line, the station user is forced to enter an account code to complete the call.
	Note: The telephone numbers listed in <i>Class 04.78 – Emergency Dial Table</i> are not subject to forced account code entry.
4	Enable/Disable Extension Information is used to determine in an ADIX network configuration whether the remote extension information is sent to SMDR for a CO call.
5	Enable/Disable Trunk Packet is used to determine in an ADIX network configuration whether trunk information is sent when a remote station is set to forward to voice mail.
6	ISDN Numbering Option is used for areas where switch types force customer provided equipment (CPE) to code Calling Party Number Information Elements and Called Party Number Information Elements in setup messages rigidly to initiate outbound calls on ISDN trunks. In these areas, the Type of Number and Numbering Plan in the Calling Party Number or Called Party Number Information Elements must be coded depending on the <i>numbers</i> instead of unknown numbering plan.

Important: In software versions prior to 4.23 a reset is required to effect changes.

Class 11 Item 70 – Call Coverage Trunk (Cont.)

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field
11.70	<trk001-1></trk001-1>	CCV Trunk	0

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: See the description on the previous page.

Field 2 (e2): Range: 1, 2, 4-6

Data Field: If (e2) =

 $\langle TRKxxx-1 \rangle$ Range: **0** = trunk is not subject to call coverage

1 = trunk is subject to call coverage

Default: 1 (0 software versions before 4.62/5.62)

 $\langle TRKxxx-2 \rangle$ Range: **0** = forced account code is not required for trunk

1 = forced account code is required for trunk

Default: 0

 $\langle TRKxxx-4 \rangle$ Range: **0** = no remote extension information sent

1 = remote extension information sent to SMDR

Default: **0**

 $\langle TRKxxx-5 \rangle$ Range: $\mathbf{0} = \text{send packet}$

1 = no packet

Default: **0**

 $\langle TRKxxx-6 \rangle$ Range: **0** = ADIX software codes the Type of Number and

Numbering Plan area in the Calling Party Number and

Called Party Number Information Element in setup messages

for outbound calls as Unknown Numbering Plan

1 = Optional, the ADIX software codes the Type of Number

and Numbering Plan area in the Calling Party Number Information Element and Called Party Number Information

Element in setup messages for outbound calls by the

following.

■ Called Party Number (Destination Phone Number)

■ Calling Party Number (CNIS data)

Default: 0

Class 11 Item 70 - Call Coverage Trunk (Cont.)

Related Databases:

Required: 04.25, Element 10 (software versions 3.0 and higher only); 04.50 SMDR Output

Port.

Associated: 04.52 SMDR – Incoming Call Report; 04.53 SMDR – Toll Only Report; 04.54

SMDR – Account Code Only; 06.07 SMDR Table; 10.18 SMDR Report; 11.06

Inter-Digit Time; 11.13 Sender Time Out; 11.29 SMDR Report.

Call Coverage: 04.70 Call Coverage Camp-On Indication; 04.71 Call Coverage/Voice Mail Data;

14.01 Key Assignment; 15.01 Attendant Key Assignment

Forced Ac- 04.71 Forced Account Code Length; 04.78 Toll Dial Table for Forced **count Code:** Account Code, Emergency Dial Table; 10.73 Forced Account Code Station.

Related Operation:

Call Coverage: [Call Coverage Key].

 $Forced\ Account\ Code:\ Off-hook + [FLT/n\ or\ COL/n] + telephone\ number + [*] + [\underline{Account\ Code}] + If$

variable-length account codes are used [*]

UCD Overflow Calls (Software Version 4.0 Only)Class 11 Item 72

Class 11 Item 72 – UCD Overflow Calls contains two element fields. The first element field is used to identify the trunk logical port number. The second element field is used for the following programming items:

Element 2				
(e2) =	Description			
1	UCD Overflow Destination is used to program a hunt group number to which UCD calls which have not been answered by the time programmed in Class 11.72 (e2) = 2 UCD Overflow Duration has elapsed.			
2	UCD Overflow Duration is used to program the time in minutes that incoming calls on UCD lines will ring according to the primary ringing assignment. UCD calls which have not been answered as overflow calls will ring at the overflow destination programmed in Class 11.72 (e2) = 1 UCD Overflow Destination.			
3	E911 Attribute indicates whether a trunk on the IX-EMTK card that is connected to the Telident STS TM unit is the primary or secondary circuit to be used for Enhanced 911 service. This item is required for enhanced 911 service.			
	When 911 is dialed from a system extension, the call will be first routed using the IX-EMTK trunk programmed as the primary circuit in this item. If after routing a 911 call using the primary trunk, the system does not receive wink back from the Telident STS TM within the time programmed in Class 04.71 <num17>, or if the primary trunk programmed in this item is busy, the ADIX will resend the call using the secondary trunk programmed in Class 11.72 <tknnn-04>d1=2.</tknnn-04></num17>			

Class 11.72 only applies to CO lines designated as UCD lines in *Class 11.23*. If no overflow destination is assigned in this item, once the time programmed for UCD overflow has elapsed, the call will ring according to the delayed ringing assignment programmed for the line in *Class 11.33 – Delayed Ringing Station*. If no delayed ringing assignment is programmed, the line will recall the attendant if it has been enabled in *Class 04.15* for attendant DIL intercept.

For detailed information regarding Uniform Call Distribution programming refer to *Chapter 3 – Uniform Call Distribution*.

Class 11 Item 72 – UCD Overflow Calls (Cont.)

DSS Display

Class/Item Element Field e1-e2		Description	Data Field
11.72	<trk001-1></trk001-1>	UCD Overflow	0

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: **001-200**

Element Meaning: See the description on the previous page.

Field 2 (e2): Range: 1, 2

Data Field: If (e2) =

<TRKxxx-1> Meaning: Destination hunt group.

Range: **0-60**

 $\mathbf{0}$ = no overflow destination

Default: **0**

<TRKxxx-2> Meaning: Overflow time in minutes.

Range: 0-255 minutes

 $\mathbf{0} = \text{no UCD overflow}$

Default: 0

<TRKxxx-3> Meaning: Destination hunt group.

Range: 1-4

0 = normal1= primary2= secondary

Default: 0

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 04.20 VSS Recording Time;

04.34 UCD Answer Time; 04.70<NUM35> E911 Outgoing Type; 04.71<NUM

06> E911 Relay Number; 04.71< NUM 08> E911 FAIL Rely Number;

04.71<NUM 09> E911 Special Trunk Group; 04.71<NUM 17> E911 CAMA Wink Timer; 04.72<NUM 18> E911 Inf. Port; 07.02 Hunting Group Access Number; 08.02 Hunt Group - Station; 10.73<EXTLxxx-4> E911 Area Routing Trunk Group; 11.32 Ringing Station; 11.43 DIL to Hunt Group11.72<TRKLxxx-3> E911 Attribute; 15.01 E911 Display Clear; 17.18<NUM 1-16> Emergency

Specific Code; 29.10 Group # (1-60) Emergency Send Dial..

Associated: 04.21 Hunting Time; 08.01 Hunt Group - Type; 08.02 Hunt Group ID; 11.33

Delayed Ringing Stations.

Related Operation:

Uniform Call Distribution.

Reserve4 Class 11 Item 73

Class 11 Item 73 was added in software version 4.71/5.71 for ISDN integration. The support for the 5ESS custom protocol was added in Software Version 6.00. The function of each element is explained below:

Element 2

1

2

(e2) = Description

Flash and Guard Time is used to define the *on-hook* duration and *guard time* for automatic *hookswitch flash* by a T1 E&M tie line using the network conversion tables.

When programming through the KT, the *flash time* and *guard time* are combined as one entry in data field 1 with the following equation. The *flash time* and *guard time* single digit numbers are representing 100ms increments. (ex. Flash time= $4 \rightarrow 400$ ms):

[(Flash time*16) + guard time]

flash time = 4

On the KT, the default entry for data field 1 = 66.

Flash time = 4, 4*16=64Guard time = 2, 2+64=66

Note: The default for data field 1 should not be changed. Consult Iwatsu technical support before attempting to change the entry in this field.

When programming through PC Programmer the flash time and guard time are entered separately in two data fields. The flash time and guard time single digit numbers are representing 100ms increments. (ex. Flash time= $4 \rightarrow 400$ ms):

11.73.01 in PC Programmer is entered as follows:

400ms.

guard time = 2

100ms. FIXED d1 Guard Time

Guard Time

FIGURE 11.73 FLASH AND GUARD TIME

ISDN Protocol Type is used to program the ISDN protocol for ISDN PRI lines. The protocol may be set as either National ISDN or Custom (DMS-100) for each CO switch type. This setting is dependent on the telephone company setting.

The table below lists the ISDN protocol types supported according to the CO switch type and ADIX software version.

200ms.

Software Version	CO Switch Type	Protocol Supported
4.75/5.73/ACD 2.31	5ESS	National ISDN Only
	DMS	National ISDN, DMS Custom
6.00/ACD 6.00	5ESS	National ISDN, 5ESS Custom
	DMS	National ISDN, DMS Custom

Class 11 Item 73 –Reserve 4 (Cont.)

Element 2

(e2) = Description

3 **Set Hunt Group as Delayed Call Destination** allows a hunt group (*Class 8*) to be set

as the delayed incoming call destination.

If a call on a CO line is not answered at the ringing stations (*Class 11.32*) within a programmable duration (*Class 04.16*) the hunt group in *Class 11.73*<*TRKxxx-3*> starts

ringing.

This feature makes it possible for you to send delayed calls to voicemail.

4 **Networking Class** is used for conventional and old style networking tie lines when tandeming through an ADIX system.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
11.73	<trkl001-2></trkl001-2>	Reserve4	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: See the description above.

Field 2 (e2): Range: 2, 3, 4

Data Field: If $(e2) = \langle TRKLxxx-2 \rangle$

<NUM 01> Meaning: [(Hookflash time *16) + Guard time]

Range: **0-255**Default: **66**

<NUM 02> Range: **0-2**

0 = National ISDN1 = DMS Custom2 = 5ESS Custom

Default: 0

Range: **1-60**

 $\mathbf{0} = \text{no hunt group}$

Default: 0

<NUM 04> Range: **0-16** (Class of Service)

Default: 1

Class 11 Item 73 –Reserve 4 (Cont.)

Related Databases:

Required: 04.21 Hunt Time (0-255s); 04.38 Hunt Method in CO Line Group; 07.02 Hunt

Group Access No.; 08.01 Hunt Group - Type; 08.02 Hunt Group - Station; 11.32

Ringing Station.

Associated: 04.15 Attendant DIL Intercept; 08.03 Hunt Group-ID; 08.05 UCD Group <e1>;

11.26 Attendant Intercept Line; 11.30 Ringing Method.

NUM 1: 01.03 Port Definition

NUM 2: 01.03 Port Definition; 01.04 Port Configuration; 11.74 Element 2=1; 11.74

Element 2=2; 11.77 Element 2=1; 11.77 Element 2=2; 24.07 ANI Enabled ISDN

Trunk; 25.07 DNIS Enabled ISDN Trunk.

NUM 3: 28.05 Network External; 28.06 Network Route Advance Step.

Hardware Required:

NUM 1: IX-T1DTI.

NUM 2: IX-ICOTP; 2ICOTP. NUM 4: IX-T1DTI; IX-4EMTK.

ISDN Line Class (Reserve 5)

Class 11 Item 74

Class 11 Item 74 was added in software version 4.71/5.71 for ISDN integration. The function of each element is explained below:

Element 2	
(e2) =	Description
1	ISDN PRI Interface ID is used to program the identification number for each PRI line when multiple ISDN PRI lines are terminated to ADIX. The PRI Interface ID for each line is a number between zero and eight that is assigned by the telephone company. Programming in this item is only required when the Multi-DS1 feature is used.
2	Controlling D Channel is used to identify the controlling D channel when the Multi-DS1 feature is used. Enter only the first logical port number of the IX-ICOTP card followed by the controlling D channel. Programming in this item is only required when the Multi-DS1 feature is used. The controlling D channel is determined by the entry for the first trunk of each ISDN PRI line when this feature is used.

DSS Display

Class/Item	Element Field	ement Field Description	
	e1-e2		
11.74	<trkl001-1></trkl001-1>	Reserve5	0

Programming Field Description

Element Meaning: Trunk logical port number. **Field 1 (e1):** Range: 001-448 **Element** Meaning: See the description above. Field 2 (e2): Range: 1, 2 Data Field: If (e2) =<TRKLxxx-1> Range: 0-8 Default: 0 <TRKLxxx-2> Range: 0-200Default: 0

Related Databases:

Element 2: 01.03 Port Definition; 01.04 Port Configuration; 11.73 Element 2=2; 24.07 ANI Enabled ISDN Trunk; 25.07 DNIS Enabled ISDN Trunk.

ISDN Line Class (Reserve 8)

Class 11 Item 77

Class 11 Item 77 was added in software version 4.71/5.71 for ISDN integration. The function of each element is explained below:

Element 2 (e2) =	Description
1	Service Profile Identifier (SPID) 1 for ISDN BRI is used to enter the SPID number assigned by the telephone company for the first channel of the specified (e1) ISDN BRI line.
2	Service Profile Identifier (SPID) 2 for ISDN BRI is used to enter the SPID number assigned by the telephone company for the second channel of the specified (e1) ISDN BRI line.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
11.77	<trkl001-1></trkl001-1>	Reserve8	0

Programming Field Description

Element Meaning: Trunk logical port number.

Field 1 (e1): Range: 001-448

Element Meaning: ISDN BRI Channel

Field 2 (e2): Range: 1, 2

Data Field: Range: 0-32 digits

Default: blank

Related Databases:

Element 2: 01.03 Port Definition; 01.04 Port Configuration; 11.73 Element 2=2; 11.74

Element 2=1; 11.74 Element 2=2; 24.07 ANI Enabled ISDN Trunk; DNIS Enabled

ISDN Trunk.

Station Speed Dial – 1

Use Class 12 – Station Speed Dial – 1 to program station speed dial numbers and a station speed dial number ID for station logical ports 001 to 224. The following programming items are included in Class 12:

- 12.01 Station Speed Dial
- 12.02 Station Speed Dial ID

Station Speed Dial

Class 12 Item 01

Class 12 Item 01 – Station Speed Dial is used to set individual station speed dial numbers through database programming. Each ADIX station can have ten station speed dial numbers (speed dial code numbers 90-99). Station speed dial numbers can also be programmed at the station level. Station speed dial number programming information using a DSS console or a KT is as follows:

To program:	Enter this:	To get this result on the display:
a digit to be dialed	0-9, *, #	0-9, *, #
pause	[PAUSE] + [0-9]	P (0-9)
Note: Use the [SPE	AKER] key on a programm	ning KT to register a pause.
dial alteration	[PAUSE] + [*]	T (DP to DTMF)
	[PAUSE] + [#]	P (DTMF to DP)
flash	[FLASH]	FS
tandem	[SPEED] + number	SP (other SPD)

Note1: Programming in this item affects station logical port numbers 001 to 224 only. Use *Class* 13.01 for station logical port numbers 225 to 448.

Note2: Personal Speed Bin 97 cannot be used when using I-CNIS on the ISDN trunk. The telephone will not dial out. See *Class* 29.09 for details.

DSS Display

Class/Item	Class/Item Element Fields Description		Data Fields
	e1-e2		d1-d2
12.01	<extl001-01></extl001-01>	Station Speed Dial	00-

Programming Field Description

Element	Meaning:	Station log	Station logical port number.			
Field 1 (e1):	Range:	001-224	001-224			
Element	Meaning:		Station speed dial bin number corresponding to speed dial numbers 90-99.			
Field 1 (e2):	Range:	01 = 90 02 = 91	03 = 92 04 = 93	05 = 94 06 = 95	07 = 96 $08 = 97$	09 = 98 $10 = 99$
Data Field 1	Meaning:	CO trunk	number.			
(d1):	Range:	01-60				
	Default:	00				
Data Field 2	Meaning:	Dial Numl	ber.			
(d2):	Range:	Up to 32 digits				
	Default:	00				

Class 12 Item 01 - Station Speed Dial (Cont.)

Related Databases:

Required: 11.38 Outgoing CO Group. **Associated:** 12.02 Station Speed Dial – ID.

Station Speed Dial – ID

Class 12 Item 02

Class 12 Item 02 – Station Speed Dial – ID is used to program an alphanumeric identification that is displayed on key telephones with displays when the corresponding speed dial number is accessed.

Note: Programming in this item affects station logical port numbers 001 to 224 only. Use Class 13.02 for station logical port numbers 225 to 448.

DSS Display

	Class/Item	Element Fields e1-e2	Description	Data Fields
Ĺ	12.02	<extl001-01></extl001-01>	Station Speed ID	

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: **001-224**

Element Meaning: Station speed dial bin number corresponding to speed dial

numbers 90-99.

Range: 01 = 90 03 = 92 05 = 94 07 = 96 09 = 98

02 = 91 04 = 93 06 = 95 08 = 97 10 = 99

Data Field: Meaning: Alphanumeric ID.

Range: Up to 10 characters

Default: None

Related Databases:

Field 1 (e2):

Required: 12.01 Station Speed Dial.

Associated: None.

Station Speed Dial – 2

Use Class 13 – Station Speed Dial – 2 to program station speed dial numbers and a station speed dial number ID for station logical ports 225 to 448. The following programming items are included in Class 13:

- 13.01 Station Speed Dial
- 13.02 Station Speed Dial ID

Station Speed Dial

Class 13 Item 01

Class 13 Item 01 – Station Speed Dial is used to set individual station speed dial numbers through database programming. Each ADIX station can have ten station speed dial numbers (speed dial code numbers 90-99). Station speed dial numbers can also be programmed at the station level. Station speed dial number programming information using a DSS console or a KT is as follows:

To program a:	Enter this:	To get this result on the display:	
digit to be dialed	0-9, *, #	0-9, *, #	
pause	[PAUSE] + [0-9]	P (0-9)	
Note: Use the [SP	KR] key on a programmin	g KT to register a pause.	
dial alteration	[PAUSE] + [*]	T (DP to DTMF)	
	[PAUSE] + [#]	P (DTMF to DP)	
flash	[FLASH]	FS	
tandem	[SPEED] + number	SP (other SPD)	

Note: Programming in this item affects station logical port numbers 225 to 448 only. Use *Class 12.01* for station logical port numbers 001 to 224.

DSS Display

Class/Item	Class/Item Element Fields De		Data Fields
	e1-e2		d1-d2
13.01	<extl001-01></extl001-01>	Station Speed Dial	00-

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 225-448

Element Meaning: Station speed dial bin number corresponding to speed dial

numbers 90-99.

Field 1 (e2): Range: 01 = 90 03 = 92 05 = 94 07 = 96 09 = 98

02 = 91 04 = 93 06 = 95 08 = 97 10 = 99

Data Field 1 Meaning: CO trunk number.

(d1): Range: 01-60

Default: 00

Data Field 2 Meaning: Dial Number.

(d2): Range: Up to 32 digits

Default: **00**

Related Databases:

Required: 11.38 Outgoing CO Group. **Associated:** 13.02 Station Speed Dial – ID.

Station Speed Dial – ID

Class 13 Item 02

Class 13 Item 02 – Station Speed Dial – ID is used to program an alphanumeric identification that is displayed on key telephones with displays when the corresponding speed dial number is accessed.

Note: Programming in this item affects station logical port numbers 225 to 448 only. Use Class 12.02 for station logical port numbers 001 to 224.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Fields
13.02	<extl001-01></extl001-01>	Station Speed ID	

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 225-448

Element Meaning: Station speed dial bin number corresponding to speed dial

numbers 90-99.

Range: 01 = 90 03 = 92 05 = 94 07 = 96 09 = 98

02 = 91 04 = 93 06 = 95 08 = 97 10 = 99

Data Field: Meaning: Alphanumeric ID.

Range: Up to 10 characters

Default: None

Related Databases:

Field 1 (e2):

Required: 13.01 Station Speed Dial.

Associated: None.

Related Operation:

Station Speed Dialing.

Station Flexible Key Assignment

Class 14 – Station Flexible Key Assignment contains one item, *Class 14.01 – Key Assignment* which is used to program flexible key patterns for every station type except attendant positions and BLF units. Pattern numbers and default key pattern assignments are listed in the following tables:

Class 14.01

Number	Used For	Class 10.12 Key Assignment Data
001	ADIX and ZT-D key telephone default pattern	001
002	ADIX and ZT-D key telephone pattern with float keys.	002
003	Versa-Phone default pattern	003
004	ADIX IX-12KTD-2, IX-12KTS-2, IX-12ELK key telephone default pattern (software version 4.62/5.62 and higher only)	004
005	ZT-D key telephone default pattern (software version 4.62/5.62 and higher only)	005
006-128	Unassigned station patterns	006 – 128

Class 15.01

Number	Used For	Class 10.12 Key Assignment Data
001	ADIX IX-24KTD/S, IX-8KTD/S KT + DSS Unit(s) default pattern	129
002	Attendant Console default pattern	130
003	Operator KT default pattern	131
004	ADIX IX-12KTD-2, IX-12KTS-2, IX-12ELK KT + DSS default pattern (software version 4.62/5.62 and higher only)	132
005-008	Unassigned Attendant patterns	133-136

Class 16.01

Number	Used For	Class 10.12 Key Assignment Data
001	BLF default pattern.	Automatically follows the pattern number
002-008	Unassigned BLF patterns.	assigned for the associated attendant console.

Key Assignment

Class 14 Item 01

Class 14 Item 01 – Key Assignment is used to generate and edit the station flexible key patterns used by key telephones, ZT-D telephones and Versa-Phones. The patterns generated here must be assigned to each individual station in *Class 10.12 – Key Assignment*. Data for key programming is provided in the tables on the next few pages.

Important: If you are creating a new key pattern based on the default pattern (001), you must first copy the default pattern to the number you have designated for the new key pattern. For example, if you want to add a [FLT n] key to station 001, and you have designated key pattern 004 as the new key pattern, using the copy feature enter:

COPY<01><PNo001> TO <PNo004:004>.

Note 1: The following program is recommended when using IX-COMLINK: Key Pattern (Class 10.12, 14.01, 15.01) — key 25=Speaker, key 26=Transfer, key 27=Feature, key 28=Hold/DND. Also recommended for some applications are ICM, SPEED and ADD.

Note 2: The IX-COMLINK does not support the use of the HEADSET key. If a headset is required, it must be connected to the HEADSET connector and used without a KT.

DSS Display

	Class/Item	Element Fields	Description	Data Fields
		e1-e2		d1-d2
I	14.01	<pno001-01></pno001-01>	Key Assignment	002-001

Programming Field Description

ElementMeaning:Key pattern.Field 1 (e1):Range:001-128ElementMeaning:Key number.Field 1 (e2):Range:01-62

Field 1 (e2): Range: **01-62**

Data Field 1 Meaning: Key function.

(d1): Range: 0-150

Default: See tables on pages 6-367 to 6-341

Data Field 2 Meaning: Key sub-function.

(d2): Default: See tables on pages 6-367 to 6-341

Related Databases:

Required: 10.12 Key Assignment.

Associated: 01.03 Port Definition; 15.01 Attendant Key Assignment; 16.01 BLF Assignment.

Class 14 Item 01 – Key Assignment (Cont.) Related Operation:

To display the key function at a station:
Dial [FEAT] + [#] + [9] + [key]
The key function is displayed.

Feature Keys Sorted By Feature Name

Feature	Phone Display	PC Programmer	Key Data		
	([FEAT][#][9] from KT)	(Key Selection Window)	data 1 (d1)	data 2 (d2)	
(blank)	No Assign	(blank)	000	(42)	
Abandoned Call at Trunk (All trunk Groups)	USAT	USAT	166		
Abandoned Call at Trunk (Specific Group)	USATn	USATn	167	01-60(Grp#)	
Abandoned Call at Station	USAS	USAS	168	0 : 00(0p)	
Abandoned Call Delete Record €	USD	USD	169		
Absence Message Key	Absence Message	Absence Message	022		
Account Code Entry Key	Account Code	Account Code	100		
ACD Group ∛, A	ACD 1-60	ACD-N (N=1-60,63)	012	01-60(Grp#)	
ACD Group Night A	NIGHT 1-60	ACD Group Night	014	01-60 (Grp#)	
ACD Message Recording A	A.REC	ACD MESSAGE RECORD	095	` ' '	
Add-On Conference/Barge-In Key	ADD	ADD	025		
Agent Answer Key A	AGT ANS	Agent Answer	111		
Agent Log In A	LOG	AGENT LOG	090		
Agent Monitoring Key ^A	AGENT 1-400	AGM-N (N=001-400)	098	001-400 (AGT)	
All ACD Groups ♂, A	ACD 63	ACD-N (N=1-60,63)	012	63	
All Call - Press Page Key	Press Page	Press Page	044		
All Call Page Key	ALL	Paging (All Call)	006	63	
Automatic Repeat Dialing Key	Auto Repeat Dial	Auto Repeat Dial	060		
Background Music Key	BGM	BGM	026		
Busy Number Callback Key	Timed Trunk Queu	Timed Trk. Queue	079		
Call Connect Key ³	Connect	Connect	101		
Call Coverage Key – Delayed 4, 8	Delayed 1 - 448	CCV - Delayed	009	001-448 (SLP)	
Call Coverage Key – Immediate ^{4,}	Immed. 1 - 448	CCV - Immd.	800	001-448 (SLP)	
Call Coverage Key – No Ring 4,	No ring 1-448	CCV - NoRing	010	001-448 (SLP)	
Call Forward Key	Call Forward	Forward	038	<u> </u>	
Call Monitoring Key	Monitor	MONITOR	051		
Call Park Key	Individual Park	Park	055		
Call Park Pick-Up Key	Call Park Pickup	Park Pick-up	058		
Call Release Key (for headset stations)	Release	Release	062		
Call Sequence Change ^A	SQC 1-60,63	CALL SEQUENCE CHG.	099	01-60,63 (Grp#)	
Caller ID/ANI/DNIS Display Change €	Display Change	DSPCHG	160		
CNIS Off Key	CNIS OFF	CNIS OFF	173		
Conversation Record ♥	REC	REC	171		
Flash Key (Short) €	Short Flash	Flash (Short)	072		
Flash Key (Long) ♥	Flash	Flash (Long)	039		
Direct Call Pick-Up Key	Spec. Call Pickup	Call P/Up (Direct)	030		
Direct CO Line Termination Key	COL 1-448	CO Line	002	001-448 (TLP)	
DID Remote Call Transfer €	PTRAN	(not available)	109		
Direct Station Signaling Key ₹	DSS 1-448	DSS	004	001-448 (SLP)	
Display Scroll Key	LCD Mode Change	Display	033		
DP to DTMF Signaling Change Key	Dial Reverse	Dial Reverse	059		

Class 14 Item 01 – Feature Keys Sorted By Feature Name (Cont.)

CFEATI_FI[9] from KT)	Feature	Phone Display	PC Programmer	Key Data		
Extension Database Display Key				data 1	data 2	
External Group Pick-Up Key Call Pickup Out Call PLUp (Extn/I) O40 Feature Feature Feature C37 Feature Feature C37 Emergency Recording/Help ^A	EMG	Emergency	096			
Feature			Extension Data	035		
Fixed Dauliferation Code Entry ^ CUALIFY 000-999 FIXED QUALIFY.N 015 000-999 Fixed Daulification Code Entry ^ CUALIFY MANUAL QUALIFY 032 033 63 63 63 63 63 63 6	External Group Pick-Up Key	Call Pickup Out	Call P/Up (Extn'l)	040		
Flexible Qualification Code Entry Manual Qualify M		Feature	Feature	037		
Floating CO Group Selection Key #	Fixed Qualification Code Entry ^A	QUALIFY 000-999	FIXED QUALIFY-N	015	000-999	
Floating CO Group Termination Key ≥ FLT 1-80	Flexible Qualification Code Entry ^A	QUALIFY	MANUAL QUALIFY	092		
Group Call Key (Internal page groups)	Floating CO Group Selection Key ₹, <	FLT	CO Float	003	63	
Group Park Key	Floating CO Group Termination Key 8	FLT 1-60	CO Float	003	01-60 (Grp#)	
Headset Control Key ^{4, •} Headset Headset Help 0.97	Group Call Key (internal page groups)	Group 1-30	Paging (Grp. Call)	006	01-30 (Grp#)	
Headset Control Key ^{4, •} Headset Headset Help 0.97	Group Park Key ♥	Group Park 1-60	Grp. Park	001	01-60 (Grp#)	
HeILP			Headset	105	, , ,	
Hold/Do Not Disturb Key		HELP	Help	097		
Hunti Group Key (external page groups)	Hold	Hold	Hold	125		
CM Calling Mode Key	Hold/Do Not Disturb Key	HOLD/DND	HOLD/DND	102		
CM Calling Mode Key	Hunt Group Key (external page groups)	Hunting	Hunt Group	005	01-60 (Grp#)	
Intercom Line Call Back Key		Calling Mode CHG	Calling Mode	083	` ' '	
Intercom Line Termination Key				021		
Internal Group Pick-Up Key			ICM	042		
Last Number Redial Last No.Redial Last Number Dial 088 Meet Me Pick-Up Key Meet Me Meet Me 047 Memo Dial Key Memo Dial Memo Dial 048 Message Activation Key MSG MESSAGE 050 Microphone Cut-Off Key MIC Mic Off 049 Not Available A Unavailable Unavailable 93 Optimized Rey FLT 00 FLT 00 003 63 Optimized Routing [OPT] Key ※,		Call Pickup In	Call P/Up (Intr'l)	057		
Meet-Me Pick-Up Key Meet Me Meet Me 047 Memo Dial Key Memo Dial Memo Dial 048 Message Activation Key MSG MESSAGE 050 Microphone Cut-Off Key MIC Mic Off 049 Not Available Å Unavailable Unavailable 93 Optimized Routing [OPT] Key Å FLT 00 FLT 00 003 63 Override Key Over Ride Override 054 94 Privacy Release Key Privacy Release Privacy Release 103 000 Queued Call Indication Å QUEUE 1-60 Queue-n 013 01-60 (Grp#) Remote Call Frowarding Key Remote Call FWD 1-4 Remote Call FWD 032 1-4 Remote Call Forwarding Key Rende Call FWD 1-4 Remote Control Key 064 01-32 (Relay) Saved Dial Key Save No. Redial Saved Number Dial 073 3 Separator Key Separate Separate 107 107 107 Ring Muting Silence Speaker						
Memo Dial Key Memo Dial Memo Dial 048 Message Activation Key MSG MESSAGE 050 Microphone Cut-Off Key MIC Mic Off 049 Not Available ^A Unavailable Unavailable 93 Optimized Key FLT 00 FLT 00 003 000 Optimized Routing [OPT] Key ĕ, ♠ FLT CO Float 003 63 Override Key Over Ride Override 054 Privacy Release Reviews 103 QUEUE 1-60 Queuen Call Indication ĕ, ^A QUEUE 1-60 Queuen Oueuen 013 01-60 (Grp#) Remote Call Forwarding Key Remote Call FWD 1-4 Remote Call FWD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4 Remote Call FwD 032 1-4						
Message Activation Key MSG MESSAGE 050 Microphone Cut-Off Key MIC Mic Off 049 Not Available And Not Available And Not Available Sophimized Key Unavailable FLT 00 93 Optimized Key FLT 00 FLT 00 003 Optimized Routing (OPT) Key ₹, ★ FLT T CO Float 003 63 Override Key Over Ride Override 054 Privacy Release 103 Oueued Call Indication ₹, A QUEUE 1-60 Queue-n 013 01-60 (grp#) Remote Call Forwarding Key Remote Call FWD 1-4 Remote Call FWD 032 1-4 Remote Control Key Relay 1-32 Remote CONTROL 064 01-32 (Relay) Saved Dial Key Save No. Redial Saved Number Dial 073 Separator Key Separate Separate 107 Ring Muting Silence 068 Separate 107 Speaker Key Speaker Speaker 970 Spead Dial Key (Personal) – One-Touch Speed Dial Speed Dial (STA) 020 90-99 (Bin#) 90-99 (Bin#) 90-89 (Bin#) 90-89 (Memo Dial	Memo Dial			
Microphone Cut-Off Key MIC Mic Off 049 Not Available Available Available Available Available Available Available By Station Lock Passwork Key Unavailable Unavailable P3 93 Optimized Key FLT 00 FLT 00 003 000 Optimized Routing [OPT] Key ₹, ■ FLT CO Float 003 63 Override Key Over Ride Override 054 Privacy Release Key Privacy Release 103 01-60 (Grp#) Queued Call Indication ₹, A QUEUE 1-60 Queue-n 013 01-60 (Grp#) Remote Call Forwarding Key Remote Call FWD 1-4 Remote Control Key 032 1-4 Remote Control Key Relay 1-32 Remote CONTROL 064 01-32 (Relay) Saved Dial Key Save No. Redial Saved Number Dial 073 073 Separator Key Separate Separate 107 064 01-32 (Relay) Spead Dial Key Separate Separate 107 068 068 068 068 068 068 068 068 068 068 <td></td> <td></td> <td></td> <td></td> <td></td>						
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Class 14 Item 01 – Feature Keys Sorted By Feature Name (Cont.)

Feature	Phone Display	PC Programmer	Key	Data
	([FEAT][#][9] from KT)	(Key Selection Window)	data 1 (d1)	data 2 (d2)
Virtual Key for IX-DCKT900 €	Wireless Virtual	Wireless Virtual	165*	01-29 (key#)
Voice Mailbox Access Key 4	VML Hunting	Mailbox Access	011	47-50
Voice Mail Monitor	VML Monitor	VML Monitor	175	000
Voice Message Playing Key	Message Service	Voice Msg. Play	081	
Voice/Data Exchange Key	V-Data Exchange	Voice Data Ex.	082	
Wake-Up Call Key	Wake-Up Call	Wake Up Call	046	
Wrap-Up ^A	WRAP	Wrap-up	094	
Zone Paging Key	Zone 1	Paging Zone	006	31-60 (Grp#)

Programming Notes:

► Flash Key (Short) – Timer programming (short flash) required

Flash Key (Long) – Timer programming (long flash) is required

Group Park Key – System park orbit assignment is required.

Headset Control Key – This key is used only if the station is equipped with a headset.

UNA – Database setting for trunk(s) is required.

Voice Message Playing Key – Playback key is for playback of voice message 1 only.

Floating CO Group Selection Key/Optimized Routing Key If the station is enabled for forced optimized routing in Class 10.33, keys assigned as float keys will function as optimized routing ([OPT]) keys.

The [Display Change] and [PTRAN] keys are available with software versions 4.62/5.62 and higher only.

Text Message, Conversation Record, Virtual Key for IX-DCKT900 and Abandon Call Keys are available with software versions 4.62/5.62 and higher only.

Recommended that this key is assigned to a button with a dual-color LED. Call Coverage Keys ([Immed.], [Delayed], [NoRing]) must be assigned to keys with dual-color LEDs. These features will not operate on Versa-Phones or key telephones with single-color LED lamps.

(Bin#) Value corresponds to either a system speed dial or personal speed dial bin number.

(GRP#) Value corresponds to a group number, i.e., Hunt Group, CO Group, Park Orbit Group.

(Relay) Value corresponds to the relay number assigned to a miscellaneous function port in Class 04.35.

(SLP) Value corresponds to a station logical port number.

(TLP) Value corresponds to a trunk logical port number.

This key is available only with software versions 3.0 and higher.
This key is available only with software versions 4.0 and higher.

A This key is available with ADIX ACD software only.

Class 14 Item 01 –Key Assignment (Cont.)

Feature Keys Sorted By (D1) Value

Ke	y Data	Feature	Phone Display	PC Programmer
data 1 (d1)	data 2 (d2)		([FEAT][#][9] from KT)	(Key Selection Window)
000		(blank)	No Assign	(blank)
001	01-60 (Grp#)	Group Park Key €	Group Park 1-60	Grp. Park
002	001-448 (TLP)	Direct CO Line Termination Key	COL 1-448	CO Line
003	63	Floating CO Group/Optimized Routing Key &,	FLT	CO Float
003	01-60 (Grp#)	Floating CO Group Termination Key 8	FLT 1-60	CO Float
004	001-448 (SLP)	Direct Station Signaling Key	DSS 1-448	DSS
005	01-60 (Grp#)	Hunt Group Key (external page groups)	Hunting	Hunt Group
006	63	All Call Page Key	ALL	Paging (All Call)
006	01-30 (Grp#)	Group Call Key (internal page groups)	Group 1-30	Paging (Grp. Call)
006	31-60 (Grp#)	Zone Paging Key	Zone 1	Paging Zone
800	001-448 (SLP)	Call Coverage Key – Immediate 4, 8	Immed. 1 – 448	CCV – Immd.
009	001-448 (SLP)	Call Coverage Key – Delayed ^{4,} 8	Delayed 1 – 448	CCV - Delayed
010	001-448 (SLP)	Call Coverage Key – No Ring ^{4,}	No ring 1-448	CCV – NoRing
011	47-50	Voice Mailbox Access Key 4	VML Hunting	Mailbox Access
012	01-60(Grp#)	ACD Group &, A	ACD 1-60	ACD-N (N=1-60,63)
012	63	All ACD Groups &, A	ACD 63	ACD-N (N=1-60,63)
013	01-60 (Grp#)	Queued Call Indication &, A	QUEUE 1-60	Queue-n
014	01-60 (Grp#)	ACD Group Night A	NIGHT 1-60	ACD Group Night
015	000-999	Fixed Qualification Code Entry A	QUALIFY 000-999	FIXED QUALIFY-N
019	00-89, 000-899 (Bin#)	Speed Dial Key (System)— One-Touch	System Speed 000-899	Speed Dial (SYS)
020	90-99 (Bin#)	Speed Dial Key (Personal)— One-Touch	Speed Dial 90-99	Speed Dial (STA)
021	,	Intercom Line Call Back Key	ICM Call Back	ICM Call Back
022		Absence Message Key	Absence Message	Absence Message
025		Add-On Conference/Barge-In Key	ADD	ADD
026		Background Music Key	BGM	BGM
028		Trunk Call Back Queuing Key	Trunk Queuing	Trunk Queuing
030		Direct Call Pick-Up Key	Spec. Call Pickup	Call P/Up (Direct)
032	1-4	Remote Call Forwarding Key	Remote Call FWD 1-4	Remote Call FWD
033		Display Scroll Key	LCD Mode Change	Display
035		Extension Database Display Key	EXT Number	Extension Data
037		Feature Operation Key	Feature	Feature
038		Call Forward Key	Call Forward	Forward
039		Flash Key (Long) €	Flash	Flash (Long)
040		External Group Pick-Up Key	Call Pickup Out	Call P/Up (Extn'l)
042		Intercom Line Termination Key	ICM	ICM
043		Station Lock Password Key	Station Lockout	Station Lock
044		All Call – Press Page Key	Press Page	Press Page
046		Wake-Up Call Key	Wake-Up Call	Wake Up Call
047		Meet-Me Pick-Up Key	Meet Me	Meet Me
048		Memo Dial Key	Memo Dial	Memo Dial
049		Microphone Cut-Off Key	MIC	Mic Off
050		Message Activation Key	MSG	MESSAGE
051		Call Monitoring Key	Monitor	MONITOR
	1	- Can monitoring racy	IVIOLITO	INIO NI I OI I

Class 14 Item 01 – Feature Keys Sorted By (D1) Value (Cont.)

Key data 1 (d1)	Data data 2 (d2)	Feature	Phone Display ([FEAT][#][9] from KT)	PC Programmer (Key Selection Window)
055		Call Park Key	Individual Park	Park
057		Internal Group Pick-Up Key	Call Pickup In	Call P/Up (Intr'l)
058		Call Park Pick-Up Key	Call Park Pickup	Park Pick-up
059		DP to DTMF Signaling Change Key	Dial Reverse	Dial Reverse
060		Automatic Repeat Dialing Key	Auto Repeat Dial	Auto Repeat Dial
061		Time Reminder Key	Reminder	Time Reminder
062		Call Release Key (for headset stations)	Release	Release
064	01-32 (Relay)	Remote Control Key	Relay 1-32	Remote CONTROL
068	or oz (riciay)	Ring Muting	Silence	Tiomolo COIVITIOL
070		Speaker Key	Speaker	Speaker
071		Speed Dial Key	Speed Dial	Speed Dial KEY
071		Flash Key (Short) €	Short Flash	Flash (Short)
072		Saved Dial Key	Save No. Redial	Saved Number Dial
073				I .
		Substitute Key	Substitute	SBS (Substitute)
078		Transfer Key	TRN	TRANSFER
079		Busy Number Callback Key	Timed Trunk Queu	Timed Trk. Queue
081		Voice Message Playing Key €	Message Service	Voice Msg. Play
082		Voice/Data Exchange Key	V-Data Exchange	Voice Data Ex.
083		ICM Calling Mode Key	Calling Mode CHG	Calling Mode
088		Last Number Redial	Last No.Redial	Last Number Dial
089		Supervisor Log In ^A	S.LOG	SUPERVISOR LOG
090		Agent Log In A	LOG	AGENT LOG
092		Flexible Qualification Code Entry A	QUALIFY	MANUAL QUALIFY
93		Not Available ^A	Unavailable	Unavailable
094		Wrap-Up ^A	WRAP	Wrap-up
095		ACD Message Recording ^A	A.REC	ACD MESSAGE RECORD
096		Emergency Recording/Help ^A	EMG	Emergency
097		Help ^A	HELP	Help
098	001-400 (AGT)	Agent Monitoring Key A	AGENT 1-400	AGM-N (N=001-400)
099	01-60,63 (Grp#)	Call Sequence Change ^A	SQC 1-60,63	CALL SEQUENCE CHG.
100		Account Code Entry Key	Account Code	Account Code
101		Call Connect Key ³	Connect	Connect
102		Hold/Do Not Disturb Key	HOLD/DND	HOLD/DND
103		Privacy Release Key	Privacy Release	Privacy Release
104		Universal Night Answering Key	UNA Pickup	UNA
105		Headset Control Key 4,	Headset	Headset
107		Separator Key	Separate	Separate
109		DID Remote Transfer Key	PTRAN	PTRAN
111		Agent Answer Key A	AGT ANS	Agent Answer
125		Hold	Hold	Hold
160		Caller ID/ANI/DNIS Display Change Key €	Display Change	DSPCHG
161		Text Message Key (General) №	TEXTMSG	TEXTMSG
162	00-99 (MSG#)	Text Message Key (General) €	TEXTMSG	TEXTMSG
165	01-29 (Key#)	Virtual Key for IX-DCKT900 €	Wireless Virtual	Wireless Virtual
166	01-23 (Ney#)	Abandoned Call at Trunk (All Trunk Groups)	USAT	USAT
167	01-60 (GRP#)	Abandoned Call at Trunk (All Trunk Groups)	USATn	USATn
	01-00 (GNF#)	€.		
168		Abandoned Call at Station €	USAS	USAS
169		Abandoned Call Delete ◆	USD	USD
170	01-60 (GRP#)	Text Message Group Key €	MSGGPn	MSGGPn
171		Conversation Record	REC	REC
175		VoiceMail Monitor	VML Monitor	VML Monitor

Class 14 Item 01 – Feature Keys Sorted By (D1) Value (Cont.)

Key Assignment Programming Notes:

Flash Key (Short) – Timer programming (short flash) required

Flash Key (Long) – Timer programming (long flash) is required

Group Park Key – System park orbit assignment is required.

Headset Control Key – This key is used only if the station is equipped with a headset.

UNA – Database setting for trunk(s) is required.

Voice Message Playing Key – Playback key is for playback of voice message 1 only.

Floating CO Group Selection Key/Optimized Routing Key If the station is enabled for forced optimized routing in Class 10.33, keys assigned as float keys will function as optimized routing ([OPT]) keys.

The [Display Change] and [PTRAN] keys are available with software versions 4.62/5.62 and higher only.

Text Message, Conversation Record, Virtual Key for IX-DCKT900 and Abandon Call Keys are available with software versions 4.62/5.62 and higher only.

Recommended that this key is assigned to a button with a dual-color LED. Call Coverage Keys ([Immed.], [Delayed], [NoRing]) must be assigned to keys with dual-color LEDs. These features

will not operate on Versa-Phones or key telephones with single-color LED lamps.

(Bin#) Value corresponds to either a system speed dial or personal speed dial bin number.

(GRP#) Value corresponds to a group number, i.e., Hunt Group, CO Group, Park Orbit Group.

(Relay) Value corresponds to the relay number assigned to a miscellaneous function port in Class 04.35.

(SLP) Value corresponds to a station logical port number.(TLP) Value corresponds to a trunk logical port number.

This key is available only with software versions 3.0 and higher.

This key is available only with software versions 4.0 and higher.

A This key is available with ADIX ACD software only.

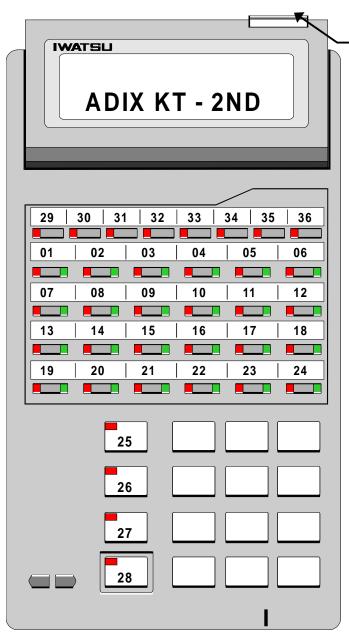
Default Key Patterns and Key Locations

The illustrations and tables on the following pages identify key locations and programming information for ADIX Key Telephones, Versa-Phones and ZT-D Key Telephones using default patterns 1, 2, 3 and 4.

Class 14 Item 01 – Key Assignment (Cont.)

ADIX IX-12KTD-2 and IX-12KTS-2 Key Locations and Default Key Pattern 4

Default key pattern 4 is available in software versions 4.62/5.62 and higher only.



The green LED on the Display Indicator Lamp may be linked to a multipurpose key using Class 10 Item 75 Element 1 as explained later in this document

Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)
01-24	CO LINE	002-(001-024)
25	SPEAKER	070
26	TRANSFER	078
27	FEAT	037
28	HOLD/DND	102
29	ICM	042
30	SPEED	071
31	FLASH	039
32	ADD	025
33	MIC	049
34	FORWARD	038
35	PAGE	044
36	MESSAGE	050

FIGURE 14.01-1

ADIX IX-24KTD/S and IX-8KTD/S Key Locations and Default Key Pattern 1

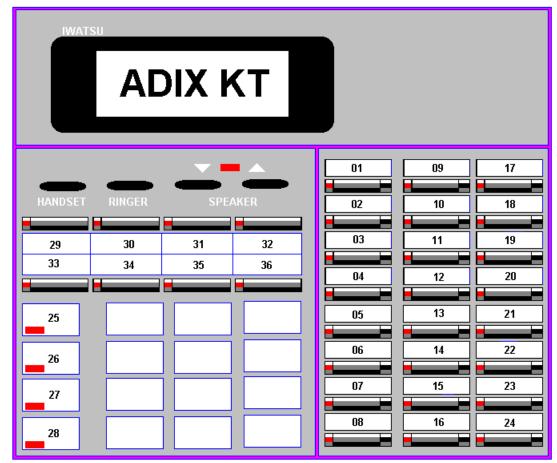


FIGURE 14.01-2

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)	Ī	Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
01			ŀ	19	_	
	CO 1	002-001	ļ		CO 19	002-019
02	CO 2	002-002	ļ	20	CO 20	002-020
03	CO 3	002-003		21	CO 21	002-021
04	CO 4	002-004		22	CO 22	002-022
05	CO 5	002-005	Ī	23	CO 23	002-023
06	CO 6	002-006	Î	24	CO 24	002-024
07	CO 7	002-007	Î	25	SPKR	070-
08	CO 8	002-008	Î	26	TRAN	078-
09	CO 9	002-009	`	27	FEAT	037-
10	CO 10	002-010	Î	28	HOLD/DND	102-
11	CO 11	002-011	Î	29	SPEED	071-
12	CO 12	002-012	Î	30	MIC OFF	049-
13	CO 13	002-013	Î	31	FORWARD	038-
14	CO 14	002-014	Î	32	PAGE	044-
15	CO 15	002-015	Ì	33	ICM	042-
16	CO 16	002-016	Ì	34	ADD	025-
17	CO 17	002-017	İ	35	MESSAGE	050-
18	CO 18	002-018	1	36	FLASH	039-

Note: Buttons 17-24, ADIX-24KT only. Buttons 09-16, ADIX-16KT, ADIX-24KT only.

Class 14 Item 01 – Key Assignment (Cont.)

ADIX KT Key Locations and Default Key Pattern 2

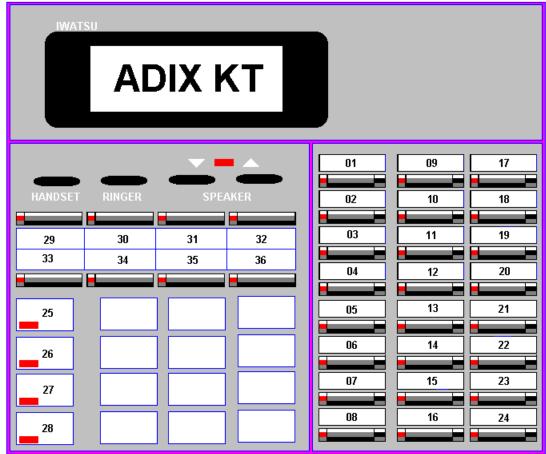


FIGURE 14.01-3

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)		Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
01	FLOAT	003-063	Ī	19	TIME REMIND.	061-
02	FLOAT	003-063	Ī	20	ICM C/B	021-
03	PARK	055-	Ī	21	UNA	104-
04	PARK P/U	058-	Ī	22	ABS. MSG.	022-
05	DISPLAY	033-	Ī	23	REPEAT	060-
06	GROUP P/U	040-	Ī	24	MEMO DIAL	048-
07	TRUNK QU	028-	Ī	25	SPKR	070-
08	SAVE	073-	Ī	26	TRAN	078-
09	SPD 90	020-090	`	27	FEAT	037-
10	SPD 91	020-091	Ī	28	HOLD/DND	102-
11	SPD 92	020-092	Ī	29	SPEED	071-
12	SPD 93	020-093	Ī	30	MIC OFF	049-
13	SPD 94	020-094	Ī	31	FORWARD	038-
14	SPD 95	020-095	Ī	32	PAGE	044-
15	SPD 96	020-096	Î	33	ICM	042-
16	SPD 97	020-097	Ì	34	ADD	025-
17	SPD 98	020-098	Ì	35	MESSAGE	050-
18	SPD 99	020-099	Ì	36	FLASH	039-

Note: Buttons 17-24, ADIX-24KT only. Buttons 09-16, ADIX-16KT, ADIX-24KT only.

Class 14 Item 01 – Key Assignment (Cont.)

ZT-D Key Locations

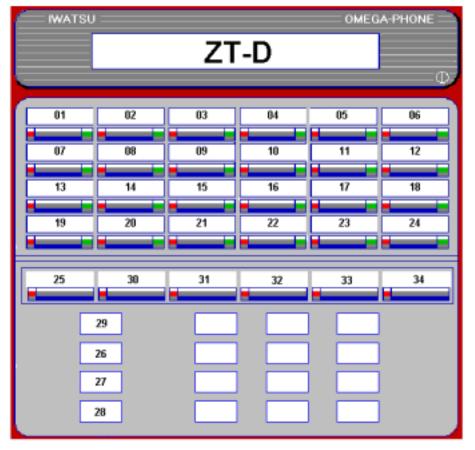


FIGURE 14.01-4

Note: Buttons 13-24, ZT-24K/X only. Buttons 07-12, ZT-12K/X, ZT-24K/X only.

When default key pattern 1 or 2 is assigned to a ZT-D telephone, the key labels listed below do not match the default key assignment. These key assignments can be changed to match the ZT-D labels. Programming for all other keys corresponds to the matching key number on the ADIX KT using default pattern # 1.

ZT-D Label	Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
ICM	25	SPKR	042-000 *
SPKR	29	SPEED	070-000 *
CONF	32	PAGE	025-000 *
FLASH	33	ICM	039-000 *
PAGE	34	ADD	044-000 *

Database Description Chapter 2

Class 14 Item 01 — Key Assignment (Cont.) Default Key Pattern 5 for ZT-D Key Telephones (Software Versions 4.62/5.62 and Higher)

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
01-24	COL 1-COL 24	002-xxx
25	ICM	042
26	TRAN	078
27	FEAT	037
28	HOLD/DND	102
29	SPKR	070
30	MIC	049
31	SPEED	071
32	ADD	025
33	FLASH	039
34	PAGE	044

Class 14 Item 01 — Key Assignment (Cont.) Autodialer Key Locations and Default Key Pattern 1

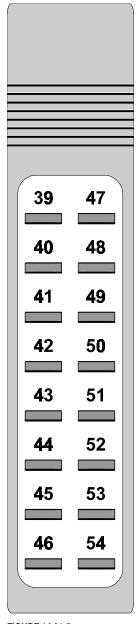


FIGURE 14.01-5

Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)
39	DDS 1	004-001
40	DSS 2	004-002
41	DSS 3	004-003
42	DSS 4	004-004
43	DSS 5	004-005
44	DSS 6	004-006
45	DSS 7	004-007
46	DSS 8	004-008
47	DSS 9	004-009
48	DSS 10	004-010
49	DSS 11	004-011
50	DSS 12	004-012
51	DSS 13	004-013
52	DSS 14	004-014
53	DSS 15	004-015
54	DSS 16	004-016

Class 14 Item 01 — Key Assignment (Cont.) Versa-Phone Key Locations and Default Key Pattern 3

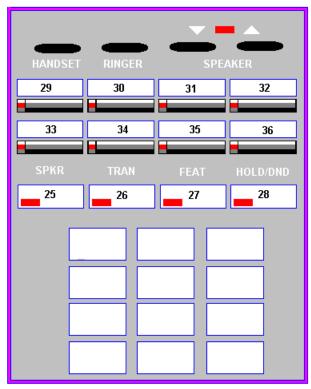


FIGURE 14.01-6

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
25	SPKR	070-
26	TRAN	078-
27	FEAT	037-
28	HOLD/DND	102-
29	FLOAT	003-063
30	PARK	055-
31	PARK P/U	058-
32	SPEED	071-
33	FORWARD	038-
34	ADD	025-
35	MESSAGE	050-
36	FLASH	039-

Class 14 Item 01 – Key Assignment (Cont.)

ZT-S Key Locations (Default Key Pattern 1)

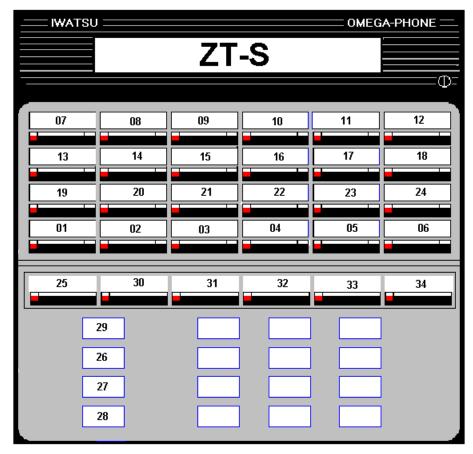


FIGURE 14.01-7

The ADIX default key pattern assignment for the following keys differ from the ZT-S telephone labels. These key assignments can be changed to match the ZT-S labels. Programming for the other keys corresponds to the matching key number on the ADIX KT using default pattern #1 (page 6-373).

Key Number (e2)	Default Key Assignment	ZT-S Label	Key Code (d1-d2)
25	SPKR	ICM	042-000
29	SPEED	SPKR	070-000
31	FORWARD	SPEED	071-000
32	PAGE	ADD	025-000
33	ICM	FLASH	039-000
34	ADD	PAGE	044-000

Attendant Key Assignment

Class 15 – Attendant Key Assignment contains one item, Class 15.01 – Attendant Key Assignment which is used to program flexible key patterns used by the attendant positions. Pattern numbers and default key pattern assignments are listed in the following tables:

Class 14.01

Number	Used For	Class 10.12 Key Assignment Data
001	ADIX and ZT-D key telephone default pattern	001
002	ADIX and ZT-D key telephone pattern with float keys.	002
003	Versa-Phone default pattern	003
004	ADIX IX-12KTD-2, IX-12KTS-2, IX-12ELK key telephone default pattern (software version 4.62/5.62 and higher only)	004
005	ZT-D key telephone default pattern (software version 4.62/5.62 and higher only)	005
006-128	Unassigned station patterns	006 – 128

Class 15.01

Number	Used For	Class 10.12 Key Assignment Data
001	ADIX IX-24KTD/S, IX-8KTD/S KT + DSS Unit(s) default pattern	129
002	Attendant Console default pattern	130
003	Operator KT default pattern	131
004	ADIX IX-12KTD-2, IX-12KTS-2, IX-12ELK KT + DSS default pattern (software version 4.62/5.62 and higher only)	132
005-008	Unassigned Attendant patterns	133-136

Class 16.01

Number	Used For	Class 10.12 Key Assignment Data	
001	BLF default pattern.	Automatically follows the pattern number	
002-008	Unassigned BLF patterns.	assigned for the associated attendant console.	

Attendant Key Assignment

Class 15 Item 01

Class 15 Item 01 – Attendant Key Assignment is used to generate and edit the attendant station flexible key patterns used by KT + DSS unit(s), Attendant KTs and Attendant Consoles. The patterns generated here must be assigned to each individual station in *Class 10.12 – Key Assignment*. Key patterns 1 through 8 used in Class 15.01 correspond with numbers 129 through 136 in Class 10.12. The data for key programming is provided in the tables on the next few pages.

Important: If you are creating a new key pattern based on the default pattern (001), you must first copy the default pattern to the number you have designated for the new key pattern. For example, if you want to add a [FLT n] key to station 001, and you have designated key pattern 004 as the new key pattern, using the copy feature enter:

COPY<01><PNo001> TO <PNo**004:004**>.

Note 1: The following program is recommended when using IX-COMLINK: Key Pattern (Class 10.12, 14.01, 15.01) — key 25=Speaker, key 26=Transfer, key 27=Feature, key 28=Hold/DND. Also recommended for some applications are ICM, SPEED and ADD.

Note 2: The IX-COMLINK does not support the use of the HEADSET key. If a headset is required, it must be connected to the HEADSET connector and used without a KT.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Fields
15.01	<pno1-001></pno1-001>	ATT Key Assign.	002-001

Programming Field Description

Element Meaning: Key pattern.

Field 1 (e1): Range: 1-8

Element Meaning: Key number. **Field 1 (e2):** Range: **001-536**

Data Field 1 Meaning: Key function.

(d1): Range: 0-150

Default: See tables on pages 6-383 to 6-389

Data Field 2 Meaning: Key sub-function.

(d2): Default: See tables on pages 6-383 to 6-389

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 10.12 Key Assignment.

Associated: 14.01 Key Assignment; 16.01 BLF Assignment.

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Related Operation:

To display the key function at an attendant station:
Dial [FEAT] + [#] + [9] + [key]
The key function is displayed.

Attendant Position Feature Keys Sorted By Feature Name

Keys for Features Common to Key Telephones and Versa-Phones

Feature	Phone Display	PC Programmer	Ke	y Data
	([FEAT][#][9] from KT)	(Key Selection Window)	data 1 (d1)	data 2 (d2)
(blank)	No Assign	(blank)	000	
Abandoned Call at Trunk (All trunk Groups) €	USAT	USAT	166	
Abandoned Call at Trunk (Specific Group) €	USATn	USATn	167	01-60(Grp#)
Abandoned Call at Station	USAS	USAS	168	
Abandoned Call Delete Record ♥	USD	USD	169	
Absence Message Key	Absence Message	Absence Message	022	
Account Code Entry Key	Account Code	Account Code	100	
ACD Database Programming Key ^A	A.PROG	ACD Programming	091	
ACD Group ĕ, A	ACD 1-60	ACD-N (N=1-60,63)	012	01-60(Grp#)
ACD Group Night ^A	NIGHT 1-60	ACD Group Night	014	01-60 (Grp#)
ACD Message Recording ^A	A.REC	ACD MESSAGE RECORD	095	
Add-On Conference/Barge-In Key	ADD	ADD	025	
Agent Answer Key A	AGT ANS	Agent Answer	111	
Agent Log In A	LOG	AGENT LOG	090	
Agent Monitoring Key ^A	AGENT 1-400	AGM-N (N=001-400)	098	001-400 (AGT)
All ACD Groups ♂, A	ACD 63	ACD-N (N=1-60,63)	012	63
All Call - Press Page Key	Press Page	Press Page	044	
All Call Page Key	ALL	Paging (All Call)	006	63
Automatic Answer Mode	Automatic Answer	Auto Answer	024	
Automatic Repeat Dialing Key	Auto Repeat Dial	Auto Repeat Dial	060	
Background Music Key Ø	BGM	BGM	026	
Busy Number Callback Key	Timed Trunk Queu	Timed Trk. Queue	079	
Call Connect Key ³	Connect	Connect	101	
Call Coverage Key – Delayed 4, 8	Delayed 1 - 448	CCV - Delayed	009	001-448 (SLP)
Call Coverage Key – Immediate ^{4,} ₹	Immed. 1 - 448	CCV - Immd.	800	001-448 (SLP)
Call Coverage Key – No Ring ^{4,}	No ring 1-448	CCV - NoRing	010	001-448 (SLP)
Call Forward Key	Call Forward	Forward	038	,
Call Monitoring Key	Monitor	MONITOR	051	
Call Park Key	Individual Park	Park	055	
Call Park Pick-Up Key	Call Park Pickup	Park Pick-up	058	
Call Release Key (for headset stations)	Release	Release	062	
Call Sequence Change A	SQC 1-60,63	CALL SEQUENCE CHG.	099	01-60,63 (Grp#)
Caller ID/ANI/DNIS Display Change €	Display Change	Display Change	160	
CNIS Off Key	CNIS OFF	CNIS OFF	173	
Conversation Record ♥	REC	REC	171	
DID Remote Call Transfer ♥	PTRAN	TRAN	109	
E911 Display Clear	E911 Display CLR	E911 Display Clear	174	000
Flash Key (Short) €	Short Flash	Flash (Short)	072	
Flash Key (Long) 🔊	Flash	Flash (Long)	039	

Class 15 Item 01 – Attendant Position Feature Keys Sorted By Feature Name (Cont.) Keys for Features Common to Key Telephones and Versa-Phones

Feature	Phone Display	PC Programmer		
	([FEAT][#][9] from KT)	(Key Selection Window)	data 1	data 2
			(d1)	(d2)
Direct Call Pick-Up Key	Spec. Call Pickup	Call P/Up (Direct)	030	
Direct CO Line Termination Key 8	COL 1-448	CO Line	002	001-448 (TLP)
Direct Station Signaling Key 8	DSS 1-448	DSS	004	001-448 (SLP)
Display Scroll Key	LCD Mode Change	Display	033	, ,
DP to DTMF Signaling Change Key	Dial Reverse	Dial Reverse	059	
Emergency Recording/Help ^A	EMG	Emergency	096	
Extension Database Display Key	EXT Number	Extension Data	035	
External Group Pick-Up Key	Call Pickup Out	Call P/Up (Extn'l)	040	
Feature Operation Key	Feature	Feature	037	
Fixed Qualification Code Entry A	QUALIFY 000-999	FIXED QUALIFY-N	015	000-999
Flexible Qualification Code Entry A	QUALIFY	MANUAL QUALIFY	092	
Floating CO Group Selection Key ∅, €	FLT	CO Float	003	63
Floating CO Group Termination Key 8	FLT 1-60	CO Float	003	01-60 (Grp#)
Group Call Key (internal page groups)	Group 1-30	Paging (Grp. Call)	006	01-30 (Grp#)
Group Park Key €	Group Park 1-60	Grp. Park	001	01-60 (Grp#)
Headset Control Key 4, €	Headset	Headset	105	, ,
Help ^A	HELP	Help	097	
Hold	Hold	Hold	125	
Hold/Do Not Disturb Key	HOLD/DND	HOLD/DND	102	
Hunt Group Key (external page groups)	Hunting	Hunt Group	005	01-60 (Grp#)
ICM Calling Mode Key	Calling Mode CHG	Calling Mode	083	, ,
Intercom Line Call Back Key	ICM Call Back	ICM Call Back	021	
Intercom Line Termination Key Ø	ICM	ICM	042	
Internal Group Pick-Up Key	Call Pickup In	Call P/Up (Intr'l)	057	
Last Number Redial	Last No.Redial	Last Number Dial	088	
Meet-Me Pick-Up Key	Meet Me	Meet Me	047	
Memo Dial Key	Memo Dial	Memo Dial	048	
Message Activation Key	MSG	MESSAGE	050	
Message Record Key	Message Record	Voice Msg. Rec.	080	
Microphone Cut-Off Key	MIC	Mic Off	049	
Night Mode Key	Night Change	Night	052	
Not Available A	Unavailable	Unavailable	093	
Optimized Key	FLT 00	FLT 00	003	000
Optimized Routing [OPT] Key ĕ, €	FLT	CO Float	003	63
Override Key	Over Ride	Override	054	
Privacy Release Key	Privacy Release	Privacy Release	103	
Queued Call Indication &, A	QUEUE 1-60	Queue-n	013	01-60 (Grp#)
Remote Call Forwarding Key	Remote Call FWD 1-4	Remote Call FWD	032	1-4
Remote Control Key	Relay 1-32	Remote CONTROL	064	01-32 (Relay)
Saved Dial Key	Save No. Redial	Saved Number Dial	073	, ,
Separator Key	Separate	Separate	107	
Speaker Key Ø	Speaker	Speaker	070	
Speed Dial Key	Speed Dial	Speed Dial KEY	071	
Speed Dial Key (Personal)— One-Touch	Speed Dial 90-99	Speed Dial (STA)	020	90-99 (Bin#)
Speed Dial Key (System)— One-Touch	System Speed 000-899	Speed Dial (SYS)	019	00-89, 000- 899 (Bin#)
Station Lock Password Key	Station Lockout	Station Lock	043	\ /
Substitute Key	Substitute	SBS (Substitute)	074	

Class 15 Item 01 – Attendant Position Feature Keys Sorted By Feature Name (Cont.) Keys for Features Common to Key Telephones and Versa-Phones

Feature Phone Display P		PC Programmer	Key	Data Data
	([FEAT][#][9] from KT)	(Key Selection Window)	data 1	data 2
			(d1)	(d2)
Supervisor Log In ^A	S.LOG	SUPERVISOR LOG	089	
Time Reminder Key	Reminder	Time Reminder	061	
Transfer Key	TRN	TRANSFER	078	
Text Message Key (General) €	TEXTMSG	TEXTMSG	161	
Text Message Key (Preprogrammed) №	TEXTMSGn	TEXTMSGn	162	00-99 (MSG#)
Text Message Group Key <a>™	MSGGPn	MSGGPn	170	01-60 (Grp#)
Trunk Call Back Queuing Key	Trunk Queuing	Trunk Queuing	028	
Universal Night Answering Key €	UNA Pickup	UNA	104	
Voice Mailbox Access Key 4	VML Hunting	Mailbox Access	011	47-50
Voice Mail Monitor	VML Monitor	VML Monitor	175	000
Voice Message Playing Key <a> 	Message Service	Voice Msg. Play	081	
Voice/Data Exchange Key	V-Data Exchange	Voice Data Ex.	082	
Wake-Up Call Key	Wake-Up Call	Wake Up Call	046	
Wrap-Up ^A	WRAP	Wrap-up	094	
Zone Paging Key	Zone 1	Paging Zone	006	31-60 (Grp#)

Keys for Attendant Consoles/DSS Units Only

Feature	Phone	PC	Key	Data
	Display	Programmer	data 1 (d1)	data 2 (d2)
Attendant Answering Key	ATT Answer	Answer	023	
Station Class-of-Service Change Key ^S	Station Service	STATION COS Change	069	
Clock Adjustment Key ^S	Time Set	CLOCK Adjust	027	
Line Connect Key	Connect	Connect	101	
Connect With Supervise Key 4	Connect SUP	Connect SUPERVISE	029	
Destination Key	Destination	Destination	034	
Forced Release Key	Forced Release	Forced Release	036	
Group Night Transfer Key ^S	GP. Night Change	Group Night	041	
Message Wait Control Key	Message Wait CNT	Message Control	045	
Night Transfer Key	Night Change	Night	052	
Operator Call Termination Key	Operator	Operator	053	
Programming Key	Programming	PROGRAMMING Mode	056	
Recall Termination Key	Recall Answer	Recall	063	
BLF Page Control Key	Screen n	Screen	076	1, 2
Serial Call Key	Serial Call	Serial	066	
Stop Ringing Key	Silence	Silent	068	
Source Key	Source	SOURCE	075	
Call Swap Key	Split	Call Swap	067	
Trunk /Trunk Group Access Control Key	Trunk Access CNT	Trunk Access Ctrl	077	
Voice Synthesizer Recording Key	Message Record	Voice Msg. Rec.	080	

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Keys for Hotel/Motel Use

Feature	Phone PC		Key	Key Data	
	Display	Programmer	data 1 (d1)	data 2 (d2)	
Cleaned Room	Cleaning	Clean	085		
Occupied Room	Occupied	Occupy	086		
Reserved	Go Out	Reserved	087		
Vacant Room	Vacancy	Vacant	084		
Wake-Up Call	Wake Up Call ATT	Wake Up Call CTRL	065		

Programming Notes:

Flash Key (Short) – Timer programming (short flash) required

Flash Key (Long) – Timer programming (long flash) is required

Group Park Key – System park orbit assignment is required.

Headset Control Key – This key is used only if the station is equipped with a headset.

UNA – Database setting for trunk(s) is required.

Voice Message Playing Key – Playback key is for playback of voice message 1 only.

Floating CO Group Selection/Optimized Routing Key If the station is enabled for forced optimized routing in Class 10.33, keys assigned as float keys will function as optimized routing ([OPT]) keys.

The [Display Change] and [PTRAN] keys are available with software versions 4.62/5.62 and higher only.

Text Message, Conversation Record, Virtual Key for IX-DCKT900 and Abandon Call Keys are available with software versions 4.62/5.62 and higher only.

Recommended that this key is assigned to a button with a dual-color LED. Call Coverage Keys ([Immed.], [Delayed], [NoRing]) must be assigned to keys with dual-color LEDs. These features will not operate on Versa-Phones or key telephones with single-color LED lamps.

This key cannot be programmed on an IX-ATT Attendant Console.

This key is available only with software versions 3.0 and higher.

This key is available only with software versions 4.0 and higher.

(Bin#) Value corresponds to either a system speed dial or personal speed dial bin number.

(GRP#) Value corresponds to a group number, i.e., Hunt Group, CO Group, Park Orbit Group.

(Relay) Value corresponds to the relay number assigned to a miscellaneous function port in Class 04.35.

(SLP) Value corresponds to a station logical port number.

(TLP) Value corresponds to a trunk logical port number.

A This key is available with ADIX ACD software only.

S Assigned to an Attendant Console Soft Key.

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Attendant Position Feature Keys Sorted By (D1) Value

Keys for Features Common to Key Telephones and Versa-Phones

Key Data data 1 (d1)	data 2 (d2)	Feature	Phone Display ([FEAT][#][9] from KT)	PC Programmer (Key Selection Window)
000		(blank)	No Assign	(blank)
001	01-60 (Grp#)	Group Park Key ♥	Group Park 1-60	Grp. Park
002	001-448 (TLP)	Direct CO Line Termination Key	COL 1-448	CO Line
003	63	Floating CO Group/ Optimized Routing Key &, 👟	FLT	CO Float
003	01-60 (Grp#)	Floating CO Group Termination Key ₹	FLT 1-60	CO Float
004	001-448 (SLP)	Direct Station Signaling Key ₹	DSS 1-448	DSS
005	01-60 (Grp#)	Hunt Group Key (external page groups)	Hunting	Hunt Group
006	63	All Call Page Key	ALL	Paging (All Call)
006	01-30 (Grp#)	Group Call Key (internal page groups)	Group 1-30	Paging (Grp. Call)
006	31-60 (Grp#)	Zone Paging Key	Zone 1	Paging Zone
008	001-448 (SLP)	Call Coverage Key – Immediate ^{4,}	Immed. 1 - 448	CCV - Immd.
009	001-448 (SLP)	Call Coverage Key – Delayed ^{4,}	Delayed 1 - 448	CCV - Delayed
010	001-448 (SLP)	Call Coverage Key – No Ring 4, 8	No ring 1-448	CCV - NoRing
011	47-50	Voice Mailbox Access Key ⁴	VML Hunting	Mailbox Access
012	01-60(Grp#)	ACD Group ♂, A	ACD 1-60	ACD-N (N=1-60,63)
012	63	All ACD Groups ♂, A	ACD 63	ACD-N (N=1-60,63)
013	01-60 (Grp#)	Queued Call Indication 8, A	QUEUE 1-60	Queue-n
014	01-60 (Grp#)	ACD Group Night ^A	NIGHT 1-60	ACD Group Night
015	000-999	Fixed Qualification Code Entry A	QUALIFY 000-999	FIXED QUALIFY-N
019	00-89, 000- 899 (Bin#)	Speed Dial Key (System) - One-Touch	System Speed 000-899	Speed Dial (SYS)
020	90-99 (Bin#)	Speed Dial Key (Personal)— One-Touch	Speed Dial 90-99	Speed Dial (STA)
021	, ,	Intercom Line Call Back Key	ICM Call Back	ICM Call Back
022		Absence Message Key	Absence Message	Absence Message
024		Automatic Answer Mode	Automatic Answer	Auto Answer
025		Add-On Conference/Barge-In Key	ADD	ADD
026		Background Music Key ∅	BGM	BGM
028		Trunk Call Back Queuing Key	Trunk Queuing	Trunk Queuing
030		Direct Call Pick-Up Key	Spec. Call Pickup	Call P/Up (Direct)
032	1-4	Remote Call Forwarding Key	Remote Call FWD 1-4	Remote Call FWD
033		Display Scroll Key	LCD Mode Change	Display
035		Extension Database Display Key	EXT Number	Extension Data
037		Feature Operation Key	Feature	Feature
038		Call Forward Key	Call Forward	Forward
039		Flash Key (Long) ♥	Flash	Flash (Long)
040		External Group Pick-Up Key	Call Pickup Out	Call P/Up (Extn'l)
042		Intercom Line Termination Key [∅]	ICM	ICM
043		Station Lock Password Key	Station Lockout	Station Lock
044		All Call - Press Page Key	Press Page	Press Page
046		Wake-Up Call Key	Wake-Up Call	Wake Up Call
047		Meet-Me Pick-Up Key	Meet Me	Meet Me
048		Memo Dial Key	Memo Dial	Memo Dial
049		Microphone Cut-Off Key	MIC	Mic Off

Class 15 Item 01 – Attendant Position Feature Keys Sorted By (D1) Value (Cont.) Keys for Features Common to Key Telephones and Versa-Phones

Key Data data 1 (d1)	data 2 (d2)	Feature	Phone Display ([FEAT][#][9] from KT)	PC Programmer (Key Selection Window)
050		Message Activation Key	MSG	MESSAGE
051		Call Monitoring Key	Monitor	MONITOR
052		Night Mode Key	Night Change	Night
054		Override Key	Over Ride	Override
055		Call Park Key	Individual Park	Park
057		Internal Group Pick-Up Key	Call Pickup In	Call P/Up (Intr'l)
058		Call Park Pick-Up Key	Call Park Pickup	Park Pick-up
059		DP to DTMF Signaling Change Key	Dial Reverse	Dial Reverse
060		Automatic Repeat Dialing Key	Auto Repeat Dial	Auto Repeat Dial
061		Time Reminder Key	Reminder	Time Reminder
062		Call Release Key (for headset stations)	Release	Release
064	01-32 (Relay)	Remote Control Key	Relay 1-32	Remote CONTROL
070	()	Speaker Key [∅]	Speaker	Speaker
071		Speed Dial Key	Speed Dial	Speed Dial KEY
072		Flash Key (Short) ♥	Short Flash	Flash (Short)
073		Saved Dial Key	Save No. Redial	Saved Number Dial
074		Substitute Key	Substitute	SBS (Substitute)
078		Transfer Key	TRN	TRANSFER
079		Busy Number Callback Key	Timed Trunk Queu	Timed Trk. Queue
080		Message Record Key	Message Record	Voice Msg. Rec.
081		Voice Message Playing Key ♥	Message Service	Voice Msg. Play
082		Voice/Data Exchange Key	V-Data Exchange	Voice Nisg. 1 lay Voice Data Ex.
083		ICM Calling Mode Key	Calling Mode CHG	Calling Mode
088		Last Number Redial	Last No.Redial	Last Number Dial
089		Supervisor Log In ^A	S.LOG	SUPERVISOR LOG
090		Agent Log In A	LOG	AGENT LOG
091		ACD Database Programming Key A	A.PROG	ACD Programming
092		Flexible Qualification Code Entry A	QUALIFY	MANUAL QUALIFY
093		Not Available ^A	Unavailable	Unavailable
094		Wrap-Up ^A	WRAP	Wrap-up
095		ACD Message Recording ^A	A.REC	ACD MESSAGE RECORD
096		Emergency Recording/Help ^A	EMG	Emergency
097		Help A	HELP	Help
098	001-400 (AGT)	Agent Monitoring Key ^A	AGENT 1-400	AGM-N (N=001-400)
099	01-60,63 (Grp#)	Call Sequence Change ^A	SQC 1-60,63	CALL SEQUENCE CHG.
100	` ' '	Account Code Entry Key	Account Code	Account Code
101		Call Connect Key ³	Connect	Connect
102		Hold/Do Not Disturb Key	HOLD/DND	HOLD/DND
103		Privacy Release Key	Privacy Release	Privacy Release
104		Universal Night Answering Key	UNA Pickup	UNA
105		Headset Control Key ^{4,} №	Headset	Headset
107		Separator Key	Separate	Separate
109		DID Remote Transfer Key	PTRAN	(not available)
111		Agent Answer Key A	AGT ANS	Agent Answer
125		Hold	Hold	Hold
160		Caller ID/ANI/DNIS Display Change Key	Display Change	(not available)
161		Text Message Key (General) №	TEXTMSG	TEXTMSG

Class 15 Item 01 – Attendant Position Feature Keys Sorted By (D1) Value (Cont.)

Keys for Features Common to Key Telephones and Versa-Phones

Key Data data 1	data 2	Feature	Phone Display ([FEAT][#][9] from KT)	PC Programmer (Key Selection Window)
(d1)	(d2)		(L 11-11-1	,
167	01-60 (GRP#)	Abandoned Call at Trunk (Specific Trunk Group) 🔊	USATn	USATn
168		Abandoned Call at Station <a>™	USAS	USAS
169		Abandoned Call Delete <a>™	USD	USD
170	01-60 (GRP#)	Text Message Group Key ♥	MSGGPn	MSGGPn
171		Conversation Record ♥	REC	REC
174		E911 Display Clear	E911 Display CLR	E911 Display Clear
175	000	VoiceMail Monitor	VML Monitor	VML Monitor

Keys for Attendant Consoles/DSS Units Only

Key	Data	Feature	Phone	PC
data 1	data 2		Display	Programmer
(d1)	(d2)			
023		Attendant Answering Key	ATT Answer	Answer
027		Clock Adjustment Key ^S	Time Set	CLOCK Adjust
029		Connect With Supervise Key 4	Connect SUP	Connect SUPERVISE
034		Destination Key	Destination	Destination
036		Forced Release Key	Forced Release	Forced Release
041		Group Night Transfer Key ^S	GP. Night Change	Group Night
045		Message Wait Control Key	Message Wait CNT	Message Control
052		Night Transfer Key	Night Change	Night
053		Operator Call Termination Key	Operator	Operator
056		Programming Key	Programming	PROGRAMMING Mode
063		Recall Termination Key	Recall Answer	Recall
066		Serial Call Key	Serial Call	Serial
067		Call Swap Key	Split	Call Swap
068		Stop Ringing Key	Silence	Silent
069		Station Class-of-Service Change Key ^S	Station Service	STATION COS Change
075		Source Key	Source	SOURCE
076	1, 2	BLF Page Control Key	Screen n	Screen
077		Trunk /Trunk Group Access Control Key	Trunk Access CNT	Trunk Access Ctrl
080		Voice Synthesizer Recording Key	Message Record	Voice Msg. Rec.
101		Line Connect Key	Connect	Connect

Keys for Hotel/Motel Use

Key Data data 1 (d1)	data 2 (d2)	Feature	Phone Display	PC Programmer
085		Cleaned Room	Cleaning	Clean
086		Occupied Room	Occupied	Occupy
087		Reserved	Go Out	Reserved
084		Vacant Room	Vacancy	Vacant
065		Wake-Up Call	Wake Up Call ATT	Wake Up Call CTRL

Programming Notes:

Flash Key (Short) – Timer programming (short flash) required

Flash Key (Long) - Timer programming (long flash) is required

Group Park Key – System park orbit assignment is required.

Headset Control Key – This key is used only if the station is equipped with a headset.

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Key Assignment Programming Notes (Cont.):

UNA – Database setting for trunk(s) is required.

Voice Message Playing Key – Playback key is for playback of voice message 1 only.

Floating CO Group Selection/Optimized Routing Key If the station is enabled for forced optimized routing in Class 10.33, keys assigned as float keys will function as optimized routing ([OPT]) keys. The **[Display Change]** and **[PTRAN]** keys are available with software versions 4.62/5.62 and higher only.

Text Message, Conversation Record, Virtual Key for IX-DCKT900 and Abandon Call Keys are available with software versions 4.62/5.62 and higher only.

- Recommended that this key is assigned to a button with a dual-color LED. **Call Coverage Keys** ([Immed.], [Delayed], [NoRing]) must be assigned to keys with dual-color LEDs. These features will not operate on Versa-Phones or key telephones with single-color LED lamps.
- This key cannot be programmed on an IX-ATT Attendant Console.
- This key is available only with software versions 3.0 and higher.
- This key is available only with software versions 4.0 and higher.
- (Bin#) Value corresponds to either a system speed dial or personal speed dial bin number.

 (GRP#) Value corresponds to a group number, i.e., Hunt Group, CO Group, Park Orbit Group.
- (Relay) Value corresponds to the relay number assigned to a miscellaneous function port in Class 04.35.
- (SLP) Value corresponds to a station logical port number.(TLP) Value corresponds to a trunk logical port number.
- A This key is available with ADIX ACD software only.
- S Assigned to an Attendant Console Soft Key.

Default Key Patterns and Key Locations for Attendant Positions

The illustrations and tables on the following pages identify key locations and programming information for ADIX Key Telephones + DSS unit(s), attendant consoles and operator KTs using default patterns 1, 2 and 4 (129, 130, 132).

Class 15 Item 01 – Attendant Key Assignment (Cont.)

ADIX IX-12KTD-2, Auto Dialer, DSS Unit(s) Key Locations and Default Key Pattern 1 (132)

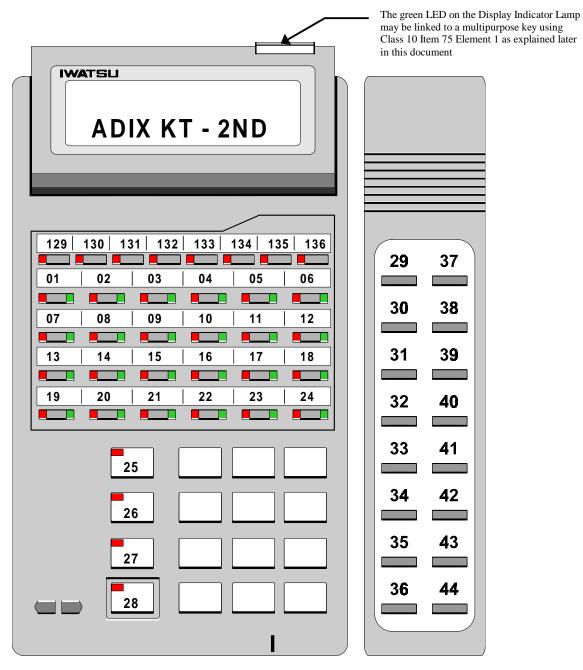


FIGURE 15.01-1

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Default Key Pattern 4 (132)for IX-12KTD-2 and IX-12KTS-2 (Software Version 4.62/5.62 Only)

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
01-24	CO LINE	002-(001-024)
25	SPEAKER	070
26	TRANSFER	078
27	FEAT	037
28	HOLD/DND	102
129	ICM	042
130	SPEED	071

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
131	FLASH	039
132	ADD	025
133	MIC	049
134	FORWARD	038
135	PAGE	044
136	MESSAGE	050

IX-DSS-A-2 Key Locations

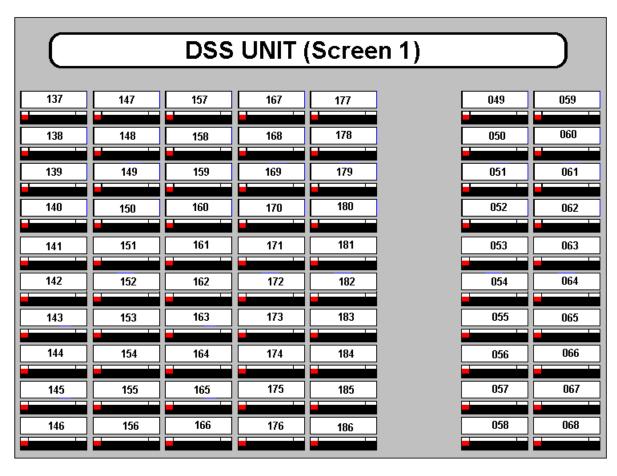


FIGURE 15.01-2

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Default Key Pattern 4 (132) for IX-DSS-A-2 (Software Version 4.62/5.62 Only)

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
049	SCREEN 1	076-001
050	CLASS	069-
051	CLOCK	027-
052	MSG.CTRL	045-
053	ICM C/B	021-
054	PARK	055-
055	SWAP	067-
056	OVER	054-
057	ALL PAGE	006-063
058	ANSWER	023-
059	SCREEN 2	076-002
060	NIGHT	052-
061	PROGRAM	056-
062	SILENT	068-
063	MEMO	048-
064	PARK P/U	058-
065	SERIAL	066-
066	RECALL	063-
067	RELEASE	062-
068	CONNECT	101-
137	DSS 1	004-001
138	DSS 2	004-002
139	DSS 3	004-003
140	DSS 4	004-004
141	DSS 5	004-005
142	DSS 6	004-006
143	DSS 7	004-007
144	DSS 8	004-008
145	DSS 9	004-009
146	DSS 10	004-010
147	DSS 11	004-011
148	DSS 12	004-012
149	DSS 13	004-013
150	DSS 14	004-014
151	DSS 15	004-015

Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)
152	DSS 16	004-016
153	DSS 17	004-017
154	DSS 18	004-018
155	DSS 19	004-019
156	DSS 20	004-020
157	DSS 21	004-021
158	DSS 22	004-022
159	DSS 23	004-023
160	DSS 24	004-024
161	DSS 25	004-025
162	DSS 26	004-026
163	DSS 27	004-027
164	DSS 28	004-028
165	DSS 29	004-029
166	DSS 30	004-030
167	DSS 31	004-031
168	DSS 32	004-032
169	DSS 33	004-033
170	DSS 34	004-034
171	DSS 35	004-035
172	DSS 36	004-036
173	DSS 37	004-037
174	DSS 38	004-038
175	DSS 39	004-039
176	DSS 40	004-040
177	DSS 41	004-041
178	DSS 42	004-042
178	DSS 43	004-043
180	DSS 44	004-044
181	DSS 45	004-045
182	DSS 46	004-046
183	DSS 47	004-047
184	DSS 48	004-048
185	DSS 49	004-049
186	DSS 50	004-050

Programming Notes:

Function Keys (keys 049-168) are available on DSS Unit 1 only.

The default patterns of other DSS Consoles/Screens is as follows:

- DSS 1/Screen 2 buttons are not assigned.
- DSS 2/Screen 1 buttons are assigned as DSS 51 through DSS 100.
- DSS 2/Screen 2 buttons are not assigned.
- DSS 3/Screen 1 buttons are assigned as DSS 101 through DSS 150.
- DSS 3/Screen 2 buttons are not assigned.
- DSS 4/Screen 1 buttons are assigned as DSS 151 through DSS 200.

Class 15 Item 01 – Attendant Key Assignment (Cont.)

IX-DSS-A-2 Unit Key Locations and Default Key Pattern 132

	DSS 1/2/3/4				
SCREEN 1	137/187/237/287	147/197/247/297	157/207/257/307	167/217/267/317	177/227/377/327
SCREEN 2	337/387/437/487	347/397/447/497	357/407/457/507	367/417/467/517	377/427/477/527
SCREEN 1	138/288/238/288	148/198/248/298	158/208/258/308	168/218/268/318	178/228/378/328
SCREEN 2	338/388/438/488	348/398/448/498	358/408/458/508	368/418/468/518	378/428/478/528
SCREEN 1	139/189/239/289	149/199/249/299	159/209/259/309	169/219/269/319	179/229/379/329
SCREEN 2	339/389/439/489	349/399/449/499	359/409/458/509	369/419/469/519	379/429/479/529
SCREEN 1	140/190/240/290	150/200/250/300	160/210/260/310	170/220/270/320	180/230/280/330
SCREEN 2	340/390/440/490	350/400/450/500	360/410/460/510	370/420/470/520	380/430/480/530
SCREEN 1	141/191/241/291	151/201/251/301	161/211/261/311	171/221/271/321	181/231/281/331
SCREEN 2	341/391/441/491	351/401/451/501	361/411/461/511	370/421/471/521	381/431/481/531
SCREEN 1	142/192/242/292	152/202/252/302	162/212/262/312	172/222/272/322	182/232/282/332
SCREEN 2	342/392/442/492	352/402/452/502	362/412/462/512	372/422/472/522	382/432/482/532
SCREEN 1	143/193/243/293	153/203/253/303	163/213/263/313	173/223/273/323	183/233/283/333
SCREEN 2	343/393/443/493	353/403/453/503	363/413/463/513	373/423/473/523	383/433/483/533
SCREEN 1	144/194/244/294	154/204/254/304	164/214/264/314	174/224/274/324	184/234/284/334
SCREEN 2	344/391/444/494	354/404/454/504	364/414/464/514	374/424/474/524	384/432/484/534
SCREEN 1	145/195/245/295	155/205/255/305	165/215/265/315	175/225/275/325	185/235/285/335
SCREEN 2	345/395/445/495	355/405/455/505	365/415/465/515	375/425/475/525	385/435/485/535
SCREEN 1	146/196/246/296	156/206/256/306	166/216/266/316	176/226/276/326	186/236/286/336
SCREEN 2	346/396/446/496	356/406/456/506	366/416/466/516	376/426/476/526	386/436/486/536

Note: The function keys are inactive on DSS Units 2-4.

Class 15 Item 01 – Attendant Key Assignment (Cont.)

ADIX IX-24KTD/S, IX-8KTD/S Key Locations and Default Key Pattern 1 (129)

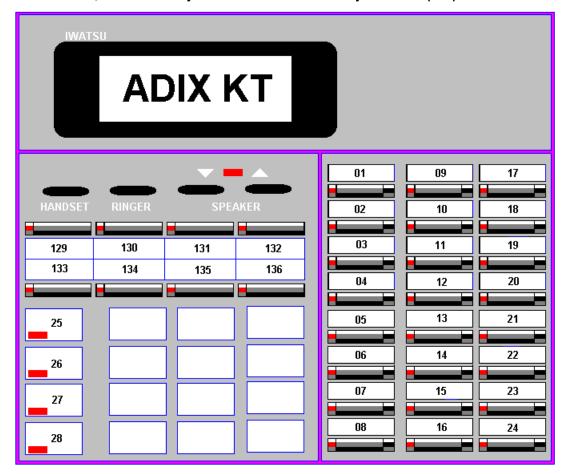


FIGURE 15.01-3

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)		Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
001	CO 1	002-001	Ī	019	CO 19	002-019
002	CO 2	002-002	Ī	020	CO 20	002-020
003	CO3	002-003	Ī	021	CO 21	002-021
004	CO 4	002-004	Ī	022	CO 22	002-022
005	CO 5	002-005	Ī	023	CO 23	002-023
006	CO 6	002-006	Ī	024	CO 24	002-024
007	CO 7	002-007	Ī	025	SPKR	070-
008	CO8	002-008	Ī	026	TRAN	078-
009	CO 9	002-009	`	027	FEAT	037-
010	CO 10	002-010	Ī	028	HOLD/DND	102-
011	CO 11	002-011	Ī	129	SPEED	071-
012	CO 12	002-012	Ī	130	MIC OFF	049-
013	CO 13	002-013	Ī	131	FORWARD	038-
014	CO 14	002-014	Ī	132	PAGE	044-
015	CO 15	002-015	Ì	133	ICM	042-
016	CO 16	002-016		134	ADD	025-
017	CO 17	002-017		135	MESSAGE	050-
018	CO 18	002-018		136	FLASH	039-

Note: Buttons 17-24, ADIX-24KT only. Buttons 09-16, ADIX-16KT, ADIX-24KT only.

Class 15 Item 01 — Attendant Key Assignment (Cont.) Autodialer Key Locations and Default Key Pattern 1 (129)

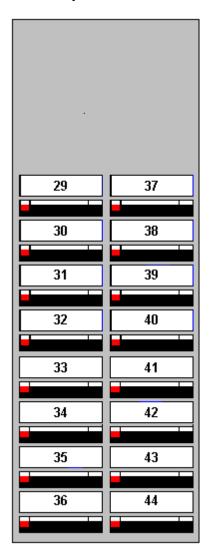


FIGURE 15.01-4

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
029	DSS 1	004-001
030	DSS 2	004-002
031	DSS 3	004-003
032	DSS 4	004-004
033	DSS 5	004-005
034	DSS 6	004-006
035	DSS 7	004-007
036	DSS 8	004-008
037	DSS 9	004-009
038	DSS 10	004-010
039	DSS 11	004-011
040	DSS 12	004-012
041	DSS 13	004-013
042	DSS 14	004-014
043	DSS 15	004-015
044	DSS 16	004-016

Class 15 Item 01 – Attendant Key Assignment (Cont.)

DSS Unit Key Locations

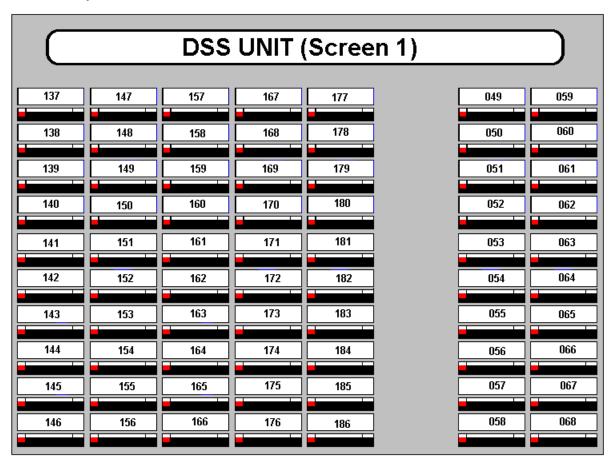


FIGURE 15.01-5

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Default Key Pattern 1 (129) for DSS Unit(s)

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
049	SCREEN 1	076-001
050	CLASS	069-
051	CLOCK	027-
052	MSG.CTRL	045-
053	ICM C/B	021-
054	PARK	055-
055	SWAP	067-
056	OVER	054-
057	ALL PAGE	006-063
058	ANSWER	023-
059	SCREEN 2	076-002
060	NIGHT	052-
061	PROGRAM	056-
062	SILENT	068-
063	MEMO	048-
064	PARK P/U	058-
065	SERIAL	066-
066	RECALL	063-
067	RELEASE	062-
068	CONNECT	101-
137	DSS 1	004-001
138	DSS 2	004-002
139	DSS 3	004-003
140	DSS 4	004-004
141	DSS 5	004-005
142	DSS 6	004-006
143	DSS 7	004-007
144	DSS 8	004-008
145	DSS 9	004-009
146	DSS 10	004-010
147	DSS 11	004-011
148	DSS 12	004-012
149	DSS 13	004-013
150	DSS 14	004-014
151	DSS 15	004-015

Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)
152	DSS 16	004-016
153	DSS 17	004-017
154	DSS 18	004-018
155	DSS 19	004-019
156	DSS 20	004-020
157	DSS 21	004-021
158	DSS 22	004-022
159	DSS 23	004-023
160	DSS 24	004-024
161	DSS 25	004-025
162	DSS 26	004-026
163	DSS 27	004-027
164	DSS 28	004-028
165	DSS 29	004-029
166	DSS 30	004-030
167	DSS 31	004-031
168	DSS 32	004-032
169	DSS 33	004-033
170	DSS 34	004-034
171	DSS 35	004-035
172	DSS 36	004-036
173	DSS 37	004-037
174	DSS 38	004-038
175	DSS 39	004-039
176	DSS 40	004-040
177	DSS 41	004-041
178	DSS 42	004-042
178	DSS 43	004-043
180	DSS 44	004-044
181	DSS 45	004-045
182	DSS 46	004-046
183	DSS 47	004-047
184	DSS 48	004-048
185	DSS 49	004-049
186	DSS 50	004-050

Programming Notes:

Function Keys (keys 049-168) are available on DSS Unit 1 only.

The default patterns of other DSS Consoles/Screens is as follows:

- DSS 1/Screen 2 buttons are not assigned.
- DSS 2/Screen 1 buttons are assigned as DSS 51 through DSS 100.
- DSS 2/Screen 2 buttons are not assigned.
- DSS 3/Screen 1 buttons are assigned as DSS 101 through DSS 150.
- DSS 3/Screen 2 buttons are not assigned.
- DSS 4/Screen 1 buttons are assigned as DSS 151 through DSS 200.

Class 15 Item 01 — Attendant Key Assignment (Cont.) DSS Unit Key Locations and Default Key Pattern 129

	DSS 1/2/3/4				
SCREEN 1	137/187/237/287	147/197/247/297	157/207/257/307	167/217/267/317	177/227/377/327
SCREEN 2	337/387/437/487	347/397/447/497	357/407/457/507	367/417/467/517	377/427/477/527
SCREEN 1	138/288/238/288	148/198/248/298	158/208/258/308	168/218/268/318	178/228/378/328
SCREEN 2	338/388/438/488	348/398/448/498	358/408/458/508	368/418/468/518	378/428/478/528
SCREEN 1	139/189/239/289	149/199/249/299	159/209/259/309	169/219/269/319	179/229/379/329
SCREEN 2	339/389/439/489	349/399/449/499	359/409/458/509	369/419/469/519	379/429/479/529
SCREEN 1	140/190/240/290	150/200/250/300	160/210/260/310	170/220/270/320	180/230/280/330
SCREEN 2	340/390/440/490	350/400/450/500	360/410/460/510	370/420/470/520	380/430/480/530
SCREEN 1	141/191/241/291	151/201/251/301	161/211/261/311	171/221/271/321	181/231/281/331
SCREEN 2	341/391/441/491	351/401/451/501	361/411/461/511	370/421/471/521	381/431/481/531
SCREEN 1	142/192/242/292	152/202/252/302	162/212/262/312	172/222/272/322	182/232/282/332
SCREEN 2	342/392/442/492	352/402/452/502	362/412/462/512	372/422/472/522	382/432/482/532
SCREEN 1	143/193/243/293	153/203/253/303	163/213/263/313	173/223/273/323	183/233/283/333
SCREEN 2	343/393/443/493	353/403/453/503	363/413/463/513	373/423/473/523	383/433/483/533
SCREEN 1	144/194/244/294	154/204/254/304	164/214/264/314	174/224/274/324	184/234/284/334
SCREEN 2	344/391/444/494	354/404/454/504	364/414/464/514	374/424/474/524	384/432/484/534
SCREEN 1	145/195/245/295	155/205/255/305	165/215/265/315	175/225/275/325	185/235/285/335
SCREEN 2	345/395/445/495	355/405/455/505	365/415/465/515	375/425/475/525	385/435/485/535
SCREEN 1	146/196/246/296	156/206/256/306	166/216/266/316	176/226/276/326	186/236/286/336
SCREEN 2	346/396/446/496	356/406/456/506	366/416/466/516	376/426/476/526	386/436/486/536

Note: The function keys are inactive on DSS Units 2-4.

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Attendant Console Key Locations

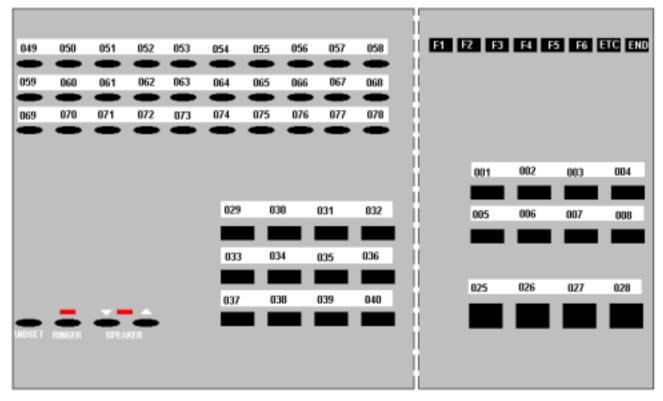


FIGURE 15.01-6

Note: The function keys on the Attendant Console cannot be programmed.

Class 15 Item 01 — Attendant Key Assignment (Cont.) Default Key Pattern 2 (130) for an Attendant Console

Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)
001	FLT	003-063
002	FLT	003-063
003	FLT	003-063
004	FLT	003-063
005	FLT	003-063
006	FLT	003-063
025	ANSWER	023-
026	CONNECT	101-
027	RELEASE	062-
028	PAGE	044-
029	NIGHT	052-
030	SILENT	068
031	FORWARD	038-
032	FEATURE	037-
033	SPLIT	067-
034	OVERRIDE	054-
035	SERIAL	066-
036	ADD	025-
037	RECALL	063-
038	FLASH	039-
039	OPERATOR	053-
040	HOLD	102-
049	DSS 1	004-001
050	DSS 2	004-002
051	DSS 3	004-003
052	DSS 4	004-004

Key Number (e2)	Default Key Assignment	Key Code (d1-d2)
053	DSS 5	004-005
054	DSS 6	004-006
055	DSS 7	004-007
056	DSS 8	004-008
057	DSS 9	004-009
058	DSS 10	004-010
059	DSS 11	004-011
060	DSS 12	004-012
061	DSS 13	004-013
062	DSS 14	004-014
063	DSS 15	004-015
064	DSS 16	004-016
065	DSS 17	004-017
066	DSS 18	004-018
067	DSS 19	004-019
068	DSS 20	004-020
069	DSS 21	004-021
070	DSS 22	004-022
071	DSS 23	004-023
072	DSS 24	004-024
073	DSS 25	004-025
074	DSS 26	004-026
075	DSS 27	004-027
076	DSS 28	004-028
077	DSS 29	004-029
078	DSS 30	004-030

Class 15 Item 01 – Attendant Key Assignment (Cont.)

Default Key Pattern 4 (132) for an Operator KT

See page 6-391 for ADIX KT key locations. Programming for Auto Dialer Units is the same for key pattern 132 as it is for key pattern 129.

Key Number	Default Key	Key Code		Key Number	Default Key	Key Code
(e2)	Assignment	(d1-d2)		(e2)	Assignment	(d1-d2)
001	FLT	003-063		019	DISPLAY	033-
002	FLT	003-063		020	ICM/CB	021-
003	FLT	003-063		021	MSG.CTRL.	045-
004	FLT	003-063		022	SERIAL	066-
005	PARK	055-		023	MEMO	048-
006	RECALL	063-		024	OVER	054-
007	RELEASE	062-		025	SPKR	070-
800	ANSWER	023-		026	TRAN	078-
009	FLT	003-063	`	027	FEAT	037-
010	FLT	003-063		028	HOLD/DND	102-
011	FLT	003-063		129	SPEED	071-
012	FLT	003-063		130	MIC OFF	049-
013	PARK P/U	058-		131	FORWARD	038-
014	NIGHT	052-		132	PAGE	044-
015	SWAP	067-		133	ICM	042-
016	CONNECT	101-		134	ADD	025-
017	CLOCK	027-		135	MESSAGE	050-
018	CLASS	069-		136	FLASH	039-

Note: Buttons 17-24, ADIX-24KT only. Buttons 09-16, ADIX-16KT, ADIX-24KT only.

C L A S S 1 6

Attendant Busy Lamp Field (BLF) Assignment

Class 16 – Attendant Busy Lamp Field (BLF) Assignment contains one item, Class 16.01 – BLF Assignment which is used to program flexible key patterns used by attendant consoles equipped with busy lamp field units. Pattern numbers and default key pattern assignments are listed in the following tables:

Class 14.01

Number	Used For	Class 10.12 Key Assignment Data
001	ADIX and ZT-D key telephone default pattern	001
002	ADIX and ZT-D key telephone pattern with float keys.	002
003	Versa-Phone default pattern	003
004	ADIX IX-12KTD-2, IX-12KTS-2, IX-12ELK key telephone default pattern (software version 4.62/5.62 and higher only)	004
005	ZT-D key telephone default pattern (software version 4.62/5.62 and higher only)	005
006-128	Unassigned station patterns	006 – 128

Class 15.01

Number	Used For	Class 10.12 Key Assignment Data
001	ADIX IX-24KTD/S, IX-8KTD/S KT + DSS Unit(s) default pattern	129
002	Attendant Console default pattern	130
003	Operator KT default pattern	131
004	ADIX IX-12KTD-2, IX-12KTS-2, IX-12ELK KT + DSS default pattern (software version 4.62/5.62 and higher only)	132
005-008	Unassigned Attendant patterns	133-136

Class 16.01

Number	Used For	Class 10.12 Key Assignment Data
001	BLF default pattern.	Automatically follows the pattern number
002-008	Unassigned BLF patterns.	assigned for the associated attendant console.

BLF Assignment

Class 16 Item 01

Class 16 Item 01 – BLF Assignment is used to generate and edit flexible key patterns for BLF units (IX-BLF) attached to attendant consoles. The pattern number (1-8) used for the BLF corresponds to the attendant position pattern number (1-8) programmed in *Class 15.01* and assigned to the attendant console in *Class 10.12*. When assigning BLF data, make sure to use the same pattern number as that used for key assignment for the associated attendant console. This programming does not apply to DSS units.

Important: If you are creating a new key pattern based on the default pattern (001) you must first copy the default pattern to the number you have designated for the new key pattern. For example, if you want to add a [FLT n] key to station 001, and you have designated key pattern 004 as the new key pattern, using the copy feature enter:

COPY<01><PNo001> TO <PNo004:004>.

Class 16 Item 01 – BLF Assignment (Cont.)

DSS Display

Class/Item E		Element Fields	Description	Data Fields	
		e1-e2		d1-d2	
	16.01	<pno1-001></pno1-001>	BLF Assignment	4-001	

Programming Field Description

Element Meaning: Pattern number.

Field 1 (e1): Range: 1-8

Element Meaning: BLF Lamp Number.

Field 1 (e2): Range: 001-500

Data Field 1 Meaning: Function.

(d1): Range: 0-150

Default: See table below.

Data Field 2 Meaning: Key sub-function.

(d2): Default: See table below.

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 10.12 Key Assignment; 15.01

Attendant Key Assignment.

Associated: None.

Key Data For BLF Units

The table below lists the available settings for BLF Units.

Feature	Key Data		
	data 1 (d1)	data 2 (d2)	
COL Group Busy Lamp.	3	001-060	
Station Busy Lamp.	4	001-448	
Paging Group Busy Lamp.	6	001-060	

IX-BLF Console Default Pattern (Screens 1 and 2)

- Screen 1 displays Lamps 001-100
- Screen 2 displays Lamps 201-300

S191 S1251	092 000-092 \$192 292 004-252 \$1252	004-093 \$193	\$154 \$1254	S195 S1255	S196 S1256	\$197 \$1257	\$198 \$1258	S189 S1259	100 004-100 ST100 300 004-260 ST260
000-091	092 000-092 \$192 292 004-252 \$125	093 004-093 \$193 293 004-253 \$125	004-094	005 004-005 \$195 205 004-255 \$1255	004-096	782	098 004-098 \$198 298 004-258 \$1251	099 004-099 ST99 299 004-259 ST25	92 33
8 8	8 8	8 8	8 8	8 8	8 8	097 004-097	8 8	099 004 · 099 299 004 · 259	8 8
\$ 8			8 8		8 8				
004-081 \$181	S182 S1242	004-083 STB3 004-243 ST243	004-084 S184 004-244 S1244	004-085 STB5 004-245 ST245	915%	004-081 S187 004-247 S1247	004-088 STB8 004-248 ST248	004-089 \$189	1250
004-081 \$181	242	083	004-084	245	2,46	24.7	24.8	690	8 82
8 8	082 004-082 \$182 282 004-242 \$1242	083 004-083 \$183 283 004-243 \$1243	8 8	085 004-085 \$185 285 004-245 \$124	086 004-086 S186 286 004-246 S1246	004-081	088 004-088 5188 288 004-248 5124E	089 004-089 S189 289 004-249 S1245	090 004-090 \$190 290 004-250 \$1250
281	=		85 88 88			287			
071 004-071 ST71 271 004-231 ST231	072 004-072 S172 272 004-232 S1232	073 004-073 ST73 273 004-233 ST233	074 004-074 S174 274 004-234 S1234	075 004-075 S175 275 004-235 S1235	076 004-076 S176 276 004-236 S1236	077 004-077 S177 277 004-237 S1237	078 004-078 \$178 278 004-239 \$1238	079 004-079 S179 279 004-239 S1239	280 004-240 ST80
12	232	073 004-073 273 004-233	074 004-074 274 004-234	-075	076	-077	-078	239	24.0
8 8	90 80 2 2	8 8	7 7	8 8	8 8	8 8	8 8	8 8	8 8
061 004-061 \$161 261 004-221 \$1221	062 004-062 \$162 262 004-222 \$1222	063 004-063 \$163 263 004-223 \$1223	064 004-064 ST64 264 004-224 ST224	065 004-065 \$165 265 004-225 \$1225	066 004-066 \$166 266 004-226 \$1226	067 004-067 \$167 267 004-227 \$1227	068 004-068 \$168 268 004-228 \$1228	069 004-069 \$169 269 004-229 \$1229	070 004-070 S170 270 004-230 S1230
4-061	252	-063	224	-225	925	-067	-068	690	070
8 8	8 8	8 8	8 8	8 8	36 36	2 2	8 800	% % %	0 00
									20 2
051 004-051 S151 251 004-211 S1211	052 004-052 \$152 252 004-212 \$1212	053 004-053 \$153 253 004-213 \$1213	054 004-054 ST54 254 004-214 ST214	055 004-055 \$155 255 004-215 \$1215	056 004-056 \$156 256 004-216 \$1216	057 004-057 \$157 257 004-217 \$1217	058 004-058 \$158 258 004-218 \$1218	059 004-059 \$159 259 004-219 \$1219	066 004-060 \$160 260 004-220 \$1220
4-211	4-212	4-053	-054	.055	-216	-057	-058	219	050 - 22u
8 8	25 26	8 8	8 8	8 8	8 8	8 8	8 000	8 8	25.03
			==						
241 004-041 5141	042 004-042 5142 242 004-202 51202	04.3 004-04.3 \$14.3 24.3 004-20.3 \$120.3	244 004-204 S144 244 004-204 S1204	045 004-045 5145 245 004-205 S1205	046 004-046 5146 246 004-206 51206	047 004-047 S147 247 004-207 S1207	048 004-048 \$148 248 004-208 \$1209	049 004-041 8149 249 004-209 81209	050 004-050 \$150 250 004-210 \$1210
7 S	7 S	K - 20	4-20	4-045	7-07-7	4-047	4-208	4-041	4-050
2 2	42 00	43 00	75 75	55 00	8 8	8 8	8 8	9 9	00 00
004-03 \$131	032 004-032 \$132 232 004-192 \$1192	033 004-033 \$133 233 004-193 \$1193	034 004-034 ST34 234 004-194 ST194	035 004-035 S135 235 004-195 S1195	036 004-035 ST36 235 004-196 ST196	037 004-037 \$137 237 004-197 \$1197	038 004-038 S138 238 004-198 S1198	039 004-039 \$139 239 004-199 \$1199	040 004-040 5140 240 004-200 51200
92 - 29	24-19	7 - 13	74 - 03 74 - 19	14 - 03 14 - 19	7 03 7 19	K-03	4-03	4-03	4 - 200
031 004-03	0 25	033 004 · 033 233 004 · 193	2 2	35 00	036 004-036	37 00	88 88	039 004-039	0, 0,
1 5121	2 517	3 S123 3 S1183	004-024 ST24 004-184 ST184	5 ST25 5 ST185	5 ST26 5 ST186	004-027 ST27 004-187 ST187	004-028 S128 004-188 ST188	S129 S1189	513
004-021	04 05	004 - 023	004-024	004-025	7 - 05 7 - 18	004-027 004-187	K-02	004 - 029	4-030
021 004-021 221 004-181	022 004-022 \$122 222 004-162 \$1182	023 004-023 S123 223 004-183 S118	024 0	025 004-025 S125 225 004-185 S1185	026 004-026 S126 226 004-186 S1182	027 00 227 00	028 004-028 S128 228 004-188 S1188	029 004 · 029 \$129 229 004 · 189 \$1189	030 004-030 ST30 230 004-190 ST190
SI11 SI171	2112	S113 S1173	S114 S1174	STIS	S116	7118	ST18	S119 S1179	\$120 \$1180
									S S S
011 004-011 211 004-171	012 004-012 212 004-172	013 004-013 213 004-173	014 004-014 214 004-174	204-0	00,4-0	06-0	06-0	00, -0	00, 00
211	012 004-012 212 004-172	213	014 004-014 214 004-174	015 004-015 215 004-175	016 004-016 216 004-176	217 004-017	018 004-018 218 004-178	019 004-019 219 004-179	020 004 - 020
1 191									
201 004-001 511	002 004-002 S12 202 004-162 S1162	003 004-003 ST3 203 004-163 ST163	004 004-004 ST4 204 004-164 ST164	005 004-005 S15 205 004-165 ST165	006 004-006 ST6 206 004-166 ST166	207 004-001 ST7 207 004-167 ST167	208 004-008 ST8 208 004-168 ST168	009 004-009 S19 209 004-169 S1169	010 004-010 S110 210 004-170 S1170
004-0	004-0	00%-0	904-0	004-0	304-0	06 50 306 30	004-0	204-0	004-0
20.	200	203	8 8	8 8	908	200 /02	808	500	210

Lamp Default Default Number Lamp Lamp Data Symbol

Screen 1

Screen 2

000	000-000	00
000	000-000	00

FIGURE 16.01-1

IX-BLF Console Default Pattern (Screens 3 and 4)

- Screen 3 displays Lamps 101-200
- Screen 2 displays Lamps 301-400

===	2 2	2 2	2 3	25 55	9 9	~ ~	80 80		0.0
006-011 GRP11 006-031 GRP31	192 006-012 GRP12 392 006-032 GRP32	193 006-013 GRP13 393 006-030 GRP33	CRP 14	GRP 15 GRP 35	006-016 GRP16 006-036 GRP36	006-017 GRP17 006-037 GRP37	006-018 GRP18 006-038 GRP38	006-019 GRP19 006-039 GRP39	006-020 GRP20 006-030 GRP30
006-011	6-03	006-013	006-014	006-015	006-016	006-017	006-018	006-019	006-020
391	192 00	193 00	36 00	195 006-015 395 006-035	8 8 8 8	397 000	98 98 90 00	399 000	700 007
				110					
1 GRP 1	CGRP2 GRP22	3 GRP3 GRP23	GRP4	GRP5 GRP25	GRP6 GRP26	GRP7	GRP8	GRP9 GRP49	GRP 10
006-001	92-92	006-003	006-024	6-005	920-900	006-007	006-008	620-900	6-010
181 28 00	182 006-002 GRP2 382 006-022 GRP22	183 006-003 GRP3 383 006-023 GRP2	184 006-004 384 006-024	185 006-005 GRP5 385 006-025 GRP2	186 006-006 GRP6 386 006-026 GRP20	187 006-007 GRP7 387 006-027 GRP2	188 006-008 388 006-028	189 006-009 GRP9 389 006-029 GRP49	190 006-010 GRP10 390 006-030 GRP30
				_			==		
003-011 ST11	172 003-012 ST12 372 003-032 ST32	173 003-013 ST13 373 003-033 ST33	074 003-014 ST14 374 003-034 ST34	175 003-015 sr15 375 003-035 sr35	376 003-016 ST16 376 003-036 ST36	771 003-017 5117 7818 780-800 778	8 ST 18	179 003-019 S119 379 003-039 S139	180 003-020 ST20 380 003-040 ST040
03-03	03-01	003-013	003-014	03-01	003-016 003-036	3.03	3-03	003-019	3-02(
171 003-011 371 003-031	1220	173 0 878	374 0	175 003-015 375 003-035	176 O 376 O	177 003-017 377 003-037	178 003-018 378 003-038	8 8	8 8
003-001 001	162 003-002 0022 362 003-022 0022	163 003-003 003 363 003-023 0023	164 003-004 004 364 003-024 0024	165 003 005 005 365 003 025 0025	166 003-006 S16 866 003-026 S126	718 75 7518 75	168 003-008 ST8 368 003-028 ST28	169 003-009 S19 369 003-029 S129	170 003-010 ST10 370 003-030 ST030
161 003-001	162 003-002	003-003	164 003-004 364 003-024	165 003 -005 365 003 -025	003-006	167 003-007 367 003-027	03-00	169 003-009 369 003-029	03-01
5 2	3 3	3 3	₹ ¥	365	3 3	79 /9	88 88	169	370
S1151 S1311	1152	1153	ST 154 ST 314	315	316	51157 51518	158 318		160
151 004-151 ST151 351 004-311 S1311	152 004-152 \$1152 352 004-312 \$1312	153 004-153 81153 353 004-313 81313	004-154 ST154 004-314 ST314	155 004 - 155 ST155 355 004 - 315 ST315	156 004 - 056 \$156 356 004 - 316 \$1316	157 004-157 S1157 257 004-317 S1317	158 004-158 ST158 358 004-318 ST318	159 004 - 159 ST 159 359 004 - 319 ST 319	160 004 - 160 ST160 360 004 - 320 S1320
004-151	8 8	900	154 004-154 354 004-314	004 - 1	004 - 3	157 004-157 257 004-317	904 - 3	159 004 - 159 359 004 - 319	304 - 1
151	152	153 353	154 354	155 355	356	157	158 358	359	9 9
51141	142 004-142 ST142 342 004-302 ST302	ST143 ST303	ST144 ST304	1145	946 004 - 146 ST 146 346 004 - 306 ST 306	1147	1148	300	150
004-141 \$1141	142 5	14.3 S 30.3 S	304 8	145 S 305 S	2 S S S S S S S S S S S S S S S S S S S	S 221	148 51	65 81	50 51
141 004-141 ST141 341 004-301 ST301	8 8	143 004-143 ST143 343 004-303 ST303	144 004-144 ST144 344 004-304 ST304	145 004-145 ST145 345 004-305 ST305	046 004 · 146 346 004 · 306	147 004-147 ST147 347 004-307 ST307	148 004-148 ST148 348 004-301 ST308	149 004-149 51149 349 004-309 51309	150 004-150 ST 150 350 004-310 ST 310
==						727		-	150 350
004-731 \$1131	132 004-132 S1132 332 004-292 S1292	133 004-133 ST133 333 004-293 ST293	S1134 S12%4	135 004-135 ST135 335 004-295 ST295	136 004-136 ST136 336 004-296 S1296	1137	138 004 · 138 ST138 338 004 · 298 ST298	139 004-139 ST139 339 004-299 ST299	1300
004-291	132	004-133	× ×	£ 5	2 8	137 004-137 ST137 337 004-297 ST297	82 82	28 8	140 004-140 S1140 340 004-300 S1300
8 8	8 8	8 8	004-134	20 00	136 004-136 336 004-296	8 8	8 8	139 004-139	8 8
E E			¥ ¥						
ST121 ST281	122 004-122 S1112 322 004-282 S1282	123 004-123 51123 323 004-283 51283	ST124 ST284	125 004-125 S1125 325 004-285 S1285	126 004-126 ST126 326 004-286 ST286	ST127 ST287	128 004-128 ST128 328 004-288 ST288	129 004 · 129 \$1129 329 004 · 289 \$1289	130 004-130 ST130 330 004-290 ST290
004-121	-122	004-123	004 - 124	-125	004-126	004-127	004-128	004 - 289	92
321 004	122 004 - 122 322 004 - 282	123 004	124 00 4 324 004	5 004	900,	127 004 - 127 327 004 - 287	3 00%	8 8	000
		$\overline{}$							
4-111 ST111 4-271 ST271	112 004-112 ST112 312 004-272 ST272	4-113 S1113 4-273 S1273	4-114 ST114 4-274 ST274	115 004-115 ST115 315 004-275 ST275	116 004-116 S1116 316 004-276 S1276	4-117 51117	4-118 ST118 4-278 ST278	119 004-119 ST119 309 004-279 ST279	4-120 ST120 4-280 ST280
4-271	4-115	04-273	4-114	4-115	4-116	111-1	-118	279	-120
111 004-111 311 004-271	112 004-112 312 004-272	313 00	314 00	115 00v 315 00v	90 90	117 00¢ 317 00¢	118 004-118 318 004-278	309 004	120 004 320 004
							=		
301 004-101 ST101 301 004-261 ST261	102 004-102 \$1102 302 004-262 \$1262	103 004 - 103 ST103 303 004 - 263 ST263	104, 004 - 104, ST 104, 304, 004 - 264, ST 264	105 004-105 ST105 305 004-265 ST265	106 004 - 106 ST106 306 004 - 266 ST266	107 004-107 S1107 307 004-267 S1267	108 004-108 ST108 308 004-168 ST168	109 004-119 ST 109 309 004-269 ST 169	110 004-110 ST110 310 004-270 ST270
4-26 4-26	4-10	4 - 263	4-104	4-105	4-106	4-107	4-108	4-119	270
0 0 0	02 00	8 8	8 8	8 8	8 8	307 000	8 8	309 000	00 00
<u>- m</u>	<u> </u>	القات	<u> </u>	= ×	= \(\)	= 8	i = i k	2 %	= 5

Lamp Default Default Number Lamp Lamp Symbol Data

Screen 1

Screen 2

000	000-000	0
000	000-000	_

FIGURE 16.01-2

Optimized Routing

(For software versions 4.50/5.50 and higher only)

Use **Class 17 – Optimized Routing** to program an optimized routing plan.

Important! This document describes the Class 17 – Optimized Routing database for software versions 4.50/5.50 and higher only. In software versions 4.50/5.50, Class 17 was redesigned to be compatible with the new North American Numbering Plan (NANP) effective January 7, 1995. Previous software versions are not compatible with the NANP.

The following programming items are included in Class 17:

- 17.01 Bypass Code Table
- 17.03 Six-Digit Route Selection Table
- 17.05 General Office Code Table
- 17.07 Delete Index Table
- 17.09 Add Index Table
- 17.11 Add Office Code Table
- 17.13 Add Dial Table
- 17.15 Area/Office Screening Table
- 17.17 Additional Office Code Prefix Information

- 17.02 Area Code Table
- **(17.04)**
- 17.06 Route Table
- 17.08 Delete Dial Table
- 17.10 Add Area Code Table
- 17.12 Add Dial Index Table
- 17.14 Specific Code Table
- 17.16 Eight-Digit Dial Enable

Optimized Routing Overview

The ADIX System database includes a comprehensive optimized routing plan which enables the system to route outgoing calls through the least expensive trunk group available at the time a call is dialed.

The ADIX optimized routing plan also provides routing based on either the first three digits dialed and/or six digits dialed. This flexibility enables you to program a different routing plan for area code dialing, office code dialing and area code plus office code dialing.

Optimized routing provides cost savings to ADIX systems which have different types of CO lines installed, such as FX lines, WATS lines, tie lines, equal access lines and local lines. Each line type should be assigned to its own trunk group. Then, by entering data in the seventeen tables that comprise the optimized routing plan, the system will select the least expensive trunk group according to the number dialed. Additionally, three different routing plans can be programmed according to the time of day or holiday.

Class 17 – Optimized Routing (Cont.)

In order to use optimized routing, stations must be programmed to enable optimized routing calls in *Class 10.32*. Stations can then access optimized routing by dialing [ICM] + [9][0]. To force optimized routing at a station you must enable this feature in *Class 10.33*. This will make the station's floating loop termination keys (those keys programmed as 003-063 in *Class 14.01 – Key Assignment*) optimized routing keys. **Note:** Direct CO keys (002-NNN) and direct FLT keys (003-01-60) will be able to bypass optimized routing even if Class 10.33 is enabled.

A station can be programmed to enable between one and seven alternate steps in *Class 10.34 – Route Advance Step*. If, at the time of dialing a CO line is not available in the trunk group programmed as the first choice, the system will try to select a CO line from an alternate trunk group in sequence (up to seven alternate trunk groups can be programmed in each routing plan table for each time zone).

Other functions of the optimized routing plan include:

- **Area Code Deletion** The system can delete up to eight area codes from dialed numbers. This is used for FX and E&M lines from distant area codes.
- Area Code Screening The system can screen up to eight area codes that may be dialed with or without a "1+" prefix. This is sometimes used by local telephone companies that handle a limited number of outside area codes as local calls.
- "1+" Dial Digit Reinsertion When dialing an area code or office code that requires dialing "1" plus the number, the initial digit "1" will be absorbed in the program. The digit "1" must be reinserted in order to make the call. The data addition tables are used to reinsert "1+" to the dialed number if required.
- Additions to the Dialed Number The Add Dial Table contains ten entries for registering dial data to be added either before or after the dialed number. Up to twenty digits, including [#] and [*] can be registered for each entry. This is used for adding equal access codes, dial-up carrier access codes or trunk group access codes if the system is used behind a PBX or in Centrex applications.

Optimized Routing Plan Tables

Figure 17.00 illustrates the tables of the ADIX optimized routing plan. Use this diagram to indicate the method the system will use to route all types of dialing. The master table shows all possible steps within the routing plan. The simplified tables show only the steps which relate to the programming item being described.

The individual programming items, each of which contain a simplified table showing the table defined in that programming item with the previous logical steps to that item and the possible steps following the item in the plan. The most common route or path is indicated by bold lines; alternate paths are indicated by a lighter line.

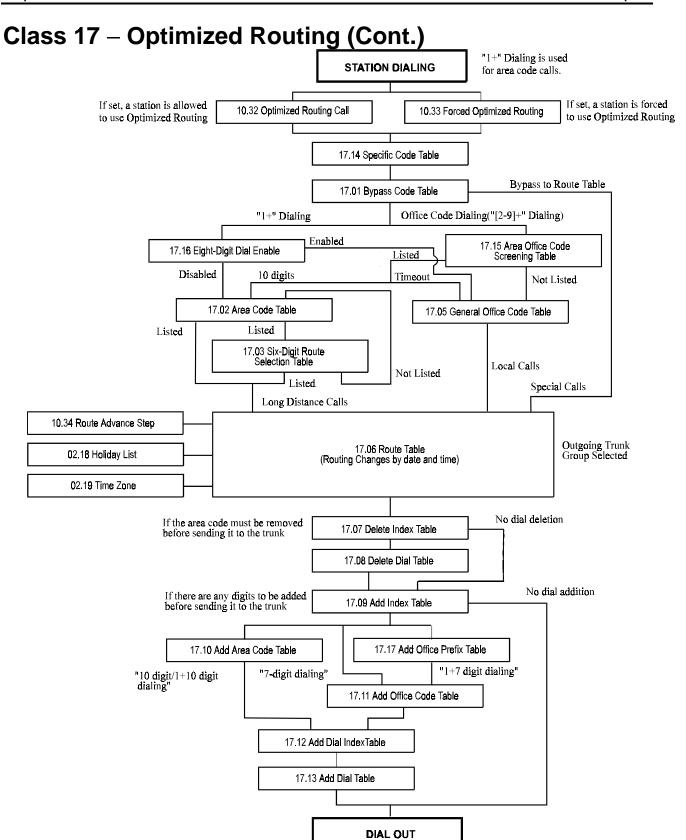


FIGURE 17.00 OPTIMIZED ROUTING FLOW CHART.

Bypass Code Table

Class 17 Item 01

Class 17.01 – Bypass Code Table is used specifically for route selection and as a reference point to the Add Dial Table (*Class 17.13*) if additional digits are required before or after the specific code dialed. The Bypass Code Table determines the routing and actual dialing pattern of a specific code providing the specific code has been programmed in *Class 17.14*.

The Bypass Code Table (Class 17.01) and the Specific Code Table work in conjunction with each other on an entry by entry basis from one to sixteen. If the system software detects a match between the digits dialed and the digits registered in the Specific Code Table (Class 17.14), it then looks to the corresponding entry in the Bypass Code Table (Class 17.01) for trunk group selection and the Add Dial Table (Class 17.13) reference.

See figure 17.14 on page 6-439.

DSS Display

Class/Item	Element Field	Description	Data Fields
17.01	<atb01></atb01>	Bypass Code	0-00

Programming Field Description

Element Meaning: Table number corresponding to entries 1-16 in Class 17.14.

Field: Range: **01-16**

Data Field 1 Meaning: Route Table Number.

(d1): Range: 1-8

Default: None.

Data Field 2 Meaning: Add Dial Table Number.

(d2): Range: 1-10

Default: None.

Class 17.01 – Bypass Code Table (Cont.)

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; 11.38

CO Group; 17.14 Bypass Table.

Associated: 07.03 COL Group Access Numbers <Grp63>; 10.21 Prime Line.

Related Operation:

Optimized Routing: [FLT n] + [0][0] + bypass code.

 $[\underline{\mathsf{OPT}}]$ + bypass code.

 $[ICM] + OPT\ access\ code + bypass\ code.$

Area Code Table

Class 17 Item 02

Class 17.02 – Area Code Table and Class 17.03 – Six-Digit Route Selection Table provide routing based on either the matching of the area code alone or the area code plus the office code (six-digit dialing) as opposed to matching three-digit dialing of the office code through Class 17.05 – General Office Code Table. When dialing begins with "1" and the total digits dialed exceed eight, the three digits following the "1" are determined to be an area code. When dialing begins with any digit other than "1", the first three digits are determined to be an area code only if they are listed in Class 17.15 – Area/Office Code Screening Table and the total digits dialed exceed eight. Once detected, the system will always refer to the Area Code Table first for registered data matching the dialed area code. If a six-digit route selection table number is registered for the dialed area code, the system proceeds to Class 17.03 – Six-Digit Route Selection Table to attempt to match the dialed office code. If a six-digit route selection table number is not registered or a route table number is not registered in the six-digit route selection table, the system will proceed to Class 17.06 – Route Table No. 1.

See figure 17.02 for an illustration of the E&M Area Code Table.

DSS Display

	Class/Item	Element Field	Description	Data Field d1 - d2
Ī	17.02	<arc200></arc200>	Area Code	0-0

Programming Field Description

Element Meaning: Area code. **Field:** Range: 200-999

Data Field 1 Meaning: Six-Digit Route Selection Table number.

(d1): Range: 0 = no Six-Digit Route Selection Table

1 - 8

Data Field 2 Meaning: Route Table number.

(d2): Range: 0 = no Route Table

1 - 8

Default: 0

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step;

17.15Area/Office Code Screening Table; 17.16 Eight-Digit Dial Enabled; Class 17

Optimized Routing.

Associated: 07.03 COL Group Access Number; 10.21 Prime Line.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area \ code + office \ code + subscriber \ code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.02 – Area Code Table (Cont.)

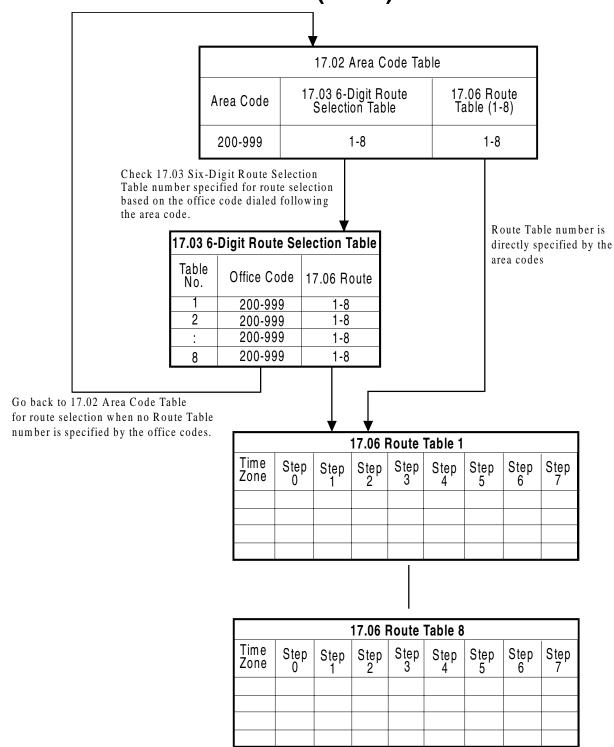


FIGURE 17.02 AREA CODE TABLE.

Six-Digit Route Selection Table

Class 17 Item 03

Class 17.03 – Six-Digit Route Selection Table works in conjunction with Class 17.02 – Area Code Table for route selection based on the first six digits dialed following the office code. Eight six-digit route selection tables are provided to determine route selection for any office code (200-999) used. If a route table number reference for the dialed office code is found, the system proceeds to Class 17.06 – Route Table. If no reference is found, the system will go back to Class 17.02 – Area Code Table to find the route table number based on the area code only.

Note: This item will not be accessed by office code calls (seven or eight-digit dialing) dialed through optimized routing.

See figure 17.03 for an illustration of the Six-Digit Route Selection Table.

DSS Display

Class/Item	Element Fields	Description	Data Field	
	e1-e2			
17.03	<rut1-200></rut1-200>	6 Digit Selection	0	

Programming Field Description

Element Meaning: Six-Digit Route Selection Table number.

Field 1 (e1): Range: 1-8

Element Meaning: Office code. **Field 2 (e2):** Range: **200-999**

Data Field: Meaning: Route Table number.

Range: 0 = no Route Table

1-8

Default: 0

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number; 10.21 Prime Line.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[\underline{\mathsf{OPT}}] + \{[1] + area\ code + office\ code + subscriber\ code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

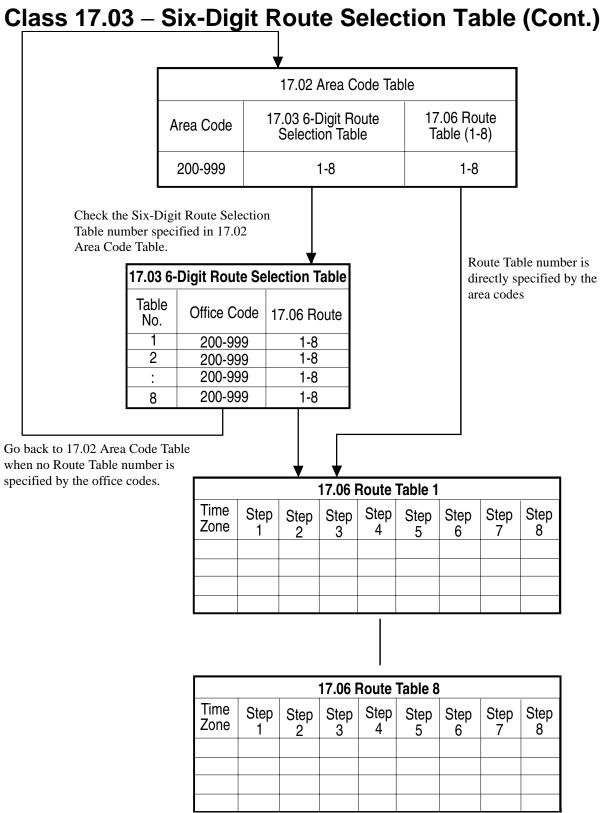


FIGURE 17.03 SIX-DIGIT ROUTE SELECTION TABLE.

(Not Used)

Class 17 Item 04

Class 17.04 has been deleted from the database in software versions 4.50/5.50. It is not accessible in database programming mode.

General Office Code Table

Class 17 Item 05

Class 17.05 – General Office Code Table is used for all non-area code dialing. Use Class 17.05 to list all possible office codes (200-999) with a reference to a route table number. The system checks this item in the following instances:

- When dialing **does not begin** with a prefix (1+) and the first three digits dialed **are not** listed in *Class 17.15– Area/Office Screening Table*, i.e., 935-8580, 220-5555.
- When dialing **does not begin** with a prefix (1+) and the first three digits dialed **are** listed in *Class 17.15 Area/Office Screening Table*, but the total digits dialed are exactly seven, i.e., 212-1212, 929-5555.
- When dialing **begins** with a prefix (1+) and *Class 17.16 Eight-Digit Dial Table* is enabled and the total digits dialed are exactly eight, i.e. 1-212-1212, 1-929-5555.

The General Office Code Table provides route selection based on the office code dialed. The system will proceed to the route table number referenced for trunk group selection.

See figure 17.05 for an illustration of the General Office Code Table.

DSS Display

_	Class/Item	Element Field	Description	Data Field
Ī	17.05	<ofc200></ofc200>	Gen. Office Code	0

Programming Field Description

Element Meaning: Office code. **Field:** Range: 200-999

Data Field: Meaning: Route Table number.

Range: $\mathbf{0} = \text{no Route Table}$

1-8

Default: 0

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[\underline{\mathsf{OPT}}] + \{[1] + area\ code + office\ code + subscriber\ code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.05 — General Office Code Table (Cont.) Dial Input: [1] + office code + subscriber code.

office code + subscriber code.

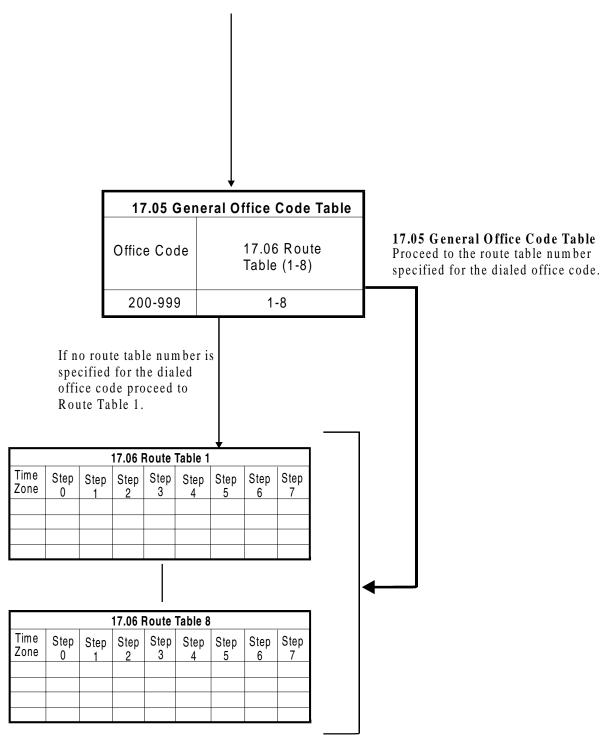


FIGURE 17.05 GENERAL OFFICE CODE TABLE.

Route Table

Class 17 Item 06

The route tables defined in **Class 17.06 – Route Table** are the core of the optimized routing plan. Here, the trunk groups used for dialing are specified. The system uses *Classes 17.01, 17.02. 17.03* and *17.05* to obtain a reference to a route table number (1-8) based on the dialed number. Each route table contains three time zones that allow for different trunk group selection based on the time of day the call was made. The hours comprised in each time zone are defined in *Class 02.19 – Time Zone*. Up to eight trunk groups can be defined for each time zone. If all trunks in the first choice trunk group (e3) are busy, the system will attempt to select a trunk from up to seven additional trunk groups in a programmable sequence. If *Class 10.34* is programmed to allow for a specific number of route advance steps (1-7), however, the system will only advance to the alternate trunk groups.

Note: Default time zone values are as follows: 0 = 0800-1659, 1 = 1700-2259, 2 = 2300-0759.

See figure 17.06 for an illustration of the Route Table.

DSS Display

Class/Item	Element Fields e1-e2-e3	Description	Data Fields
17.06	<rut1-0-1></rut1-0-1>	Route Table	0

Programming Field Description

Element Meaning: Route Table number.

Field 1 (e1): Range: 1-8

Element Meaning: Time Zone number.

Field 2 (e2): Range: **0-2**

Element Meaning: Route selection advance steps per time zone.

Field 3 (e3): Range: 1-8

Data Field Meaning: CO trunk group number

Range: **0-60**Default: **0**

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; 11.38

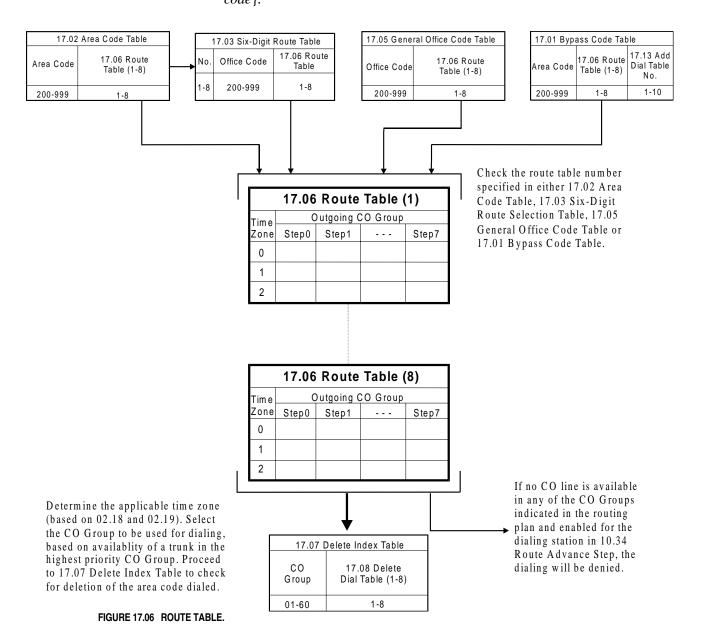
Outgoing COL Group; Class 17 Optimized Routing.

Associated: 07.03 COL Group Access Number; 10.21 Outgoing COL Group.

Class 17.06 – Route Table (Cont.)

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area\ code + office\ code + subscriber\ code\}.$ $[OPT] + \{[1] + area\ code + office\ code + subscriber\ code\}.$ $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\ code\}.$



Delete Index Table

Class 17 Item 07

Class 17.07 – Delete Index Table is used only if the dialed area code must be deleted. The Delete Index Table lists all sixty trunk groups, with a reference to a Delete Dial Table. Based on the trunk group selected in *Class 17.06*, the system checks the Delete Index Table for a reference to a Delete Dial Table number (*Class 17.08*), which lists the area codes to be deleted (maximum of eight). Applications requiring deletion of the area code include: foreign exchange lines, E&M tie lines and OPXs which originate from an area code other than the area code of the ADIX's location. If there is no dial to be deleted, the system will proceed to *Class 17.09* Add Index Table.

See figure 17.07 for an illustration of the Delete Index Table.

DSS Display

Class/Item	Element Field	Description	Data Field
17.07	<din01></din01>	Delete Index Table	0

Programming Field Description

Element Meaning: Outgoing CO Group.

Field: Range: 1-60

Data Field: Meaning: Delete Dial Table number.

Range: 0 = no deleted dial

1-8

Default: 0

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; 11.38

Outgoing COL Group; Class 17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

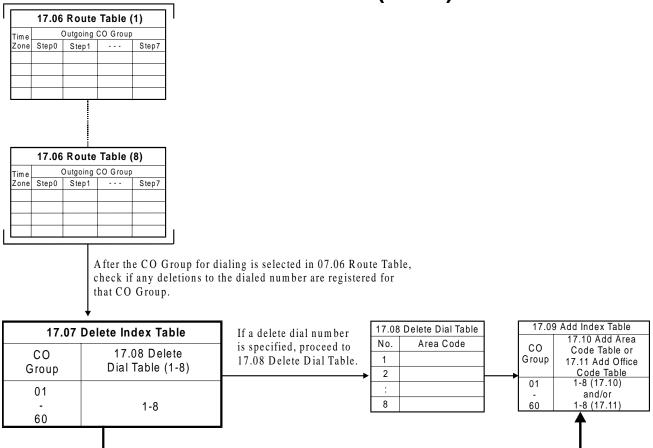
Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[\underline{\mathsf{OPT}}] + \{[1] + area\ code + office\ code + subscriber\ code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.07 - Delete Index Table (Cont.)



If no delete dial table number is specified, proceed to 17.09 Add Index Table.

FIGURE 17.07 DELETE INDEX TABLE.

Delete Dial Table

Class 17 Item 08

Class 17.08 – Delete Dial Table is used to list up to eight area codes which will be automatically deleted if the dialed area code matches the data in this table. When a call is routed through a trunk group, the system checks the Delete Index Table (*Class 17.07*) for a reference to that trunk group. If a Delete Dial Table Number is indicated for that group, and the data registered in the table matches the area code dialed, the system deletes the area code from the dialing. Applications for area code deletion include foreign exchange lines, E&M tie lines and OPXs.

See figure 17.07 for an illustration of the Delete Dial Table.

DSS Display

Class/Item	Element Field	Description	Data Field
17.08	<dtb1></dtb1>	Delete Dial Table	

Programming Field Description

Element Meaning: Delete Dial Table number.

Field: Range: 1-8

Data Field: Meaning: Area Code to be deleted.

Range: 3 digits

Default: None

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area code + office code + subscriber code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Add Index Table

Class 17 Item 09

Class 17.09 – Add Index Table contains sixty entries – one for each trunk group – to provide a reference to an Add Area Code Table or Add Office Code Table. If the number dialed through optimized routing includes an area code, and there is a reference in this table for the trunk group selected in Class 17.06 – Route Table, the system will proceed to the referenced table (1-8) in Class 17.10 – Add Area Code Table. If, however, the number dialed is an office code call and there is a table reference in this item, the system will proceed to Class 17.11 – Add Office Code Table. For example, if Class 17.09 is programmed as follows:

[17.09 <AIN01> Add. Index Table 1]

If the dialed number includes an area code, the system will access Class 17.10, Add Area Code Table 1. If the number does not include an area code, the system will access Class 17.11, Add Office Code Table 1.

Note: Addition tables are always required for "1+" reinsertion. They are also used to reference an Add Dial Table that will allow the system to add up to twenty digits before or after the dialed number.

See figure 17.09 for an illustration of the Add Index Table.

DSS Display

Class/Item	Element Field	Description	Data Field
17.09	<ain01></ain01>	Add. Index Table	0

Programming Field Description

Element Meaning: Outgoing CO Group.

Field: Range: 1-60

Data Field: Meaning: Add Area Code Table number or Add Office Code Table number.

Range: 0 = no addition

1-8

Default: 0

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area \ code + office \ code + subscriber \ code \}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.09 – Add Index Table (Cont.)

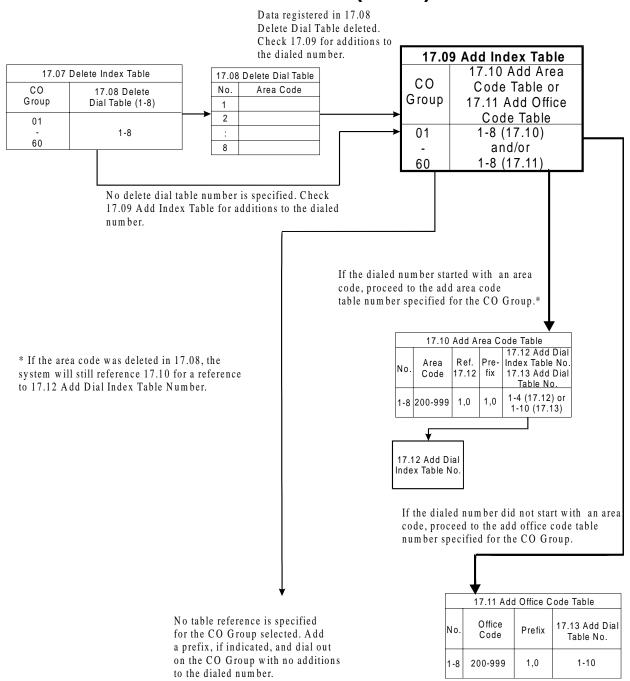


FIGURE 17.09 ADD INDEX TABLE.

Add Area Code Table

Class 17 Item 10

Class 17.10 – Add Area Code Table adds the prefix "1" for area code dialing and a reference to either an Add Dial Index Table ($Class\ 17.12$) or an Add Dial Table ($Class\ 17.13$). If data field 1 (d1) = **0**, the system will check the data field 2 (d2) prefix to determine if "1" must be added before the area code dialed. If data field 1 (d1) = **1**, then data field 3 references an Add Dial Table ($Class\ 17.13$) in which up to twenty digits can be registered for addition to the dialed number. If data field 3 (d3) = **0**, the system will dial the number as is. A value of **1** in (d1) is generally used if the area code was deleted in $Class\ 17.08$ in which case the system will refer to the Add Dial Index Table (Class 17.12) specified by (d3). This will allow the system to reinsert the prefix "1" and add dial data to the remaining office code if necessary.

Note: If a location requires "1+" dialing, this must always be added in the optimized routing plan tables. If "1+" addition is not registered in either Classes 17.10, 17.11 or 17.12, the number will not be dialed with the addition of "1+". This will result in a dial error.

See figure 17.10 for an illustration of the Add Area Code Table.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Fields d1-d2-d3
17.10	<tbl1-200></tbl1-200>	Add. Area Code	0-0-00

Programming Field Description

(d3):

Element Meaning: Add Area Code Table.

Field 1 (e1): Range: 1-8

Element Meaning: Area Code. **Field 2 (e2):** Range: **200-999**

Data Field 1 Meaning Add flag.

(d1): Range: 0 = add prefix, add dial table

1 = ignore prefix, add dial index

Default: 0

Data Field 2 Meaning: Add/do not add prefix.

(d2): Range: 0 = do not add prefix

1 = add prefix (required only if (d1) = 0)

Default: 0

Data Field 3 Meaning: Add dial reference. If (d1) = 0, refer to Class 17.13. If (d1) = 1,

refer to Class 17.12.

Range: If (d1) = 0, **01-10**

If (d1) = 1, **01-08**

Default: 00

Class 17.10 – Add Area Code Table (Cont.)

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area code + office code + subscriber code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

code}.

If the dialed number includes an area code, and a table reference is specified for the CO Group selected, check the corresponding add area code table number for additional information.

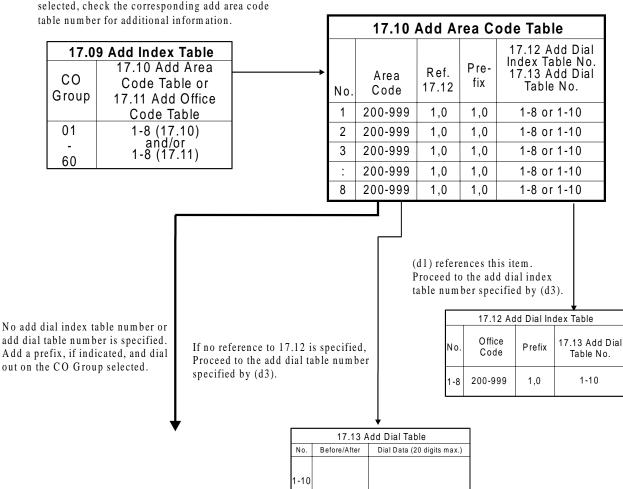


FIGURE 17.10 ADD AREA CODE TABLE.

Add Office Code Table

Class 17 Item 11

The system will refer to **Class 17.11** – **Add Office Code Table** only when a seven or eight-digit number not including an area code is dialed through optimized routing. This item is used to reference an office code to the Add Dial Table number (*Class 17.13*) where up to twenty digits can be added before or after the dialed telephone number.

See figure 17.11 for an illustration of the Add Office Code Table.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Fields
17.11	<tbl1-200></tbl1-200>	Add. Office Code	00

Programming Field Description

Element Meaning: Add Office Code Table number.

Field 1 (e1): Range: 1-8

Element Meaning: Office code. **Field 2 (e2):** Range: **200-999**

Data Field: Meaning: Add Dial Table number (Class 17.13).

Range: **01-10**Default: **00**

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area \ code + office \ code + subscriber \ code \}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.11 — Add Office Code Table (Cont.) The dialed number does not include an area code

The dialed number does not include an area code and a table reference is specified in 17.09 Add Index Table for the CO Group selected. Check the add office code table number for additional

information.

	17.11 Add Office Code Table				
•	No.	Office Code	17.13 Add Dial Table No.		
	1	200-999	1-10		
	2	200-999	1-10		
	3	200-999	1-10		
	:	200-999	1-10		
	8	200-999	1-10		

Proceed to the add dial table number specified for the data to be added to the dialed number.

	17.13 Add Dial Table				
N	0.	Before/After	Dial Data (20 digits max.)		
1-	10				

No add dial table number is specified. Dial out on the CO Group selected.

FIGURE 17.11 ADD OFFICE CODE TABLE.

Add Dial Index Table

Class 17 Item 12

Class 17.12 – Add Dial Index Table contains all the possible office codes for "1+" (prefix) reinsertion and an Add Dial Table reference. This item must be programmed when the dialed area code is deleted in Class 17.08 – Delete Data Table, and if either "1+" reinsertion is required for the remaining office code dialing and/or if additional dial data must be added to the dialed number. The function of this table is similar to Class 17.11 – Add Office Code Table except that this item applies to numbers originally dialed with an area code or routes that were selected based on the area code dialed.

See figure 17.12 for an illustration of the Add Dial Index Table.

DSS Display

Class/Item Element Fields e1-e2		Element Fields	Description	Data Fields	
			d1-d2		
	17.12	<tbl1-200></tbl1-200>	Add. Dial Index	0-00	

Programming Field Description

Element Meaning: Add Dial Index Table number.

Field 1 (e1): Range: 1-8

Element Meaning: Office code. **Field 2 (e2):** Range: **200-999**

Data Field 1 Meaning: Add/do not add prefix. (d1): Range: 0 = do not add prefix

1 = add prefix (prefix = 1 + reinsertion)

Default: **0**

Data Field 2 Meaning: Add Dial Table number (Class 17.13).

(d2): Range: 01-10
Default: 00

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

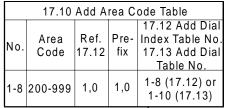
Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[\underline{\mathsf{OPT}}] + \{[1] + area\ code + office\ code + subscriber\ code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber$

Class 17.12 – Add Dial Index Table (Cont.)



(d1) references 17.12 Add Dial Index Table. Proceed to the table number specified in (d3).

	17.12 Add Dial Index Table					
No.	Office Code	Prefix	17.13 Add Dial Table No.			
1	200-999	1,0	1-10			
2	200-999	1,0	1-10			
:	200-999	1,0	1-10			
8	200-999	1,0	1-10			

If an add dial table number is specified, add a prefix, if indicated, and proceed to 17.13 Add Dial Table.

No add dial table is specified. Add a prefix, if indicated, and dial out on the CO Group selected.

No. Before/After Dial Data (20 digits max.)

1-10

17.13 Add Dial Table

FIGURE 17.12 ADD DIAL INDEX TABLE.

Add Dial Table

Class 17 Item 13

Class 17.13 – Add Dial Table is used to register up to ten numbers for automatic insertion before or after a number is dialed through optimized routing. Up to twenty digits including *, #, and pause can be added to the dialing. Applications for this table include equal access codes (i.e. 10NNN), dial-up common carrier service and trunk group access codes. Each add dial digit is represented as "-" and each pause is represented as "-" on the SMDR printout.

Note: If a pause is registered, it must be followed by the pause time in seconds (0-9).

See figure 17.13 for an illustration of the Add Dial Table.

DSS Display

Class/Item	Element Field	Description	Data Fields d1-d2
17.13	<adt01></adt01>		0-

Programming Field Description

Element Meaning: Add Dial Table number.

Field: Range: 01-10

Data Field 1 Meaning: Position of dial data to be added.

(d1): Range: 0 =before the number

1 = after the number

Default: 0

Data Field 2 Meaning: Dial data to be added.

(**d2**): Range: Up to **20** digits (0-9, #, *, pause)

Default: None

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

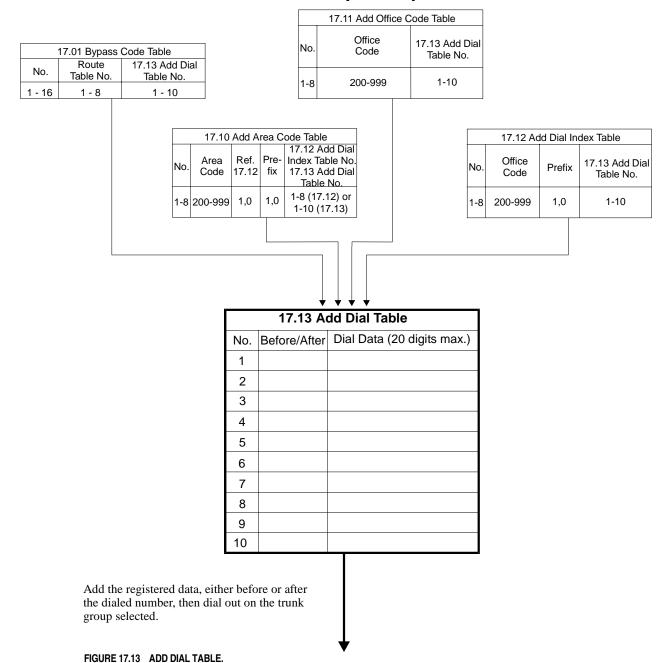
Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area code + office code + subscriber code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.13 – Add Dial Table (Cont.)



Specific Code Table

Class 17 Item 14

Class 17.14 – Specific Code Table is used to route specific dialing codes through optimized routing, bypassing the area code, general area code and general office code tables. The table consists of sixteen entries used to enter up to sixteen different specific code dialing patterns. Each of the sixteen entries allows up to twenty digits to be programmed as specific codes. Some examples of specific codes programmable in this table include: 0, 00, 011, 10288, 10NNN, N11 (N = any digit, 0-9, *, #) plus other dialing codes defined as a valid number. The Specific Code Table works in conjunction with the Bypass Code Table (*Class 17.01*) on an entry-by-entry basis. If the system finds a match between the digits dialed and the digits registered in the Specific Code Table, it will look to the corresponding entry in the Bypass Code Table for route table selection and Add Dial Table (*Class 17.13*) references.

See figure 17.14 for an illustration of the Specific Code Table.

DSS Display

Class/Item	Element Field	Description	Data Field
17.14	<num01></num01>	S. Code	

Programming Field Description

Element Meaning: Specific Code Table number. References corresponding table

Field: number in Class 17.01.

Range: **01-16**

Data Field: Meaning: Specific code data.

Range: Up to **20** digits (0-9, *, #)

Default: None

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{[1] + area code + office code + subscriber code\}.$

 $[OPT] + \{[1] + area code + office code + subscriber code\}.$

 $[ICM] + OPT\ access\ code + \{[1] + area\ code + office\ code + subscriber\}$

Class 17.14 - Specific Code Table (Cont.)

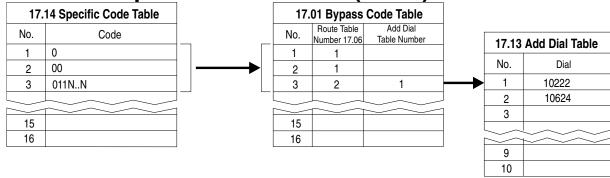


FIGURE 17.14 BYPASS CODE EXAMPLE.

Area/Office Code Screening Table

Class 17 Item 15

Class 17.15 – Area/Office Code Screening Table is used to determine if a number dialed without the prefix "1" is to be treated as an area code or an office code for route selection. An entry in this table is required in areas where a duplication of the area code and office code exists that allows a local call to be dialed using either seven or ten digits without the prefix "1". For example, a local call with ten digits (e.g., 817-XXX-YYYY) and a local call with seven digits (e.g., 817-YYYY).

In areas where this type of dialing pattern is used, the duplicate area/office code is listed in Class 17.15. When a call is dialed without the prefix "1" and the first three digits dialed by the user match the digits entered in the table, the system automatically turns on a four-second inter-digit timer and begins to count the number of digits dialed. If the digits dialed match the digits registered in the table and dialing stops after seven digits, the system determines the first three digits to be an office code and sends the call to *Class 17.05 – General Office Code Table*. If the first three digits dialed match the digits registered in the table and the system counts a total of ten digits, the first three digits are determined to be an area code and the call is sent to *Class 17.02 – Area Code Table*.

See figure 17.15 for an illustration of the Area/Office Code Screening Table.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	17.15	<tbl1></tbl1>	Area Office Screening	

Programming Field Description

Element Meaning: Area/Office Screening Table number.

Field: Range: 1-8

Data Field: Meaning: Area and/or office code.

Range: Up to 3 digits (0-9)

Default: None.

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{area\ code + office\ code + subscriber\ code\}.$

 $[FLT] + [0][0] + \{office\ code + subscriber\ code\}.$

 $[\underline{\mathsf{OPT}}] + \{area\ code + office\ code + subscriber\ code\}.$

 $[OPT] + \{office\ code + subscriber\ code\}.$

[ICM] + *OPT access code* + {*office code* + *subscriber code*}

 $[ICM] + OPT\ access\ code + \{\ area\ code + office\ code + subscriber\ code\}.$

Class 17.15 — Area/Office Code Screening Table (Cont.) Dial Input: area code + office code + XXXX

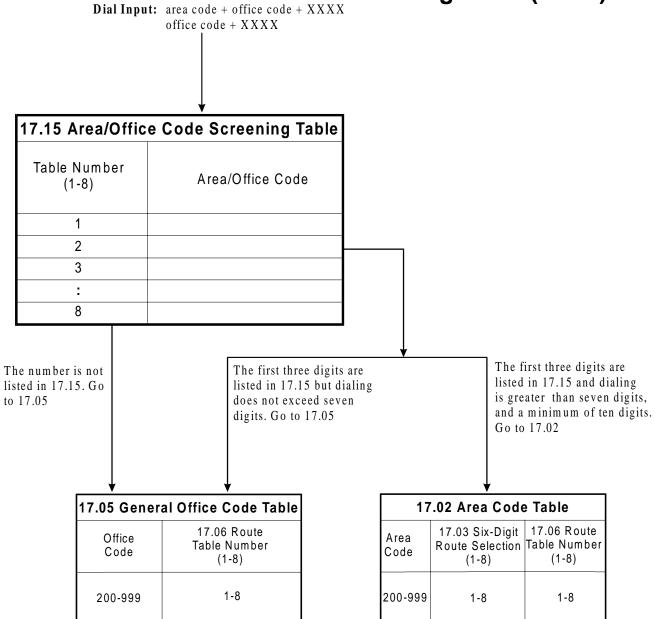


FIGURE 17.15 AREA/OFFICE CODE SCREENING TABLE.

Eight-Digit Dial Enable

Class 17 Item 16

Class 17.16 – Eight-Digit Dial Enable and Class 17.17 – Additional Office Code Prefix Information Table are used to differentiate a "1 + seven-digit" call from a "1 + ten-digit" call using a dial timer.

Note: If Class 17.16 is set to **1**, all calls that start with "1" are subject to a four-second dial digit timer.

If Class 17.16 is set to enabled, the system determines if an area code or an office code follows the prefix based on the total number of digits dialed. If eight digits are counted by the system, after a pause in dialing greater than four seconds, the dialed digits following the prefix are determined to be an office code and the call is routed to *Class 17.05*. If eleven digits are counted by the system, the dialed digits following the prefix are determined to be an area code and the call is routed to *Class 17.02*. Once the route has been selected the system will reference the Add Index Table. The add index reference will then send the call, based on the office code route selection, through an associated reference in Class 17.17.

See figure 17.16 for an illustration of Eight-Digit Dial Enable.

DSS Display

Class/Item	Element Field	Description	Data Field
17.16		8 Digit Dial	0

Programming Field Description

Data Field: Meaning: Activation of Additional Office Code Prefix Information Table.

Range: $\mathbf{0} = \text{do not refer to Class } 17.17$

1 = refer to Class 17.17 for the office code prefix. Also activates a

four-second dial digit timer on all calls beginning with "1"

Default: 0

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number; Class 17.17 Additional Office Code Prefix

Information.

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{area\ code + office\ code + subscriber\ code\}.$

 $[FLT] + [0][0] + \{office\ code + subscriber\ code\}.$

 $[\underline{\mathsf{OPT}}] + \{area\ code + office\ code + subscriber\ code\}.$

 $[OPT] + \{office\ code + subscriber\ code\}.$

[ICM] + *OPT access code* + {*office code* + *subscriber code*}

 $[ICM] + OPT\ access\ code + \{\ area\ code + office\ code + subscriber\ code\}.$

Class 17.16 – Eight-Digit Dial Enable (Cont.)

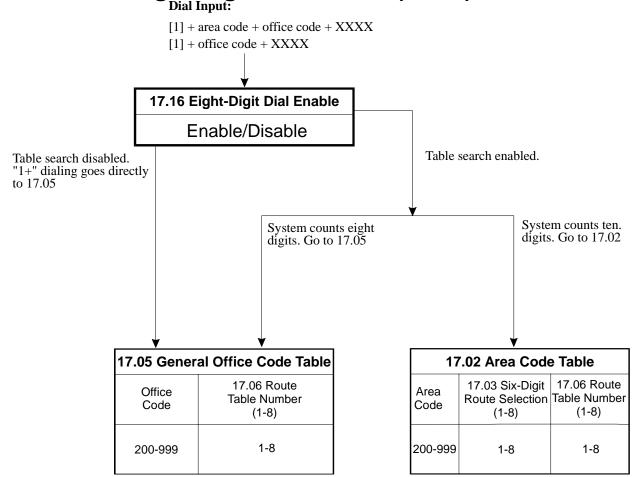


FIGURE 17.16 EIGHT-DIGIT DIAL ENABLE

Additional Office Code Prefix Information

Class 17 Item 17

Class 17.17 – Additional Office Code Prefix Information is used to add the prefix "1" to specific office codes that were dialed by the user as "1 + seven digits". Class 17.17 is only referenced if *Class* 17.16 – *Eight-Digit Dial Enable* is programmed as 1 - enabled. This table does not have an impact on route or trunk group selection. Class 17.17 is referenced during the dialed number modification (i.e., add, delete) after the route has been selected in *Classes 17.05* through 17.09. From Class 17.09 the call is handled as follows:

Type of Call	Reference the following Class(es)
1 + seven digits	Go to Class 17.17 to see if the prefix "1" must be reinserted. Then
	go to Class 17.11 to see if any additional dial data must be added.
Seven digits	Go to Class 17.11 to see if any dial data must be added.

See figure 17.17 for an illustration of the Additional Office Code Prefix Information Table.

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field
17.17	<tbl1-200></tbl1-200>	Add. Office Prefix	

Programming Field Description

Element Meaning: Additional Office Code Prefix Information Table number.

Field 1 (e1): Range: 1-8

Element Meaning: Office code. **Field 2 (e2):** Range: **200-999**

Data Field: Meaning: Dial with/without prefix.

Range: 0 = no prefix

1 =with prefix

Default: **0**

Related Databases:

Required: 02.17 System Prefix; 02.18 Holiday List; 02.19 Time Zone; 10.32 Optimized

Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class

17 Optimized Routing.

Associated: 07.03 COL Group Access Number.

Class 17.17 – Additional Office Code Prefix Information (Cont.)

Related Operation:

Optimized Routing: $[FLT] + [0][0] + \{area\ code + office\ code + subscriber\ code\}.$ $[FLT] + [0][0] + \{office\ code + subscriber\ code\}.$

 $[OPT] + \{area\ code + office\ code + subscriber\ code\}.$

 $[OPT] + \{office\ code + subscriber\ code\}.$

[ICM] + OPT access code + {office code + subscriber code}

[ICM] + OPT access $code + \{ area \ code + office \ code + subscriber \ code \}.$

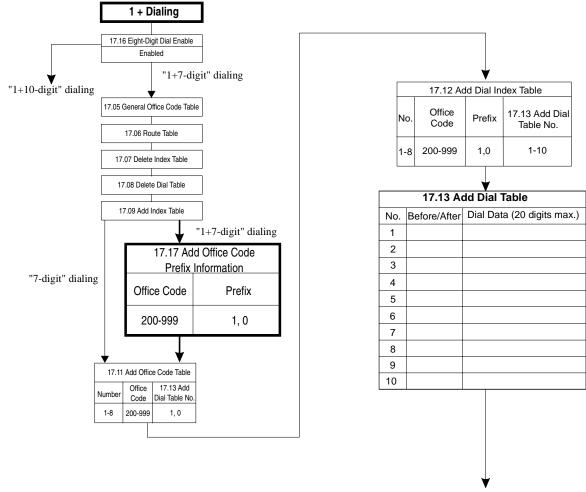


FIGURE 17.17 ADDITIONAL OFFICE CODE PREFIX INFORMATION.

Emergency Specific Code Table

Class 17 Item 18

Class 17.18 – Emergency Specific Code Table is used with Enhanced 911 Service. Digits programmed in this item bypass all other optimized routing programming. Programming in this item determines what dialed digits, besides 911, will activate 911 Emergency Routing.

Important: If 9 is programmed as the access code for optimized routing in Class 07.03<63>, Class 17.18 must include an entry for 11 in order to allow system access to 911 from intercom dial tone.

The table consists of sixteen entries used to enter up to sixteen different specific code dialing patterns. Each of the sixteen entries allows up to four digits to be programmed as specific codes. Some examples of specific codes programmable in this table include: 0, 00, 011, 10288, 10NNN, N11 (N = any digit, 0-9, *, #) plus other dialing codes defined as a valid number.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	17.18	<num01></num01>	S. Code	

Programming Field Description

Element Meaning: Emergency Specific Code Table number.

Field:

Range: **01-16**

Data Field: Meaning: Emergency Specific code data.

Range: Up to 4 digits (0-9)

Default: None

Related Databases:

Required: 01.03 Port Definition; 01.04 Port Configuration; 02.17 System Prefix; 02.18

Holiday List; 02.19 Time Zone; 10.32 Optimized Routing Call; 10.33 Forced Optimized Routing; 10.34 Route Advance Step; Class 17 Optimized Routing.

Associated: 04.70<NUM35> E911 Outgoing Type; 04.71<NUM 06> E911 Relay Number;

04.71<NUM 08> E911 FAIL Rely Number; 04.71<NUM 09> E911 Special Trunk Group; 04.71<NUM 17> E911 CAMA Wink Timer; 04.72<NUM 18> E911 Inf. Port; 10.73<EXTLxxx-4> E911 Area Routing Trunk Group; 11.72<TRKLxxx-3>

E911 Attribute; 15.01 E911 Display Clear; 17.18<NUM 1-16> Emergency

Specific Code; 29.10 Group # (1-60) Emergency Send Dial.

Related Operation:

Optimized Routing: [ICM] + [9][1][1]

[FLT] +[0][0] + [9][1][1].

[OPT] + [9][1][1]

 $[ICM] + OPT\ access\ code + [9][1][1]$

Caller ID/ANI Conversion Data

Class 24 – Caller ID/ANI Conversion Data is used to setup the ADIX calling party display and routing feature when caller ID loop start trunks and ANI (T1) trunks are equipped in the system. It contains the following programming items:

- 24.01 Caller ID/ANI Incoming Number
- 24.02 Caller ID/ANI Conversion Number
- 24.03 Caller ID/ANI Number ID
- (Class 24.04)
- 24.05 Caller ID/ANI Conversion Digits
- 24.06 Caller ID/ANI Conversion Starting Position
- 24.07 ANI Enabled ISDN Trunk

See **Section 3 – Features & Operations** for more information on Caller ID and Automatic Number Identification Service (ANI).

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Caller ID/ANI Incoming Number

Class 24 Item 01

Class 24 Item 01 – Caller ID/ANI Incoming Number is used to list up to 1000 numbers for routing assignment and/or to assign an alphanumeric ID to display on the LCD display of the telephone when this information is not provided by the CO. When an incoming call is received on a caller ID or ANI line, the caller ID/ANI digits are first subject to Class 24.05 – Caller ID/ANI Conversion Digits and Class 24.06 – Caller ID/ANI Conversion Starting Position to determine which caller ID/ANI digits the system will extract. If the system finds a match between the extracted caller ID/ANI digits and a value programmed in this item, it will look to Class 24.02 – Caller ID/ANI Conversion Number and/or Class 24.03 – Caller ID/ANI Number ID for an alphanumeric identifier. If the incoming caller ID/ANI digits are not listed in this item the call is routed according to the following programming items:

- Class 11.34 DIL to Hunt Group
- Class 11.32 Ringing Station
- Class 11.26 Attendant Intercept Line
- Class 04.55 True Attendant Position

Attendant intercept is not available when the system is in night mode. However, calls on caller ID/ANI lines can be programmed in this item to have a different day mode and night mode ringing destination. For example, if the system is programmed as follows:

```
[24.01 <01-001> Caller ID/ANI Incom. No. 2349]
[24.02 <01-001> Caller ID/ANI Conv. No. 349]
```

A call on received with the incoming digits 2349 will ring at extension 349 when the system is in the day mode. The following programming will force the same call to ring at extension 201 when the system is in the night mode:

```
[24.01 <02-001> Caller ID/ANI Incom. No. 2349]
[24.02 <02-001> Caller ID/ANI Conv. No. 201]
```

Note: According to the programming in *Class 04.70 Element 16*, either 500 day mode/500 night mode or 1000 day mode/0 night mode numbers can be entered in Class 24.01.

Private and Out-of-Area Routing for Caller ID Calls

Private and out-of-area calls received on Caller ID (IX-8CITK) lines can be routed according to the programming in the conversion tables in Class 24. To route calls sent as "Private" from the telephone company, program an entry of "###" as the incoming number in Class 24.01. Then program a destination for "###" in Class 24.02. To route calls sent as "Out-of-Area" from the telephone company, program an entry of "***" as the incoming number in Class 24.01. Then program a destination for "***" in Class 24.02.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2	<u>-</u>	d1
24.01	<num1-001></num1-001>	Caller ID/ANI Incoming No.	

Class 24.01 – Caller ID/ANI Incoming Number (Cont.)

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if Class 04.70 Element

16 = 1 - 1000 day mode caller ID/ANI numbers.

Element Meaning: Conversion table number.

Field 2 (e2): Range: **001-500**

Data Field 1: Meaning: Incoming Caller ID/ANI digits.

(d1) Range: Up to 12 digits (0-9, #, *, [NULL], [ALL])

Default: None

Note: For data field 1 (d1) entry a wildcard digit (N) can be used to represent any number (1 - 9, 0): Use [ALL] key to enter N when programming at SATT or DSS. Type [N] from the PC Programmer. For example, d1 = 935NNNN represents any number from 9350000 to 9359999. Enter [#][#][#] for *private* calls. Enter [*][*][*] for *out-of-area* calls.

Related Databases:

Required: 24.02 Caller ID/ANI Conversion Number; 24.03 Caller ID/ANI Number ID; 24.05

Caller ID/ANI Conversion Digits; 24.06 Caller ID/ANI Conversion Starting

Position

Associated: 04.15 Attendant DIL Intercept; 04.25 Elements 08 and 09; 04.70 Element 16;

10.21 Outgoing CO Line Group; 10.43 Off-Hook Signaling; 11.26 Attendant

Intercept Line; 11.32 Ringing Station; 11.38 Outgoing CO Group.

Hardware Required:

IX-8CITK, IX-T1DTI, IX-T1RCV.

Caller ID/ANI Conversion Number

Class 24 Item 02

Class 24 Item 02 – Caller ID/ANI Conversion Number is used to select a destination for an incoming call on a caller ID/ANI line. A call on a caller ID/ANI line can be routed to a station, hunt group, voice mailbox, ACD group, or across a network. In order to enter a conversion number in 24.02 this number must appear in 28.01 Network Conversion Table. Once the number is routed to a remote system the call will not use the ANI conversion table at the remote system. Therefore you must route the call to a valid extension or Hunt Group number in the remote system.

A caller ID/ANI call may also be programmed to follow the primary (Class 11.32) and delayed ringing (Class 11.33) assignment for the trunk. If you wish to route a caller ID/ANI call based on the Class 11.32 and 11.33 programming, the CO Access Number of the trunk (Class 11.02) must be programmed as the destination in this item for the desired entry. If Class 24.02 does not contain data for a string of caller ID/ANI digits entered in *Class 24.01* the following programming items determine where the call is routed:

- Class 11.34 DIL to Hunt Group
- Class 11.32 Ringing Station
- Class 11.26 Attendant Intercept Line
- Class 04.55 True Attendant Position

Note: According to the programming in *Class 04.70 Element 16*, either 500 day mode 500 night mode or 1000 combined day / night mode conversions can be entered in Class 24.

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field d1-d2
24.02	<num1-001></num1-001>	Caller ID/ANI Conv. No.	•

Programming Field Description

(d2)

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if Class 04.70

<NUM16> = 1 – 1000 day mode ANI/Caller ID numbers

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-500

Data Field 1: Meaning: Station, hunt group, voice mailbox access code, trunk access number, or

ACD group number.

(**d1**) Range: Up to **4** digits (0-9, [NULL])

Default: None

Data Field 2: Meaning: Voice mailbox number. **Note:** When converting to a voice mail box use

(d1) for the mailbox access code and (d2) for the mailbox number.

Range: Up to 4 digits (0-9, [NULL])

Default: None

Class 24.02 - Caller ID/ANI Conversion Number (Cont.)

Data Field 2: Meaning: Network Class of Service.

(d2)

Note: When programming a network conversion use (d1) for the station, hunt group, or ACD group access number and (d2) for the Network

Class of Service.

Range: Up to 4 digits (0-9, [NULL])

Default: None

Related Databases:

Required: 24.01 Caller ID/ANI Incoming Number; 24.03 Caller ID/ANI Number ID; 24.05

Caller ID/ANI Conversion Digits; 24.06 Caller ID/ANI Conversion Starting Position; 28.01 Network Number; 28.02 Network Attribute; 28.05 Network

External; 28.06 Network Route Advance Step

Associated: 04.15 Attendant DIL Intercept; 04.25 Elements 08 and 09; 04.70 Element 16;

10.21 Outgoing CO Line Group; 10.43 Off-Hook Signaling; 11.02 CO Line Access Number; 11.26 Attendant Intercept Line; 11.32 Ringing Station; 11.33

Delayed Ringing Station; 11.38 Outgoing CO Group.

Hardware Required:

IX-8CITK, IX-T1DTI, IX-T1RCV.

Caller ID/ANI Number ID

Class 24 Item 03

Class 24 Item 03 – Caller ID/ANI Number ID is used to assign an alphanumeric name to identify each caller ID/ANI number listed in the *Class 24.01 Caller ID/ANI Incoming Number*. The caller ID/ANI number ID is displayed when an incoming call is ringing at a station. The caller ID/ANI number ID is not displayed until after the call has been answered during the following operations:

- Call Forward
- Call Coverage Key Operation
- Group Pick-Up

Note: Information sent by the telephone company with the call overrides programming in this item.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
24.03	<num1-001></num1-001>	Caller ID/ANI Number ID	

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if *Class 04.70 Element 16* = 1 - 1000 day mode caller ID/ANI

numbers.

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-500

Data Field: Meaning: Caller ID/ANI Number ID.

Range: Up to **16** alphanumeric characters

Default: None

Related Databases:

Required: 24.01 Caller ID/ANI Incoming Number; 24.02 Caller ID/ANI Conversion

Number; 24.05 Caller ID/ANI Conversion Digits; 24.06 Caller ID/ANI Conversion

Starting Position.

Associated: None.

Hardware Required:

IX-8CITK; IX-T1DTI; IX-T1RCV.

(Not Used)

Class 24 Item 04

Class 24 Item 04 is not used.

Caller ID/ANI Conversion Digits

Class 24 Item 05

Class 24 Item 05 – Caller ID/ANI Conversion Digits is used to determine how many of the caller ID/ANI digits sent by the CO will be used when a call is received on a caller ID/ANI trunk. If digits other than zero (default) are entered in this item, an entry must also be programmed in Class 24.06 – Caller ID/ANI Conversion Starting Position. If there is a match in Class 24.01 – Caller ID Incoming Number the call will be routed according to the programming in Class 24.02 and/or an alphanumeric ID in Class 24.03. If zero is entered in this item, the complete digit string received from the CO must be entered in Class 24.01. Also, if the total number of digits received from the CO varies, e.g., seven or ten digits, you must enter the complete string of digits in Class 24.01 and disregard Classes 24.05 and 24.06. However, if the total number of digits received from the CO is constant, and you want to route a call based on only a portion of the incoming digits (i.e., area code, office code, etc.), in Class 24.05 you must enter the total number of digits to be used (i.e., three for area code, seven for office code + subscriber number, etc.) and in Class 24.06 enter the first digit to be counted (with the last digit received equal to 1 and the first digit received equal to the total number of digits sent). For example, if the following items are programmed:

[24.01	Caller ID/ANI Incoming Number	201] (actual area code)
[24.05	Caller ID/ANI Conv. Digits	3]
[24.06	Caller ID/ANI Start Point	101

The ADIX will use only the first three caller ID/ANI digits sent by the CO. The system then checks *Class 24.01* for a match. If a match is found the system looks at *Class 24.02* for a destination number and *Class 24.03* for an alphanumeric ID.

DSS Display

Class/Item	Element Field	Description	Data Field
24.05		Caller ID/ANI - Conv. Digits (0→12)	0

Programming Field Description

Data Field: Meaning: Number of caller ID/ANI digits sent by the CO that the system

will use.

Range: **0-12**Default: **0**

Related Databases:

Required: 24.01 Caller ID/ANI Incoming Number; 24.02 Caller ID/ANI Conversion

Number; 24.03 Caller ID/ANI Number ID; 24.06 Caller ID/ANI Conversion

Starting Position.

Associated: 01.03 Port Definition; 01.04 Port Configuration.

Related Operation:

Caller ID and Automatic Number Identification Service

Hardware Required:

IX-8CITK; IX-T1DTI; IX-T1RCV.

Caller ID/ANI Conversion Starting Position

Class 24 Item 06

Class 24 Item 06 – Caller ID/ANI Conversion Starting Position is used to define the digit position at which the system will begin to identify the caller ID/ANI digits to be used to look for a match in *Class* 24.01. If digits other than zero (default) are entered in this item, an entry must also be programmed in *Class* 24.05 – *Caller ID/ANI Conversion Digits* to define how many digits will be used to look for a match in *Class* 24.01. The starting position is programmed as illustrated below:



For example, if the following items are programmed:

[24.01	Caller ID/ANI Incoming Number	935] (actual area code)
[24.05	Caller ID/ANI Conv. Digits	3]
[24.06	Caller ID/ANI Start Point	7]

if the CO is always sending ten caller ID/ANI digits in the format 201 935 8580, the ADIX would use three caller ID/ANI digits (*Class 24.05*) with the first digit used equal to the 7th starting position (*Class 24.06*) and would find a match "935" in *Class 24.01*. *Classes 24.02 and 24.03* would then be checked to determine the alphanumeric ID and routing assignment.

DSS Display

Class/Item	Element Field	Description	Data Field
24.06		Caller ID/ANI Conv. Starting Pos.(0→12)	0

Programming Field Description

Data Field: Meaning: Position of the caller ID/ANI data string at which the system will

begin to extract digits.

Range: **0-12**Default: **0**

Related Databases:

Required: 24.01 Caller ID/ANI Incoming Number; 24.02 Caller ID/ANI Conversion

Number; 24.03 Caller ID/ANI Number ID; 24.05 Caller ID/ANI Conversion

Digits.

Associated: 01.03 Port Definition; 01.04 Port Configuration.

Hardware Required:

IX-8CITK; IX-T1DTI; IX-T1RCV.

ANI Enabled ISDN Trunk

Class 24 Item 07

Class 24 Item 07 — ANI Enabled ISDN Trunk is used to enable the specified ISDN ANI trunk for call routing according to the ANI Conversion Table.

Each ISDN trunk must be enabled for each conversion number (Range: 1-500 in the e2 field) for both the day mode (e1=1) and night mode (e1=2) in this item. Doing so enables the system to route calls according to the ANI digits received. These entries may be quickly programmed using the Copy command of the ADIX PC Programmer Version 7.10.

Note 1: The ADIX will not support an ANI or DNIS alphanumeric name ID sent by the telephone company over the ISDN BRI line. If this information is received with a call, it will not appear on the station LCD. The ADIX displays only ANI/DNIS digits representing the telephone number.

Note 2: If an ISDN trunk is enabled for both ANI call routing and DNIS call routing (Class 25.07), Class 04.70, Element 22 determines which data — ANI or DNIS — is used for routing.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
24.07	<num1-001></num1-001>	ISDN ANI Trunk	0

Programming Field Description

Element Meaning: Day Mode/Night Mode **Field 1 (e1):** Range: 1=day mode, 2=night mode

Default 1

Element Meaning: Conversion Number (based on 24.01)

Field 2 (e2): Range: 1-500 Default 001

Element Meaning: Logical port of ISDN Trunk

Field 4 (e4): Range: 1-200

Default 001

Data Field: Meaning: ISDN is enabled or disabled for call routing according to ANI

Range: **0**= (Solid LED); ISDN trunk is disabled for ANI call routing

1= (Flashing LED); ISDN trunk is enabled for ANI call routing

Default: 0

Related Databases:

Required: 04.70, Element 22; 11.73 Element 2=2; 11.74 Element 2=1; 11.74 Element 2=2;

11.77 Element 2=1; 11.77 Element 2=2; 25.01 Caller ID/ANI Incoming Number; 25.02 Caller ID/ANI Conversion Number; 25.03 Caller ID/ANI Number ID; 25.05 Caller ID/ANI Conversion Digits; 25.06 Caller ID/ANI Conversion Starting

Position.

Associated: 01.03 Port Definition; 01.04 Port Configuration; 25.07 DNIS Enabled ISDN

Trunk.

Class 24.07 – ANI Enabled ISDN Trunk (Cont.)

Hardware Required:

IX-2ICOTB; IX-ICOTP

DNIS Conversion Data

Class 25 – DNIS Conversion Data is used to set up the ADIX to display the dialed digits of an incoming call to the system on T1 trunks. It contains the following programming items:

- 25.01 DNIS Incoming Number
- 25.02 DNIS Conversion Number
- 25.03 DNIS Number ID
- **(25.04)**
- 25.05 DNIS Conversion Digits
- 25.06 DNIS Conversion Starting Position
- 25.07 DNIS Enabled ISDN Trunk

See **Section 3 – Features & Operations** for more information on Dialed Number Identification Service (DNIS).

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DNIS Incoming Number

Class 25 Item 01

Class 25 Item 01 – DNIS Incoming Number is used to list up to 400 numbers to identify the dialed digits of an incoming call on a DNIS line. When the system receives a call on a DNIS line (typically an 800 or 900 line), the DNIS digits are first subject to Class 25.05 – DNIS Conversion Digits, and Class 25.06 – DNIS Conversion Starting Position to determine which DNIS digits the system will extract. If the system finds a match between the extracted DNIS digits and a value programmed in this item it will look to Class 25.03 – DNIS Number ID for an alphanumeric identifier and Class 25.02 – DNIS Conversion Number for the station, hunt group, voice mailbox, or ACD group the call will be routed to. If the extracted DNIS digits are not listed in this item, the call is routed according to the following programming items:

- Class 11.34 DIL to Hunt Group
- Class 11.32 Ringing Station
- Class 11.26 Attendant Intercept Line
- Class 04.55 True Attendant Position

Attendant intercept is not available when the system is in night mode. However, incoming calls on a DNIS line can be programmed in this item to have a different day mode and night mode ringing destination. For example, if the system is programmed as follows:

An incoming call with the extracted DNIS digits 2349 will ring at extension 349 when the system is in the day mode. The following programming will the same call ring at extension 201 when the system is in the night mode:

```
[25.01 <02-001> DNIS Incom. No. 2349]
[25.02 <02-001> DNIS Conv. No. 201]
```

Note: According to the programming in *Class 04.70 Element 16*, either 200 day mode/200 night mode or 400 day mode/0 night mode numbers can be entered in Class 25.01.

DSS Display

Class/Item		Element Field	Description	Data Field
_		e1-e2	<u>-</u>	d1
Ī	25.01	<num1-001></num1-001>	DNIS Conv	

Class 25.01 – DNIS Incoming Number (Cont.)

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if Class 04.70 Element

16 = 1 - 400 day mode DNIS numbers.

Element Meaning: Conversion table number.

Field 2 (e2): Range: **001-200**

Data Field 1: Meaning: Incoming DNIS digits.

(d1) Range: Up to 12 digits (0-9, [NULL], [ALL])

Default: None

Note: For data field 1 (d1) entry a wildcard digit (N) can be used to represent any number (1 - 9, 0): Use [ALL] key to enter N when programming at SATT or DSS. Type [N] from the PC Programmer. For example, d1 = 935NNNN represents any number from 9350000 to 9359999.

Related Databases:

Required: 25.02 DNIS Conversion Number; 25.03 DNIS Number ID; 25.05 DNIS

Conversion Digits; 25.06 DNIS Conversion Starting Position

Associated: 04.15 Attendant DIL Intercept; 04.25 Elements 08 and 09; 04.70 Element 16;

10.21 Outgoing CO Line Group; 10.43 Off-Hook Signaling; 11.26 Attendant

Intercept Line; 11.32 Ringing Station; 11.38 Outgoing CO Group.

Hardware Required:

IX-T1DTI, IX-T1RCV.

DNIS Conversion Number

Class 25 Item 02

Class 25 Item 02 – DNIS Incoming Number is the second part of the DNIS conversion table. It is used to select a destination for an incoming call on a DNIS line. A call on a DNIS line can be routed to a station, hunt group, voice mailbox, ACD group, or over the network, according to the DNIS data received. In order to enter a conversion number in 24.02 this number must appear in 28.01 Network Conversion Table. Once the number is routed to a remote system the call will not use the DNIS conversion table at the remote system. Therefore you must route the call to a valid extension or Hunt Group number in the remote system.

A DNIS call may also be programmed to follow the primary (Class 11.32) and delayed ringing (Class 11.33) assignment for the trunk. If you wish to route a DNIS call based on the Class 11.32 and 11.33 programming, the CO Access Number of the trunk (Class 11.02) must be programmed as the destination in this item for the desired entry. If Class 25.02 does not contain data for a string of DNIS digits entered in *Class* 25.01 the following programming items determine where the call is routed:

- Class 11.34 DIL to Hunt Group
- Class 11.32 Ringing Station
- Class 11.26 Attendant Intercept Line
- Class 04.55 True Attendant Position

Note: According to the programming in *Class 04.70 Element 16*, either 200 day mode 200 night mode or 4000 combined day / night mode conversions can be entered in Class 25.

DSS Display

Class/Item	Element Field e1-e2	Description	Data Field d1-d2
25.02	<num1-001></num1-001>	DNIS Conv. No.	-

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if Class 04.70 <NUM16> = 1 - 400 day mode DNIS numbers.

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-200

Data Field 1: Meaning: Station, hunt group, voice mailbox access code, or ACD group

(d1) number.

Range: Up to 4 digits (0-9, [NULL])

Default: None

Class 25.02 – DNIS Conversion Number (Cont.)

Data Field 2: Meaning: Voice mailbox number. Note: When converting to a voice mail

box use (d1) for the voice mailbox access code and (d2) for the

voice mailbox number.

Range: Up to 4 digits (0-9, [NULL])

Default: None

Data Field 2: Meaning: Network Class of Service.

(d2)

(d2)

Note: When programming a network conversion use (d1) for the station, hunt group, or ACD group access number and (d2) for the

Network Class of Service.

Range: Up to 4 digits (0-9, [NULL])

Default: None

Related Databases:

Required: 25.01 DNIS Incoming Number; 25.03 DNIS Number ID; 25.05 DNIS Conversion

Digits; 25.06 DNIS Conversion Starting Position; 28.01 Network Number; 28.02

Network Attribute; 28.05 Network External; 28.06 Network Route Advance Step

Associated: 04.15 Attendant DIL Intercept; 04.25 Elements 08 and 09; 04.70 Element 16;

10.21 Outgoing CO Line Group; 10.43 Off-Hook Signaling; 11.02 CO Line Access Numbers; 11.26 Attendant Intercept Line; 11.32 Ringing Station; 11.33

Delayed Ringing Station; 11.38 Outgoing CO Group.

Hardware Required:

IX-T1DTI, IX-T1RCV.

DNIS Number ID

Class 25 Item 03

Class 25 Item 03 – DNIS Number ID is used to assign an alphanumeric name to identify each DNIS number listed in *Class 25.01*. The DNIS ID is displayed when a call from a DNIS line is ringing at a station. The DNIS ID is not displayed until after the call has been answered during the following operations:

- Call Forward
- Call Coverage Key Operation
- Group Pick-Up

Note: The programming in this item overrides the DNIS digits sent by the CO on the station LCD. If this item is left blank, the DNIS digits received are displayed on the station LCD.

DSS Display

Class/Item	Element Fields e1-e2	Description	Data Field
25.03	<num1-001></num1-001>	DNIS Number ID	

Programming Field Description

Element Meaning: Toggle between day mode/night mode.

Field 1 (e1): Range: 1 = day mode

2 = night mode/extended day mode if *Class 04.70 Element 16* = 1 - 400 day mode DNIS numbers.

Element Meaning: Conversion table number.

Field 2 (e2): Range: 001-500

Data Field: Meaning: DNIS number ID.

Range: Up to **16** alphanumeric characters

Default: None

Related Databases:

Required: 25.01 DNIS Incoming Number; 25.02 DNIS Conversion Number; 25.05 DNIS

Conversion Digits; 25.06 DNIS Conversion Starting Position.

Associated: None

Hardware Required:

IX-T1DTI; IX-T1RCV.

(Not Used)

Class 25 Item 04

Class 25 Item 04 is not used.

DNIS Conversion Digits

Class 25 Item 05

Class 25 Item 05 – DNIS Conversion Digits is used to determine how many of the DNIS digits sent by the CO will be used when a call is received on a DNIS trunk. If digits other than zero (default) are entered in this item, an entry must also be programmed in Class 25.06 – DNIS Conversion Starting Position. If there is a match in Class 25.01 – DNIS Incoming Number the call will be routed according to the programming in Class 25.02 and/or an alphanumeric ID in Class 25.03. If zero is entered in this item, the complete digit string received from the CO must be entered in Class 25.01. For example, if the following items are programmed:

[25.05 DNIS Conv. Digits 4] [25.06 DNIS Start Pos 4]

The ADIX will use only the last four DNIS digits sent by the CO. The system then checks *Class 25.01* for a match. If a match is found the system looks at *Class 25.02* for a destination number and *Class 25.03* for an alphanumeric ID.

DSS Display

Class/Item	Element Field	Description	Data Field
25.05		DNIS - Conv. Digits (0→12)	0

Programming Field Description

Data Field: Meaning: Number of DNIS digits sent by the CO that the system will

extract.

Range: **0-12**Default: **0**

Related Databases:

Required: 25.01 DNIS Incoming Number; 25.02 DNIS Conversion Number; 25.03 DNIS

Number ID; 25.06 DNIS Conversion Starting Position.

Associated: 01.03 Port Definition; 01.04 Port Configuration.

Hardware Required:

IX-T1DTI; IX-T1RCV.

DNIS Conversion Starting Position

Class 25 Item 06

Class 25 Item 06 – DNIS Conversion Starting Position is used to define the digit position at which the system will begin to identify the DNIS digits to be used to look for a match in *Class 25.01*. If digits other than zero (default) are entered in this item, an entry must also be programmed in *Class 25.05* – *DNIS Conversion Digits* to define how many digits will be used to look for a match in *Class 25.01*. The starting position is programmed as illustrated below:



FIGURE 25.06

FOR EXAMPLE, IF THE FOLLOWING ITEMS ARE PROGRAMMED:

[25.01	DNIS Incoming Number	8581]
[25.05	DNIS Conv. Digits	4]
[25.06	DNIS Start Point	4]

if the CO is always sending ten DNIS digits in the format 800 935 8581, the ADIX would use four DNIS digits (*Class 25.05*) with the first digit used equal to the 4th starting position (*Class 25.06*) and would find a match "8581" in *Class 25.01*. *Classes 25.02 and 25.03* would then be checked to determine the alphanumeric ID and routing assignment.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	25.06		DNIS Conv. Starting Pos.(0→12)	0

Programming Field Description

Data Field: Meaning: Position of the DNIS data string at which the system will begin to

extract digits.

Range: **0-12**Default: **0**

Related Databases:

Required: 25.01 DNIS Incoming Number; 25.02 DNIS Conversion Number; 25.03 DNIS

Number ID; 25.05 DNIS Conversion Digits.

Associated: 01.03 Port Definition; 01.04 Port Configuration.

Hardware Required:

IX-T1DTI; IX-T1RCV.

DNIS Enabled ISDN Trunk

Class 25 Item 07

Class 25 Item 07 — DNIS Enabled ISDN Trunk is used to enable the specified ISDN DNIS trunk for call routing according to the DNIS Conversion Table.

Each ISDN trunk must be enabled for each conversion number (Range: 1-200 in the e2 field) for both the day mode (e1=1) and night mode (e1=2) in this item. Doing so enables the system to route calls according to the DNIS/DID digits received. These entries may be quickly programmed using the Copy command of the ADIX PC Programmer Version 7.10.

Note 1: The ADIX will not support an ANI or DNIS alphanumeric name ID sent by the telephone company over the ISDN BRI line. If this information is received with a call, it will not appear on the station LCD. The ADIX displays only ANI/DNIS digits representing the telephone number.

Note 2: If an ISDN trunk is enabled for both ANI (Class 24.07) call routing and DNIS call routing, Class 04.70, Element 22 determines which data — ANI or DNIS — is used for routing.

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
25.07	<num 1-001=""></num>	ISDN DNIS Trunk	0

Programming Field Description

Element Meaning: Day Mode/Night Mode **Field 1 (e1):** Range: 1=day mode, 2=night mode

Default

Element Meaning: Conversion Table Number (based on 25.01)

Field 2 (e2): Range: 1-200

Default 001

Data Field: Meaning: ISDN is enabled or disabled for call routing according to DNIS

Range: **0**= (Solid LED); ISDN trunk is disabled for DNIS call routing

1= (Flashing LED); ISDNtrunk is enabled for DNIS call routing

Default: 0

Related Databases:

Required: 04.70, Element 22; 11.73 Element 2=2; 11.74 Element 2=1; 11.74 Element 2=2;

11.77 Element 2=1; 11.77 Element 2=2; 25.01 DNIS Incoming Number; 25.02 DNIS Conversion Number; 25.03 DNIS Number ID; 25.05 DNIS Conversion

Digits; 25.06 DNIS Conversion Starting Position.

Associated: 01.03 Port Definition; 01.04 Port Configuration, Class 24.07.

Hardware Required:

IX-2ICOTB; IX-ICOTP

Station Text Message — 1

Use Class 26 – Station Text Message – 1 to program station text messages for station logical ports 001 to 224.

Station Text Message 1

Class 26 Item 01

Class 26 Item 01 – Station Text Message 1 is used to program individual station text messages for station logical ports 001-224 through database programming. Each ADIX station has access to ten personal text messages (text messages 90-99). Station text message can also be programmed at the station level.

Registering a Text Message at a station Use the following dial keys to enter a text message in Class 02.20 from a KT:

Key	Press 1 time	Press 2 times	Press 3 times	Press 4 times
1	-		space	1
2	Α	В	С	2
3	D	E	F	3
4	G	Н	1	4
5	J	K	L	5
6	M	N	0	6
7	0	R	S	7
8	T	U	V	8
9	W	Х	Υ	9
0	Q	Z	0	
*	*			
#	capital letters	lowercase letters		
HOLD	one character write/cancel			

Note: Use Class 27.01 for station logical port numbers 225 to 448.

DSS Display

Class/Item	Element Fields	Description	Data Fields
	e1-e2		
26.01	<extl001-01></extl001-01>	Station Text Message	

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 001-224

Element Meaning: Station text message bin number corresponding to text message

Field 1 (e2): numbers 90-99.

Range: 01 = 90 03 = 92 05 = 94 07 = 96 09 = 98

02 = 91 04 = 93 06 = 95 08 = 97 10 = 99

Data Field: Meaning: Alphanumeric text message.

Range: Up to 16 characters

Default: None

Class 26.01 – Station Text Message 1 (Cont.)

Related Databases:

Required: None.

Associated: 02.20 System Text Message; 04.71 Element 39; 08.06 Text Message Group; 10.72

Element 2=3; 27.01 Station Text Message 2.

Station Text Message — 2

Use Class 27 – Station Text Message – 2 to program station text messages for station logical ports 225 to 448.

Station Text Message 2

Class 27 Item 01

Class 27 Item 01 – Station Text Message 1 is used to program individual station text messages for station logical ports 225-448 through database programming. Each ADIX station has access to ten personal text messages (text messages 90-99). Station text message can also be programmed at the station level.

Registering a Text Message at a station Use the following dial keys to enter a text message in Class 02.20 from a KT:

Key	Press 1 time	Press 2 times	Press 3 times	Press 4 times
1	-		space	1
2	Α	В	С	2
3	D	E	F	3
4	G	Н	1	4
5	J	K	L	5
6	M	N	0	6
7	0	R	S	7
8	Т	U	V	8
9	W	Χ	Υ	9
0	Q	Z	0	
*	*			
#	capital letters	lowercase letters		
HOLD	one character write/cancel			

Note: Use Class 26.01 for station logical port numbers 001 to 224.

DSS Display

Class/Item	Element Fields	Description	Data Fields
	e1-e2		
27.01	<extl001-01></extl001-01>	Station Text Message	

Programming Field Description

Element Meaning: Station logical port number.

Field 1 (e1): Range: 225-448

Element Meaning: Station text message bin number corresponding to text message

Field 1 (e2): numbers 90-99.

Range: 01 = 90 03 = 92 05 = 94 07 = 96 09 = 98

02 = 91 04 = 93 06 = 95 08 = 97 10 = 99

Data Field: Meaning: Alphanumeric text message.

Range: Up to **16** characters

Default: None

Class 27.01 – Station Text Message 2 (Cont.)

Related Databases:

Required: None.

Associated: 02.20 System Text Message; 04.71 Element 39; 08.06 Text Message Group; 10.72

Element 2=3; 26.01 Station Text Message 1.

Networking

Class 28 – Networking contains the programming items required to set up a network of ADIX systems. The following programming items are included in Class 28:

- 28.01 Network Number
- 28.02 Network Attribute
- 28.03 Network Internal
- 28.04 Network Feature
- 28.05 Network External
- 28.06 Network Route Advance Step

Note: Class 07.05 and Class 04.26 that were used to program Networking in previous software versions have been removed in Software Version 6.00.

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Network Number

Class 28 Item 01

Class 28 Item 01 – Network Number is used to program network access numbers. The entries in this table are not dialed out on the call. To add any digits or to redial the access code on the call, the data must be entered in Class 28.03 for internal conversions, Class 28.04 for feature access code conversions and Class 28.05 for external conversions. Each data entry in Class 28.01 can be 1 to 4 digits in length.

When the a network access code programmed in Class 28.01, Data Field 1 is dialed by an extension, the system looks to Class 28.02 to determine the type of conversion (internal, external or feature access), number of digits, and conversion table to use.

28.01 Ne	etwork Conversion Number
Index	Dialed Number
(e1)	(d1)
001	
002	
003	
~	
800	

DSS Display

_	Class/Item	Element Field	Description	Data Field
I	28.01	< NUM001 >	NTWK Number	

Programming Field Description

Element Meaning: Index Number

Field: Range: **001-800**

Data Field: Meaning: Network Access Code

Range: Up to 4 digits in length

Default:

Related Databases:

Required: 28.02

Associated: 28.03; 28.04; 28.05

Network Attribute

Class 28 Item 02

Class 28 Item 02 – Network Attribute is used to determine the attributes of each entry in Class 28.01. The index number (e1) in Class 28.02 is a one-to-one relation with the index number in Class 28.01.

- (d1) This data field is used to set the conversion type of each entry. For internal conversions set (d1) conversion type to 0. For feature access conversions set (d1) conversion type to 1. For external conversions set (d1) conversion type to 2.
- (d2) This data field is used to identify the number of digits that will follow each conversion entry. This is the number of digits the user will dial in conjunction with the conversion entry.
- (d3) This data field is used to set the conversion table to be referenced. The range in Data Field 3 is determined by the programming in Class 28.02, data field 1. (Internal 1-200, Feature Access 1-60, or External 1-600).

	28.02 Conversion Attribute Table					
Index (e1)	Conv. Type (d1)	Exp. Digits (d2)	Conv. Index (d3)			
001	0 – 2					
002						
003						
~						
800						
	0 = Internal 1 = Feature 2 = External		D1=0 = 1 - 200 D1=1 = 1 - 60 D1=2 = 1 - 600			

DSS Display

Class/Item	Element Field	Description	Data Field
			d1-d2-d3
28.02	< NUM001>	NTWK Number	0-00-000

Programming Field Description

Element Meaning: Index Number **Field:** Range: **001-800**

Data Fields: <d1> Conversion Type

Range: 0 = Internal

1 = Feature 2 = External

Default: 0

<d2> Expected Digits

Range: 00-99
Default: 00

Class 28 Item 02 – Network Attribute (Cont.)

<d3> Conversion Table Reference Range: 1-200 if (d1) = 0 – Internal

1-60 if (d1) = 1 – Feature Access

1-600 if (d1) = 2 - External

Default: 0

Related Databases:

Required: 28.01; 28.03; 28.04; 28.05

Associated:

Network Internal

Class 28 Item 03

Class 28 Item 03 – Network Internal is the internal conversion table. The index number (e1) listed in Class 28.03 corresponds to the number entered in Class 28.02, Data Field 3 (d3). There are 16 possible translations per entry based on the network class of service programmed for the station. The network class of service is programmed in Class 10.75 <EXTLxxx-04>

	28.03 Internal Conversion Table					
Index (e1)		Network Class of Service Translation (e2)				
	01	02	03	07	٠	16
1						
2						
3						
~			ICM number	r to be dialed		
200						

DSS Display

Class/Item	Element Field	Description	Data Field
	e1-e2		
28.03	< NUM001-01>	NTWK Number	

Programming Field Description

Element <E1> NUMxxx **Fields:** Meaning: Index Number

Range: **001-200** <E2> -xx

Meaning: Network Class of Service Translation

Range: **01-16**

Data Field: Meaning Enter the ICM Number.

Range: 1-4 digits

Default:

Related Databases:

10.75<EXTLxxx-04>; 28.01; 28.02

Network Feature

Class 28 Item 04

Class 28 Item 04 – Network Feature is the feature conversion table. Currently, the feature access table may only be used to turn on and off Message Waiting Lamps at the location. The index number listed in Class 28.04 (e1) corresponds to the number entered in Class 28.02, Data Field 3 (d3). Enter the feature number in Data Field 2 (d2). The feature number corresponds to Class 07.06. Set Data Field 1 to 0 to activate the feature, and a 1 to cancel the feature. Use Data Field 3 to add additional digits to the dial string.

	28.04 Feature Access Conversion Table				
Index	Action	Feature	Add Dial Data		
(e1)	(d1)	(d2)	(d3)		
1	0 - 1	19	xxxx		
2					
~					
60					
	0 = Enable	Currently only			
	1 = Disable	supports			
		Message Waiting			
		and Cancel Code			

DSS Display

Class/Item	Element Field	Description	Data Field
			d1-d2-d3
28.04	< NUM01>	NTWK Feature	00-00-

Programming Field Description

Element Meaning: Index Number

Field: Range: 01-60

Data Fields: <d1> Action

Range: 0 = Enable

1 = Disable

Default: 0

<d2> Feature (only Message Waiting)

Range: **01, 19**Default: 00

<d3> Digits to be added to dial string

Range: Default:

Related Databases:

07.06; 28.01; 28.02

Network External

Class 28 Item 05

Class 28 Item 05 – Network External is the external conversion table. The index number (e1) listed in Class 28.05 corresponds to the number entered in Class 28.02, Data field 3 (d3). There are three route steps (e2) for each translation. Route Advance Steps are used if the trunk group programmed as route step 1 (e2=1) is busy. Access to route advance steps is programmed on a station-by-station basis using Class 10.75<EXTLxxx-04> Network Class of Service and Class 28.06 – Network Route Advance Step.

To program an external conversion in Class 28.05, enter the trunk group to be used in data field 1 (d1). Use data field 2 (d2) to program the digits to be sent to the distant system. Select 0 to output the dialed digits plus the additional digits programmed in Class 28.05, Data field 4 (d4). Select 1 to ignore the dialed digits and output only the digits programmed in Class 28.05, data field 4 (d4). Input digits are the number of digits collected after the access code was dialed. The number of digits to collect was set in Class 28.02, Data Field 2 (d2). Data Field 3 (d3) is used to enable in-band signaling for the trunk group. When in-band signaling is ON, Caller ID/ANI/DNIS and Station Information is sent with the call across the network. If you are networking to an ADIX system with software version 6.00, set data field 3 (d3) to 1 – use in-band signaling. If you are connecting to another system or an ADIX with system software prior to version 6.00, set data field 3 (d3) to 0. Data field 4 (d4) is used to program the additional dialed digits including pauses.

	28.05 Ex	ternal Conversion Tables	Route Step 1-3 (e2)	
Index (e1)	Trk Group (d1)	Add Dial Only (d2)	In-band Signal (d3)	Add Dial Data (d4)
1	1 – 60	0 – 1	0 - 1	
2				
3				
~				
600				
		0 = Add dial + Input 1 = Add dial only	0 = No In-band 1 = Use In-band	

DSS Display

Class/Item	Element Field	Description	Data Field
	<e1>-<e2></e2></e1>		d1-d2-d3-d4
28.05	< NUM001-1>	NTWK External	00-0-0-

Programming Field Description

Element Meaning: Index Number

Field: Range: **001-600**

Class 28 Item 05 – Network External (Cont.)

Data Fields: <d1> Trunk Group

Range: 01-60 Default: 00

<d2> Outgoing dial string Range: 0 = Add dial + Input1 = Add dial only

Default: 0

<d3> Enable/Disable In-band Signaling Range: 0 = Do not use in-band signaling

1 = Use in-band signaling

Default: 0

<d4> Outgoing digits or pauses to be added to the dial string

Range: Default:

Related Databases:

04.70 <NUM33>; 09.06; 10.75(EXTLxxx-04); 24.02; 25.02; 28.01; 28.02; 28.06.

Network Route Advance Step

Class 28 Item 06

Class 28 Item 06 – Network Route Advance Step is used to set the route advance step for each network class of service. Route advance steps are only used when the outgoing trunk group programmed in Class 28.05, Data Field 1 or 2 is busy.

The route advance step used is based on the Network Class of Service programmed for the station in Class 10.75<EXTLxxx-04>. If the advance step is set to 0 the station user cannot advance to the next step. If the advance step is 1 then the station user can advance to the second route. An advance step of 2 will allow the user to use all three routes.

28.06 Netw	28.06 Network COS Advance Step Table				
Network COS	Advance Step				
(e1)	(d1)				
1	0-2				
2					
3					
~					
16					

DSS Display

Class/lte	em Element Field	Description	Data Field
28.06	< NUM01>	NTWK External	0

Programming Field Description

Element Meaning: Network Class of Service (Class 10.75<EXTLxxx-04>)

Field: Range: 01-16

Data Field: Advance Steps allowed.

Range: 0=No Advance Step

1=Allow Advance to Step 2 Only 2=Allow Advance to Step 2 and Step 3

Default: 0

Related Databases:

10.75<EXTLxxx-04>; 28.05

ISDN PRI Line Programming

Class 29 and Class 30 – ISDN PRI Line Programming contains the programming items required to set up enhanced features on ISDN PRI Lines. The following programming items are included in Classes 29 and 30:

- **(29.01)**
- **(29.02)**
- 29.03 ISDN Trunk Group
- 29.04 Call-by-Call Attribute
- 29.05 Service Parameters
- 29.06 Ringing Station by ANI Table
- 29.07 Ringing Station by DNIS Table
- 29.08 B-Channel Table Number
- 29.09 Calling Party Number
- 30.01 Attached B Channel

Group Attribute (Reserved)

Class 29 Item 01

Class 29 Item 01 – Group Attribute is not used. This item must remain set to its default value of 0 for all groups.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	29.01	<grp01></grp01>	Group Attribute	0

Group Name (Reserved)

Class 29 Item 02

Class 29 Item 02 – Group Name is not used.

DSS Display

	Class/Item	Element Field	Description	Data Field
I	29.02	<grp01></grp01>	Group Name	

ISDN Trunk Group

Class 29 Item 03

Class 29 Item 03 – ISDN Trunk Group is used to assign ISDN PRI lines to trunk groups for use with the Call-by-Call, I-CNIS, and Fractional DS1 features. When an ISDN Trunk Group is accessed during an incoming or outgoing call, the individual ISDN PRI lines in the trunk group are eligible to receive a dynamic assignment on a call by call basis based on the action being performed. If an ISDN PRI line is not assigned to a trunk group in Class 29.03, that ISDN line will not support the Call-by-Call, I-CNIS, and Fractional DS1 features.

Note1: If a specific channel of an ISDN PRI line is directly accessed by pressing a [COLn] key, that call will not follow the programming in Class 29 unless the selected trunk is programmed to the same trunk group number in both Class 11.38 and Class 29.03. Enhanced ISDN features are only available on ISDN PRI lines associated with an ISDN trunk group programmed in Class 29.03.

A total of 60 trunk groups may be programmed in the system. An ISDN PRI line may belong to multiple trunk groups. ISDN Trunk Groups programmed in Class 29.03 are subject to all outgoing and incoming call restrictions programmed in Class 11. Additionally, stations accessing an ISDN Trunk Group programmed in Class 29.03 are subject to all restrictions programmed for that station in Class 10.

Note2: A total of 60 trunk groups may be programmed in the system. Both Class 11.38 – Outgoing CO Group and Class 29.03 have access to the same bank of 60 trunk groups. Trunks may be assigned to multiple groups in Class 29.03. Iwatsu recommends that ISDN PRI lines assigned to an ISDN trunk group in Class 29.03 are also assigned to the same trunk group in Class 11.38. Further, Iwatsu also recommends reserving trunk groups for ISDN lines only.

Note3: At system default, all system trunks are assigned to trunk group 1 in Class 11.38. Iwatsu recommends using a trunk group other than trunk group 1 as the ISDN Trunk Group.

Note4: Future Consideration: In order to comply with U.S. government regulations, a new E911 E&M Trunk used to access a new Enhanced E911 Service feature will be added in the near future. By default, trunks configured as E911 E&M will be assigned to trunk group 60. For this reason, Iwatsu recommends using a trunk group other than trunk group 60 as the ISDN Trunk Group.

DSS Display

Class/Item	Element Field	Description	Data Field
29.03	<grp01></grp01>	Logical Trunk	

Programming Field Description

Element Meaning: ISDN Trunk Group Number

Field: Range: **01-60**

Class 29 Item 03 – ISDN Trunk Group (Cont.)

Data Field: Meaning: Define the trunk logical ports that belong to the specified

ISDN trunk group using the DSS buttons.

Range: Solid LED (0) – not part of the ISDN Trunk Group

Flashing LED (1) – part of the ISDN Trunk Group

Default: Solid

Related Databases:

Required: 01.03; 01.04

Associated: Class 10; Class 11; 11.38; 29.04; 29.05; 29.06; 29.07; 29.08; 29.09; 30.01

Call-by-Call Attribute

Class 29 Item 04

Class 29 Item 04 – Call-by-Call Attribute is used to program the network attribute that identifies the type service being subscribed to on the lines programmed in the specified the ISDN Trunk Group. Each ISDN Trunk Group may be assigned only one attribute in Class 29.04. There are five attribute options to choose from. Each of these is listed below followed by a brief description.

Data Field	Option	Description
Value		
0	No NSF	No Network Specific Facility is used
1	In-WATS	Incoming WATS line
2	Out-WATS	Outgoing WATS line
3	FX	Foreign Exchange Trunk
4	Tie Line	Two-way, switch-to-switch connection

In order to support multiple NSFs on one ISDN PRI line, the channels on which those services are permitted must be programmed in a unique trunk group in Class 29.03. That trunk group must then be assigned a call by call attribute in class 29.04. For example, on an ISDN PRI line you wish to allow local calls on channels 001-023, Tie line calls on Channels 001-009, and FX calls on channels 011-016. Programming would then be as follows:

ISDN PRI LINE (Trunk Logical Ports 001-023)							
Type of Call	Call Trunk Group Number Logical Ports in Trunk Call-by- Call Attribute						
	(29.03)	Group	(29.04)				
Local Calls	02	001-023	0=No NSF				
Tie Line Calls	03	001-009	4=Tie Line				
FX Calls	04	011-016	3 =FX Calls				

DSS Display

	Class/Item	Element Field	Description	Data Field	
Ī	29.04	<grp01></grp01>	Call Attribute	0	

Programming Field Description

Element Meaning: ISDN Trunk Group Number (Class 29.03)

Field: Range: **01-60**

Data Field: Meaning: Call Attribute

Range: 0-4 (See above table)

Default: 0

Related Databases:

Required: 01.03; 01.04; 29.03; 29.05

Associated: Class 10; Class 11; 11.38; 29.06; 29.07; 29.08; 29.09; 30.01

Service Parameters

Class 29 Item 05

Class 29 Item 05 – Service Parameters is used to further define an NSF option defined in Class 29.04. This item has no effect if 0 – No NSF is selected in Class 29.04.

The data programmed in Class 29.05 is supplied by the ISDN service provider. For example, enter the band number for an Out-WATS line. Enter the facility number for a FX line or Tie Line.

DSS Display

	Class/Item	Element Field	Description	Data Field	
Ī	29.05	<grp01></grp01>	NSF SV Param	0	

Programming Field Description

Element Meaning: ISDN Trunk Group Number (Class 29.03)

Field: Range: 01-60

Data Field: Meaning: Service Parameter

Range: Up to 6 digits (Null, 0-9)

Default: 0

Related Databases:

Required: 01.03; 01.04; 29.03; 29.04

Associated: Class 10; Class 11; 11.38; 29.06; 29.07; 29.08; 29.09; 30.01

Ringing Station by ANI Table

Class 29 Item 06

Class 29 Item 06 – Ringing Station by ANI Table is used to identify the Class 24 ANI conversion table through which to route an incoming call received with NSF information on the specified ISDN Trunk Group (Class 29.03). This item is only used if Class 04.70<NUM22> is set to Route by ANI and the call is received with NSF.

There are three modes to choose from using (e2). When (e2)=1, routing is through the specified Class 24 ANI Conversion Table only during the day mode. When (e2)=2, routing is through the specified Class 24 ANI Conversion Table only during the night mode. When (e2)=3, the call will always be routed through the specified Class 24 ANI Conversion Table.

Note: Class 29.06, (e2=n) Data 501-1000 corresponds with Class 24.XX, (e1=2) night/extended day mode settings 1-500.

DSS Display

Class/Item	Element Field	Description	Data Field	
	<e1>-<e2></e2></e1>			
29.07	<grp01-1></grp01-1>	RNG Stn. ANI	0	

Programming Field Description

Element <E1> <GRP01

Fields: Meaning: ISDN Trunk Group Number (Class 29.03)

Range: **01-60** <E2> -1>

Meaning: Day/Night/Always

Range: 1=Day

2=Night 3=Always

Data Field: Meaning: Class 24 ANI table number

Range: 0-1000

Default: 0

Related Databases:

Required: 01.03; 01.04; 04.70<16>; 04.70<22>; 24.03; 29.03; 29.04

Associated: Class 10; Class 11; 11.38; Class 24; 29.06; 29.07; 29.08; 29.09; 30.01

Ringing Station by DNIS Table

Class 29 Item 07

Class 29 Item 07 – Ringing Station by DNIS Table is used to identify the Class 25 DNIS Conversion Table number through which to route an incoming call received with NSF information on the specified ISDN Trunk Group (Class 29.03). This item is only used if Class 04.70<NUM22> is set to Route by DNIS and the call is received with NSF.

There are three modes to choose from using (e2). When (e2)=1, routing is through the specified Class 25 DNIS Conversion Table only during the day mode. When (e2)=2, routing is through the specified Class 25 DNIS Conversion Table only during the night mode. When (e2)=3, the call will always be routed through the specified Class 25 DNIS Conversion Table.

Note: Class 29.07, (e2=n) Data 201-400 corresponds with Class 25.XX, (e1=2) night/extended day mode settings 1-200.

DSS Display

	Class/Item	Element Field	Description	Data Field	
		<e1>-<e2></e2></e1>			
Ī	29.07	<grp01-1></grp01-1>	Stn. DNIS	0	

Programming Field Description

Element <E1> <GRP01

Fields: Meaning: ISDN Trunk Group Number (Class 29.03)

Range: **01-60** < E2> -1>

Meaning: Day/Night/Always

Range: **1**=Day

2=Night **3**=Always

Data Field: Meaning: Class 25 DNIS table number

Range: 0-400 Default: 0

Related Databases:

Required: 01.03; 01.04; 04.70<16>; 04.70<22>; 25.03; 29.03; 29.04

Associated: Class 10; Class 11; 11.38; Class 25; 29.06; 29.07; 29.08; 29.09; 30.01

B-Channel Table Number

Class 29 Item 08

Class 29 Item 08 – B-Channel Table Number is used to identify the table in Class 30 Item 01 that denotes the active B channels for the specified ISDN trunk group (Class 29.03). This item requires programming only when the Fractional DS1 feature is used.

DSS Display

Class/Item	Element Field	Description	Data Field	
29.08	<grp01></grp01>	Bch Pool Number	0	

Programming Field Description

Element Meaning: ISDN Trunk Group Number (Class 29.03)

Field: Range: 01-60

Data Field: Meaning: Class 30.01 Table Number

Range: 1-60 Default: 0

Related Databases:

Required: 01.03; 01.04; 30.01

Associated: 11.38

Calling Party Number

Class 29 Item 09

Class 29 Item 09 – Calling Party Number is used to assign a number to be sent as the I-CNIS with all outgoing calls made on that trunk group. The ISDN trunk group is programmed in Class 29.03. Class 29.09 is ignored if Speed Dial Bin 97 is programmed at the station placing the call after accessing the specific ISDN Trunk Group. Personal Speed Bin 97 cannot be used when using I-CNIS on the ISDN trunk group. If Personal Speed Bin is used in this circumstance, the phone will not dial out.

DSS Display

	Class/Item	Element Field	Description	Data Field
Ī	29.09	<grp01></grp01>	Call Pty Number	

Programming Field Description

Element Meaning: ISDN Trunk Group Number (Class 29.03)

Field: Range: **01-60**

Data Field: Meaning: I-CNIS Data to be sent with call

Range: Null, Dial 1

Default: Null

Related Databases:

Required: 01.03; 01.04; 29.03

Associated: Class 10; Class 11; 11.38; Personal Speed Dial Bin 97.

Emergency Send Dial

(Software Versions 6.10 and Higher Only)

Class 29 Item 10

Class 29 Item 10 – Emergency Send Dial. Class 29.10 is used when Area Routing via the Proposed "40,000 Square Foot Rule" is selected as the method for Enhanced 911 Service in Class 04.70<NUM35> (data field 1=1). This item determines the exact dial string that is sent to the CO with a 911 call.

When Area Routing is selected in Class 04.70<NUM35>, each station in a defined area must be associated with a specific system trunk group (Class 11.38) in Class 10.73<EXTLnnn-4>. For example, a building with three floors assigns the stations on floor 1 to trunk group 1 in Class 10.73<EXTLnnn-4>, stations on floor 2 to trunk group 2 in Class 10.73<EXTLnnn-4>, and stations on floor 3 to trunk group 3 in Class 10.73<EXTLnnn-4>.

When a system extension dials 911, the data programmed in Class 29.10 will be sent with the call via a CO line in the trunk group associated with the specific area from which the call originated. Up to 24 digits including pauses may be entered for each trunk group. In most cases, only 911 will be entered in Class 29.10. If the ADIX APS system is behind Centrex, 9 [pause] will be required before the digits 911. If a 911 call is made from an off-premise (OPX) extension, additional digits may be required in place of 911 to route the call to the PSAP in the local area of the OPX.

Important: In order for an emergency call to be properly routed using the Proposed "40,000 Square Foot Rule," Class 29.10 must be programmed with the digits 911, or other digits required to complete the call to the PSAP. If 911 is not programmed as part of the dial string in Class 29.10, 911 routing using the Proposed "40,000 Square Foot Rule" will not operate.

DSS Display

	Class/Item	Element Fields e1-e2	Description	Data Field
Ī	29.10	<grpxx></grpxx>	EMG. Send Dial	911

Programming Field Description

Element Meaning: Trunk Group Number (Class 11.38)

Field 1 (e1): Range: 1-60

Data Field: Meaning: Digits that are dialed out on trunk to Public Safety

Answering Point.

Range: 1-24 digits (0-9, *, #, null, pause)

Default: 911

Class 29 Item 10 – Emergency Send Dial (Cont.)

Related Databases:

Required: 11.38 Outgoing CO Group.

Associated: 04.70<NUM35> E911 Outgoing Type; 04.71<NUM 06> E911 Relay Number; 04.71<NUM 08> E911 FAIL Rely Number; 04.71<NUM 09> E911 Special Trunk Group; 04.71<NUM 17> E911 CAMA Wink Timer; 04.72<NUM 18> E911 Inf. Port; 10.73<EXTLxxx-4> E911 Area Routing Trunk Group; 11.72<TRKLxxx-3> E911 Attribute; 15.01 E911 Display Clear; 17.18<NUM 1-16> Emergency Specific Code; 29.10 Group # (1-60) Emergency Send Dial.

Hardware Required:

Any Trunk Card.

ISDN PRI Line Programming (2)

Class 29 and Class 30 – ISDN PRI Line Programming contains the programming items required to set up enhanced features on ISDN PRI Lines. The following programming items are included in Classes 29 and 30:

- **(29.01)**
- **(29.02)**
- **■** 29.03 *ISDN Trunk Group*
- 29.04 Call-by-Call Attribute
- 29.05 Service Parameters
- 29.06 Ringing Station by ANI Table
- 29.07 Ringing Station by DNIS Table
- 29.08 *B-Channel Table Number*
- 29.09 *Calling Party Number*
- 30.01 Attached B Channel

Attached B Channel

Class 30 Item 01

Class 30 Item 01 – Attached B Channel is used to identify the B channels in a specific ISDN Trunk Group (29.03) that are active. This item requires programming in Class 29.08 in order to specify an ISDN Trunk Group. Class 30.01 has no effect without programming in Class 29.08.

DSS Display

Class/Item Element Field		Element Field	Description	Data Field
		<e1>-<e2></e2></e1>		
	30.01	<grp01-01></grp01-01>	Attached B-ch	`

Programming Field Description

Element <E1> <GRP01

Fields: Meaning: Class 30.01 Table Number

Range: **01-60** < E2> -01>

Meaning: Interface ID Number

Range: **0-8**

Data Field: Meaning: Active B-Channels

Range: **Solid LED (0)** – B-Channel not active

Flashing LED (1) – B-Channel is active

Default: Flashing

Related Databases:

Required: 01.03; 01.04; 29.08

Associated: 11.38

ADIX Database Relationships

Chapter 3 describes the database items that are related to the major ADIX features. For a detailed description of each item mentioned in this chapter refer to *Chapter 2 – Database Description*.

The features discussed in this chapter are listed below:

- Attendant Console
- CO Disconnect Detection
- Direct InwardDialing
- Direct Inward System Access
- Flexible Relay/Sensors
- Incoming Call Ringing
- Incoming CO Access Restriction
- ISDN BRI Line Connection
- Optimized Routing
- Outgoing Dialing

- Paging
- Remote Diagnostics/Programming
- Station Message Detail Recorder
- Station Hunt Groups
- System Networking
- System Speed Dialing
- Toll Restriction
- Trunk/Station Queuing
- Uniform Call Distribution
- Voice Mail/Automated Attendant Integration

Attendant Console

The ADIX Attendant Console requires two system ports for the two console channels and one port for the IX-BLF unit. Many programmable features related to the attendant position are not discussed here.

Database Programming Requirements

Class 01.03 – Port Definition is programmed for:

0-0-0-logical port number

Class 01.04 – Port Configuration is programmed for:

primary channel = 1, secondary channel = 2, BLF channel = 3, etc.

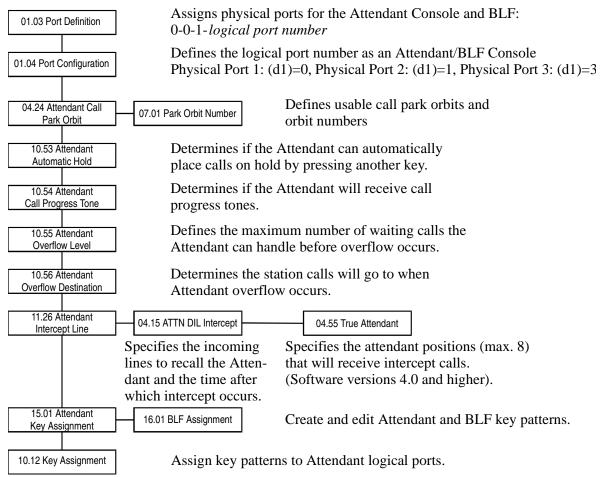


FIGURE 6.3-1

CO Disconnect Detection

The ADIX can be programmed to detect disconnect in one of two ways, by monitoring tip/ring battery at the IX-8LGTK line card or by monitoring voice signals at the IX-4TRAN conference card.

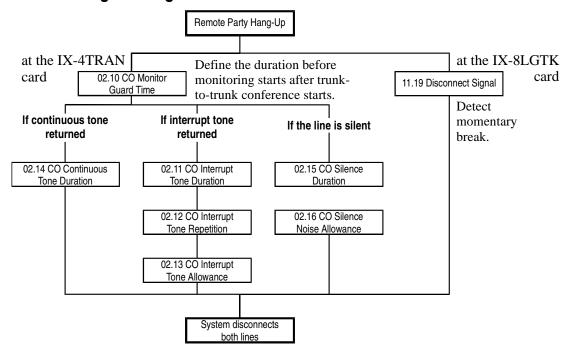
Monitoring at the IX-8LGTK is effective for detection of all disconnect status including lines on hold. Monitoring at the IX-4TRAN applies to monitoring trunk-to-trunk conference status only. The IX-4TRAN card is programmable to monitor the line status by measuring the duration of either a continuos tone (dial tone), a repeated interrupt signal or silence.

Database Programming Requirements

Class 01.03 – Port Definition is programmed as:
2-0-0-logical port number for IX-4TRAN.

Class 01.04 – Port Configuration is programmed as:
0-1 for disconnect detect.

Database Programming Flow Chart



Programming Notes:

- Classes 02.11, 02.14 and 02.15 define the minimum tone duration required to detect disconnect.
- Class 02.12 defines the minimum number of times the signal must be repeated to detect disconnect.
- Class 02.13 specifies the allowance for irregular tone patterns that will be considered in monitoring for disconnect.

Direct Inward Dialing (DID)

When the IX-4DITK card detects incoming digits from the central office, they are converted into extension numbers to ring directly at an ADIX station.

Database Programming Requirements

Class 01.03 – Port Definition is programmed as:

1-0-2-logical port number for DID Trunk.

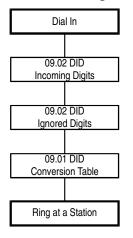
Class 01.04 – Port Configuration is programmed as either:

0-1-1 for disconnect signal detect, immediate mode.

or

0-1-2 for disconnect signal detect, wink mode.

Database Programming Flow Chart



Central Office sends dialed number to the IX-4DITK trunk card.

Define the number of digits coming into the IX-4DITK trunk card.

Defines the number of digits to be ignored before converting the incoming dial data into the extension number.

Converts the relevant incoming digits to the extension number.

Direct Inward System Access (DISA)

An outside party can access the ADIX system features by calling in on regular CO lines assigned and activated by DISA. In software versions 4.0 and higher, Remote CO Forward can also be activated or deactivated by an outside party calling through DISA with a station password.

Database Programming Requirements

Class 01.03 – Port Definition is programmed as:

1-0-0-logical port number for Loop Start Trunk.

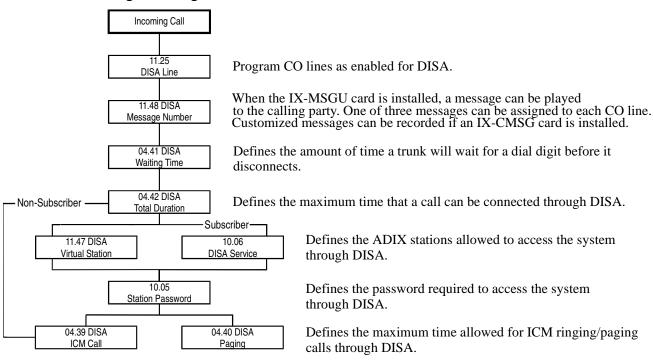
or

1-0-1-logical port number for Ground Start Trunk.

Class 01.04 – Port Configuration is programmed as either:

0-1 for no polarity reversal, disconnect signal detect.

Database Programming Flow Chart



Feature Operation:

To dial in through DISA:

- 1. Incoming call on a DISA line
- 2. Do one of the following:
 - If you are a subscriber: dial [#][#] (to interrupt message) + [*] + extension number (or virtual extension number) + password.
 - If you are not a subscriber: For ICM calls only, dial an extension number.
- 3. Dial [#][#] to reorder ICM dial tone.

Flexible Relay Sensors

Six types of input/output devices can be connected to the ADIX through the IX-EDCTU and IX-MISC cards.

Database Programming Requirements

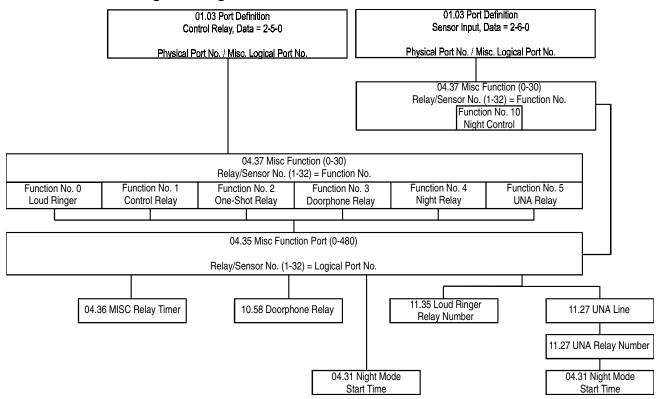
Class 01.03 – Port Definition is programmed as:

2-5-0-logical port number for output.

or

2-6-0-logical port number for input.

Database Programming Flow Chart



Programming Notes:

- Class 04.36 defines the duration of relay operation.
- Class 10.58 specifies the relay number which corresponds to a doorphone incoming call.
- Class 11.27 defines trunk logical ports assigned for UNA.
- Class 11.28 specifies the relay number for the UNA relay.
- Class 04.31 specifies the time of day that CO lines are automatically switched to night mode.

Incoming Call Ringing

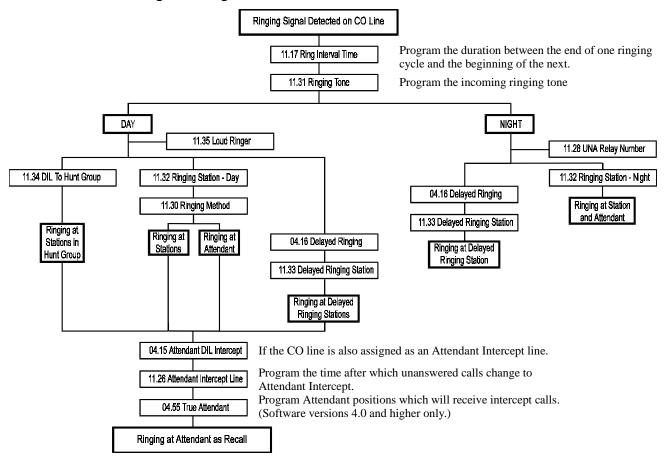
In default, all incoming calls will ring at the first 16 stations (station logical port numbers 001-016). The calls will ring at attendant positions, KTs, SLTs and external ringers as defined in the database.

Database Programming Requirements

Class 01.03 – Port Definition is programmed as:
1-0-0-logical port number for Loop Start Trunks.
or

 $1\hbox{-}0\hbox{-}1\hbox{-}logical\ port\ number\ for\ Ground\ Start\ Trunks.$

Database Programming Flow Chart



Programming Notes:

- Class 04.16 defines the time after which unanswered calls change to Delayed Ringing.
- Class 11.34 specifies the hunt group number at which incoming calls will ring.

Incoming CO Access Restriction

Each CO line can be programmed to have restricted and non-restricted groups of stations assigned to specific CO lines. The restriction level can vary by group and apply to all operations related to incoming call access. In software versions 3.0 and higher, incoming CO access restrictions programmed for a group also apply to outgoing calls.

Database Programming Requirements

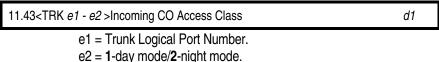
Class 10.22 – Incoming CO Access Group (1-60) Class 11.43 – Incoming CO Access Class (0-4) Class 11.44 – Access Group Number

To program incoming CO access restriction:

1. Define the Station Access Group Assignment. Use Class 10.22 to assign each station to an access group. Up to 60 separate groups can be defined. The Incoming CO Access Groups are referenced in Class 11.44 to determine station access rights to incoming calls.

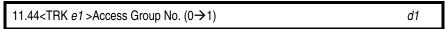
d1 = Access Group Number.

2. Define the restriction level for each line for the day and night modes. There are a four restriction levels.



d1 = Access Restriction Class (0-4).

3. Register an access group number assigned in Class 10.22 as either restricted or non-restricted for each trunk line. If a system is restricted in Class 11.44, the system will revert to Class 11.43 to determine the restriction level.



e1 = Trunk Logical Port Number.

d1 = Use DSS buttons to program a group as access restricted (solid LED) or access unrestricted (flashing LED).

Restriction Levels

The restriction level, as programmed in Class 11.43, is a value between 0 and 4. If the restriction level is set to **0**, there is no restriction on that trunk line, even for stations that do not belong to an access group. If the restriction level is set to **1**, restrictions are placed on incoming calls. Delayed ringing calls can be answered by stations in a group programmed as restriction level 1 in Class 11.44. Camp-on calls, calls on hold, transferred calls, privacy released calls and recalls cannot be answered by access restricted groups. Barge-in capability on that line is also denied for access restricted groups. If the restriction level is set to **2** or **3**, restrictions are placed on answering incoming calls and barge-in calls. Once a call is answered by a station in an unrestricted group, a station in a restricted group can access all calls except for barge-in. The difference between restriction levels 2 and 3 is LED indications for the line key on the phone. If the restriction level is set to **4**, restrictions are placed on recalls and outgoing calls only.

Operation	Lev	el 1	Level 2		Level 3		Level 4	
	Restriction	Indication	Restriction	Indication	Restriction	Indication	Restriction	Indication
Incoming Ringing	deny	yes	deny	yes (busy)	deny	yes (busy)	allow	yes
Calls On Hold	deny	no	allow	yes	allow	yes	allow	yes
Camp-On Calls	deny	no	allow	yes	allow	yes	allow	yes
Transferring Calls	deny	no	allow	yes	allow	no	allow	yes
Privacy Released Calls	deny	no	allow	yes	allow	yes	allow	yes
Recalls	deny	no	deny	yes (busy)	deny	yes (busy)	deny	yes
Barge-In Calls	deny	N/A	allow	N/A	deny	no	allow	yes
Delayed Ringing Calls	allow	yes	allow	yes	allow	no	allow	yes
Outgoing Calls	deny	N/A	deny	N/A	allow	yes	deny	yes

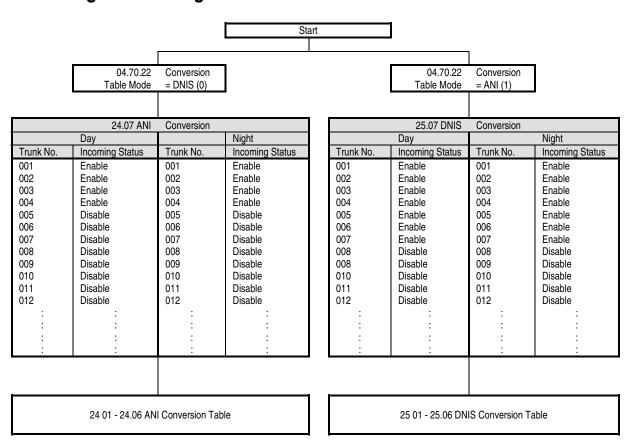
ISDN BRI Line Connection

This section lists a summary of the database programming required for ISDN BRI subscriber line connection. In this example, the IX-2ICOTB card is installed in IX-CMM card slot 4 (physical ports 17-24).

Trunk Port Database Settings

	-				ADIX Port	ADIX Database			
CO Network	Physical Port No.	Logical port No.	01.03 definition	01.04 Configuration	11.08 Dial Type	11.73.02 ISDN Switch Type	11.74.01 ISDN Interface ID	11.74.02 D- channel ID	11.77 ISDN SPID
ISDN Circuit1 1st B channel	17	1	COL- ISDN	p-mp2 Bch BRI Ch(up)=0 Ch(low)=1	DP	NI1 or DMS100 or 5ESS	0	0	
ISDN Circuit1 2 ^{ndt} B channel	18	2	COL- ISDN	p-mp2 Bch BRI Ch(up)=0 Ch(low)=2	DP	NI1 or DMS100 or 5ESS	0	0	
ISDN Circuit1 D channel	20	3	COL- ISDN	p-mp2 Dch BRI Ch(up)=0 Ch(low)=0	DP	NI1 or DMS100 or 5ESS	0	0	20193585800101 20193585801101
ISDN Circuit2 1st B channel	21	4	COL- ISDN	p-mp2 Bch BRI Ch(up)=0 Ch(low)=1	DP	NI1 or DMS100 or 5ESS	0	0	
ISDN Circuit2 1 ^{2ndt} B channel	22	5	COL- ISDN	p-mp2 Bch BRI Ch(up)=0 Ch(low)=2	DP	NI1 or DMS100 or 5ESS	0	0	
ISDN Circuit2 D channel	24	6	COL- ISDN	p-mp2 Dch BRI Ch(up)=0 Ch(low)=0	DP	NI1 or DMS100 or 5ESS	0	0	20193585820101 20193585830101

Incoming Call Routing



Optimized Routing

Optimized routing is one of the most complicated programming items offered in the ADIX System. It is recommended that an optimized routing plan is thoroughly and carefully planned before database programming begins. For software versions 4.50/5.50 and higher the optimized routing database is compatible with the North American Numbering Plan effective January 1995.

See Class 17 – Optimized Routing for detailed information regarding an optimized routing plan.

Database Programming Requirements

Class 17 – Optimized Routing

Outgoing Dialing

Dialing parameters such as dial signal, dial speed and DP break ratio can be adjusted for each line using the ADIX database. On outgoing calls the system will permit the use of features such as multitrunk conferencing after sender time-out has occurred.

Database Programming Requirements

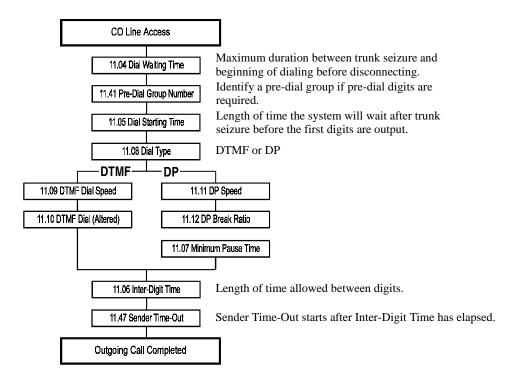
Class 01.03 – Port Definition is programmed as:

1-0-0-logical port number for Loop Start Trunks.

1-0-1-logical port number for Ground Start Trunks.

1-1-0-logical port number for PBX Trunks.

1-2-0-logical port number for E&M Trunks.



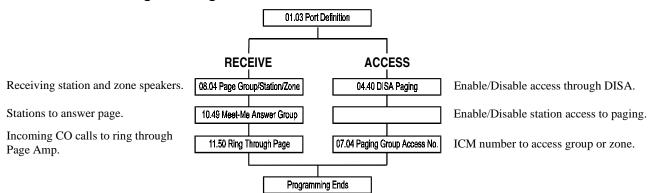
Paging

Paging consists of two basic functions, accessing paging and receiving paging. A maximum of 61 page groups can be created. Group numbers 1-30 are reserved for calls to individual page groups. Group numbers 31-60 are reserved for paging calls to external zones. Group 63 is reserved for the All Call/Page feature. The table below provides a more detailed description of page groups:

Page Group	Page Feature	Notes
01-29	Station Group Call	A station can belong to more than one group.
30	Internal Group – All Call	All station page.
31-59	Zone Page	
60	Zone – All Call	All zone page.
63	Page All Groups (30 + 60)	Other station groups or zones may not be substituted for the All Page
		Group.

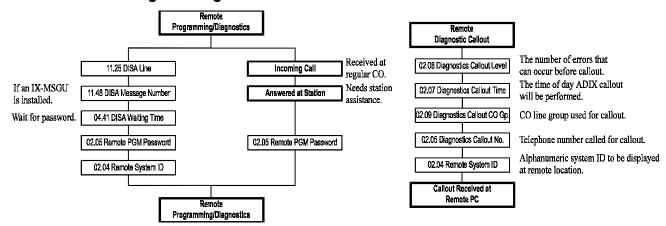
Database Options

Class 01.03 – Port Definition is programmed as: 2-4-0-logical port number for zone page.



Remote Diagnostics/Programming

In order to have Remote Diagnostics/Programming capabilities, the ADIX System must be set up for both remote access and ADIX callout. Remote access to the system database can be achieved through a DISA line by either entering a password or with operator assistance. The IX-RMPU card must be installed for remote system access and diagnostics. Programming includes CO line group programming and DISA programming.

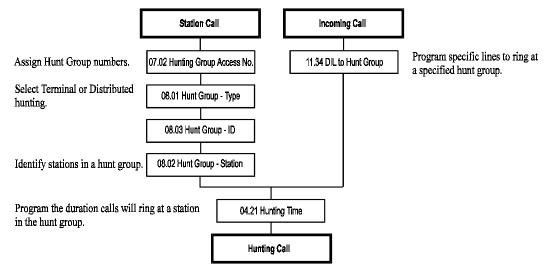


Station Hunt Groups

Up to 60 Hunt Groups are programmable through the ADIX database. Each hunt group can be assigned an individual hunting method, either terminal or distributed, and can have an alphanumeric ID.

Database Options

Class 04.21 – Hunting Time
Class 07.02 – Hunting Group Access Number
Class 08.01 – Hunt Group – Type
Class 08.02 – Hunt Group – Station
Class 08.03 – Hunt Group – ID
Class 11.34 – DIL to Hunt Group



Station Message Detail Recorder (SMDR)

In the ADIX system, each subsystem can have its own SMDR printer. Therefore, the various parameters, such as stations and trunks, must be programmed individually in each subsystem.

Database Options

Class 04.25 – Calls for Pickup (Software Versions 3.0 and higher only.)

Class 04.50 – SMDR Output Port

Class 04.51 – SMDR-Minimum Call Duration

Class 04.52 – SMDR-Incoming Call Report

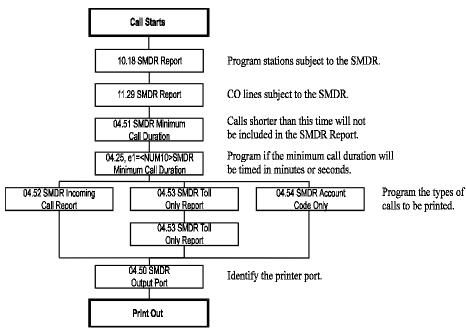
Class 04.53 - SMDR-Toll Only Report

Class 04.54 – SMDR-Account Code Only

Class 06.07 – SMDR Table

Class 10.18 – SMDR Report

Class 11.29 – SMDR Report



System Networking

A network linking an ADIX system to up to 60 other ADIX Systems or third-party systems via outgoing trunk groups can be created using database programming. This allows for quick inter-network dialing using ICM numbers. Typically, E&M Tie Lines are used. Depending on the programming capability of a third-party system, that system may only be able to receive calls from the ADIX using ICM dialing.

Each system within the network is given a network access code up to four digits in length. When the system detects ICM dialing which includes a network access code, it will automatically dial out using a specified trunk group and place the call directly at the station dialed at the remote site. Three database items are used to set up a network, Class 04.26 – Networking Plan, Class 07.05 – PBX Network Access Number and Class 11.38 – Outgoing CO Group.

To setup a network:

1. Use Class 04.26 to identify the CO Group number used for network access, the total digits dialed out to the network by the stations for networking and additional dialing required to access the network site. The Network Data Table programmed in this item is directly linked to Class 07.05.

04.26 <NUM e1 >Networking Plan d1-d2-d3

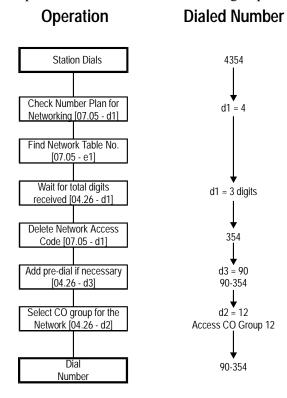
- e1 = Network Data Table Number (1-60).
- d1 = Number of digits dialed out to the network site. (excluding the Class 07.05 Dial Code)
- d2 = CO Group number (CO Group Number programmed in Class 11.38).
- d3 = Additional pre-dial digits sent to the network.
- 2. Use Class 07.05 to program the access code for each system in the network. When the number programmed here is dialed from ICM, the system will dial out on the trunk group specified in Class 04.26 adding any pre-dial digits.

07.05< NUM *e1* >PBX — Network Acc. No. *d1*

e1 = Network Data Table Number (1-60) from Class 04.26.

d1 = Network Access Code (1-4 digits).

When a station accesses an ICM line and dials a Network Access Number, the system operates as illustrated in the following sequence:

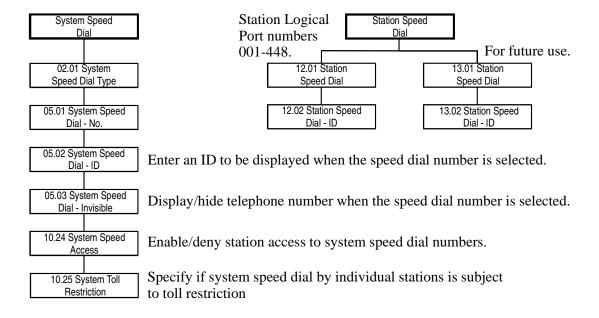


Network Planning Table

Class 04.26 & 07.05 (e1)	Class 04.26 – Networking Plan			Class 07.05 – Network Access No.
Network Data Table No.	Total Digits Dialed (d1)	CO Group No. (d2)	Additional Pre-Dial (d3)	Network Access Code (d1)
01	, ,		ì	
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
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25				
26				
27				
28				
29				
30				
60	<u> </u>		<u> </u>	

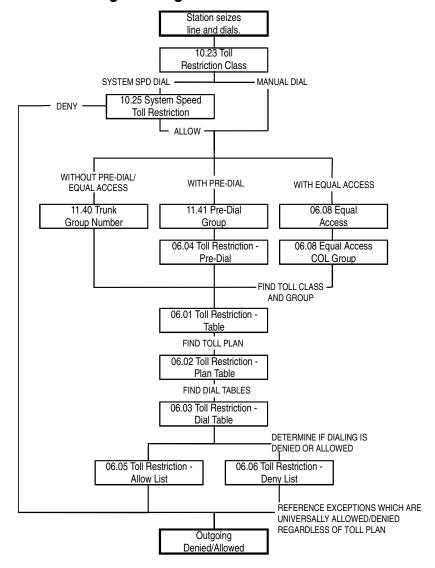
System Speed Dialing

The ADIX System can be programmed at the database level for system-wide speed dial numbers and at the station level for individual station speed dial numbers. Each station can program up to ten speed dial numbers. System-wide speed dialing can contain a maximum of either 90 or 900 speed dial numbers depending on the value programmed in *Class 02.01 - System Speed Dial Type*. Access to system speed dial numbers is determined on a station by station basis using *Class 10.24 - System Speed Dial Access* and *Class 10.25 - System Speed Toll Restriction*. Dialing is subject to any toll restriction programmed.



Toll Restriction

Toll restriction is programmable through the ADIX database using a chain of reference data or dial tables through which an outgoing call is either allowed or denied. The system can contain a maximum of 40 toll plans each of which either allows or denies up to eight tables of dial data. Each dial table contains ten entry lines of eight dialed digits. An entry line can reference another entry line to program up to 32 digits of allow or deny codes.



Trunk and Station Queuing

There are four types of queuing features provided in the ADIX System:

- Trunk Queuing
- Timed Trunk Queuing
- Off-Hook Trunk Queuing
- ICM Call Back

Class 10.19 - Queuing Class determines the priority in which the station can access these features.

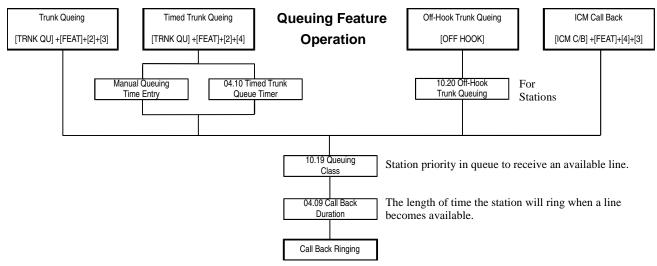
Database Options

Class 04.09 - Call Back Duration

Class 04.10 - Timed Trunk Queuing

Class 10.19 - Queuing Class

Class 10.20 - Off-Hook Trunk Queuing



Uniform Call Distribution

Individual CO lines terminating to the ADIX can be designated as Uniform Call Distribution (UCD) lines. A call on a UCD line will ring at a hunt group. While the call is ringing at the stations in the designated hunt group, two messages balanced with MOH can be played at specified intervals until the call is answered. If the call is not answered within the UCD Overflow Time, the line can be programmed to bounce the UCD call to an overflow destination.

Database Options

Class 01.03 – Port Definition programmed as:

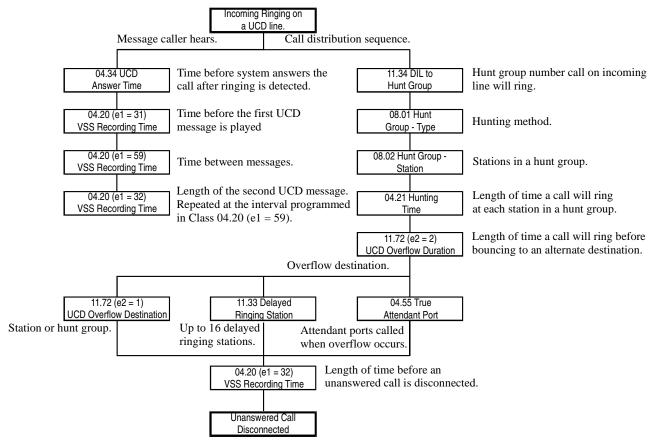
1-0-0-logical port number for Loop Start Trunks.

or

1-0-1-logical port number for Ground Start Trunks.

Class 01.04 – Port Configuration

Class 11.23 – UCD Lines



Voice Mail/Automated Attendant Integration

The ADIX can be integrated with most commercially available voice mail and automated attendant (VM/AA) systems provided it is running software versions 4.0 and higher. When a voice mail or automated attendant system answers a call, the ADIX sends in-band DTMF signals to identify the call status.

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Database Options

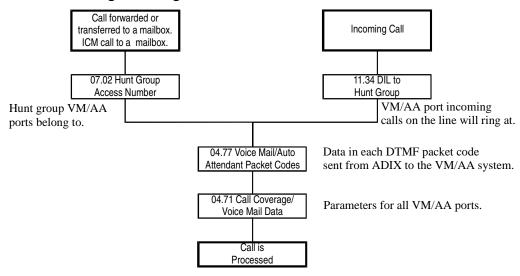
Class 01.03 - Port Definition programmed as:

1-4-1-logical port number for voice mail or auto attendant.

Class 01.04 – Port Configuration programmed as:

0 = voice mail.

1 = auto attendant.



Appendix

Required Databases for Major System Features

Listed below are some of the major features programmable using the ADIX database. Required databases are listed below.

Basic System Features

System Configuration

- 01.03 Port Definition
- 01.04 Configuration
- 01.06 Station Ports
- 01.07 Trunk Ports

Clock And Calendar

- 03.01 Time Of Day
- 03.02 Calendar (mm/dd/yy)

System Parameters

Numbering Plan

- 07.01 Park Orbit Number
- 07.02 Hunting Group Access No.
- 07.03 CO Line Group Access No.
- 07.04 Paging Group Access No.
- 07.05 PBX-Network Access No.
- 07.06 Feature Access Number
- 10.02 Station Numbering
- 11.02 CO Line Access Numbers

Group Data

- 08.01 Hunt Group Type
- 08.02 Hunt Group Station
- 08.03 Hunt Group ID
- 08.04 Page Group Station/Zone

CO Line Related Features

Outgoing Calls (General)

- 07.03 CO Line Group Access No.
- 10.07 Quick Mode Operation
- 10.09 Prime Line Access
- 10.21 Outgoing CO Line Group
- 10.26 DP to DTMF Signal Alteration
- 10.30 Automatic Outgoing CO
- 11.38 Outgoing CO Line Group
- 11.44 Access Group Number

CO Line Related Features (cont.)

Outgoing Calls (Dialing)

- 04.47 Auto Repeat Dial-Duration
- 04.48 Auto Repeat Dial-Off Hook
- 04.49 Auto Repeat Dial-Repetition
- 10.14 Dial Confirmation Tone
- 10.27 Auto. Signal Alternate
- 10.28 Dial On Conversation
- 10.29 Pre-set Dial
- 11.04 Dial Waiting Time
- 11.05 Dial Starting Time
- 11.06 Inter-digit Time
- 11.07 Minimum Pause Time
- 11.08 Dial Type
- 11.09 DTMF Dial Speed
- 11.10 DTMF Dial (Altered)
- 11.11 DP Speed
- 11.12 DP Break Ratio
- 11.13 Sender Time Out
- 11.14 Automatic Pause Time
- 11.15 CO Flash Time
- 11.16 Centrex Flash Time
- 11.41 Predial Group Number

Outgoing Calls (System Speed Dialing)

- 02.01 System Speed Dial Type (0:90 1:900)
- 05.01 System Speed Dial No.
- 05.02 System Speed Dial ID
- 05.03 System Speed Dial Invisible
- 10.24 System Speed Access
- 10.25 System Speed Toll Restriction

Outgoing Calls (Station Speed Dialing)

- 12.01 Station Speed Dial
- 12.02 Station Speed Dial-ID

CO Line Related Features (cont.)

CO Line Related Features (cont.)

Outgoing Calls (Optimized Routing)

- 02.17 System Prefix
- 02.18 Holiday List
- 02.19 Time Zone
- 10.32 Optimized Routing Call
- 10.33 Forced Optimized Routing
- 10.34 Route Advance Step
- Class 17 Optimized Routing

Outgoing Calls (Equal Access)

- 06.09 Equal Access PIN Code
- 06.10 Equal Access PIN Position
- 06.11 Equal Access Prefix
- 06.12 Equal Access CO Line Group
- 10.31 Equal Access
- 11.42 Equal Access Group Number

Outgoing Calls (Call Back and Queuing)

- 04.09 Call Back Duration
- 04.10 Timed Trunk Queue Timer
- 04.11 Off-hook Trunk Queue Duration
- 10.19 Queuing Class
- 10.20 Off-hook Trunk Queuing

Incoming Calls (Caller ID/ANI/DNIS)

- 01.03 Port Definition
- 01.04 Configuration
- 04.70 Programming Reserve 1
- 04.71 CC/VM Data
- 04.72 Programming Reserve 3
- 04.77 VM/AA Packet Codes
- Class 24 Caller ID/ANI Conversion Data
- Class 25 DNIS Conversion Data

Incoming Calls (General)

- 10.35 Off-Hook CO Answering
- 10.36 Answer Hold
- 11.37 Forced Release Condition

Incoming Calls (Ringing)

- 04.16 Delayed Ringing
- 04.17 Doorphone Answer Time
- 04.18 Reminder Ring Duration
- 10.13 Pre Ringing
- 10.57 Doorphone Ringing
- 10.58 Doorphone Relay
- 10.59 Doorphone Tone
- 11.17 Ring Interval Time
- 11.22 DND Override Ringing

Incoming Calls (Ringing) (cont.)

- 11.30 Ringing Method
- 11.31 Ringing Tone
- 11.32 Ringing Station
- 11.33 Delayed Ringing Station
- 11.35 Loud Ringer Relay Number
- 11.50 Ring Through Page

Incoming Calls (Direct Inward Line)

- 04.15 Attendant DIL Intercept
- 11.49 DIL Line
- 11.34 DIL to Hunt Group
- 11.26 Attendant Intercept Line

Incoming Calls (Universal Night Answering)

- 04.31 Night Mode Start Time
- 11.27 UNA Line
- 11.28 UNA. Relay Number

Incoming Calls (Group Call Pick Up)

- 04.25 Calls for Pickup
- 10.51 Call Pickup Group

Incoming Calls (UCD)

- 04.34 UCD Answer
- 11.23 UCD Line
- (04.20 VSS Recording Time)

Incoming CO Access Restriction

- 10.22 Incoming CO Access Group
- 11.43 Incoming CO Access Class
- 11.44 Access Group No.

Incoming Calls (Automatic CO Answering)

- 04.14 Automatic CO Answer
- 11.24 Auto Answer Line
- 11.45 Auto Answer Message 1
- 11.46 Auto Answer Message 2
- (04.20 VSS Recording Time)

Line Holding (Hold/Call Park)

- 04.08 Hold Recall Timer
- 04.12 Camp-on Duration
- 04.24 Attendant Call Park Orbit
- 04.29 SLT Consultation Hold
- 04.30 Trunk To Trunk Hold
- 07.01 Park Orbit No.
- 10.36 Answer Hold
- 10.37 Hold Recall

CO Line Related Features (cont.)

CO Line Related Features (cont.)

Line Holding (Music on Hold)

02.03 MOH Source Selection04.05 MOH Input Port

Trunk-to-Trunk Conference Calls (Conference Call)

- 04.30 Trunk to Trunk Hold
- 10.40 Barge in Station 10.43 Off-Hook Signal
- 10.43 Off-Hook Signaling
- 10.44 Protected Station11.18 Line Loss

Trunk-to-Trunk Conference Calls (Disconnect)

- 01.04 Configuration
- 02.11 CO Interrupt Tone Duration
- 02.12 CO Interrupt Tone Repetition
- 02.13 CO Interrupt Tone Allowance
- 02.14 CO Continuous Tone Duration
- 02.15 CO Silence Duration (sec)
- 02.16 CO Silence Noise Allowance
- 02.17 CO Monitor Guard Time
- 11.19 Disconnect Signal
- 11.37 Forced Release Condition

Outgoing Call Restriction (Toll Restriction)

- 06.01 Table (0-32)
- 06.02 Plan Table
- 06.03 Dial Table
- 06.04 Pre-Dial
- 06.05 Allow List
- 06.06 Deny List
- 06.07 SMDR Table
- 06.08 Equal Access
- 06.09 Equal Access PIN Code
- 06.10 Equal Access PIN Pos.
- 06.11 Equal Access Prefix
- 06.12 Equal Access CO Line Group
- 10.23 Toll Restriction Class
- 10.25 System Speed Toll Restriction
- 11.40 TR Group Number
- 11.41 Predial Group Number
- 10.52 TR Class Alternating Group

Direct Inward Dialing

- 09.01 DID Conversion Table
- 09.02 DID Incoming Digits
- 09.03 DID Ignored Digits

Direct Inward System Access (DISA)

- 04.39 DISA-ICM Call
- 04.40 DISA-Paging
- 04.41 DISA-Waiting Time
- 04.42 DISA-Total Duration
- 10.06 DISA Service
- 11.25 DISA Line
- 11.47 DISA Virtual Station
- 11.48 DISA Message Number
- (04.20 VSS Recording Time)

Remote Call Forwarding

- 04.43 Remote CO Forward Incoming Group
- 04.44 Remote CO Forward-Outgoing Group
- 04.45 Remote CO Forward-Message No.
- 04.46 Remote CO Forward-Duration
- 11.38 Outgoing CO Group
- 11.39 Incoming CO Group
- 02.11 CO Interrupt Tone Duration
- 02.12 CO Interrupt Tone Repetition
- 02.13 CO Interrupt Tone Allowance
- 02.14 CO Continuous Tone Duration
- 02.15 CO Silence Duration (sec)

(04.20 VSS Recording Time)

Call Forwarding

- 04.13 Call Forward No Answer
- 10.16 Call Forwarding
- 10.73 Call Forward Modes

Line Class of Service

- 11.03 Line ID
- 11.13 Sender Time Out
- 11.14 Automatic Pause Time
- 11.18 Line Loss
- 11.19 Disconnect Signal
- 11.20 E&M On-hook Detect
- 11.21 Prime Line
- 11.22 DND CO Override Ringing
- 11.38 Outgoing CO Group
- 11.39 Incoming CO Group
- 11.44 Access Station

Station Related Features

Flexible Key Assignment

10.12 Key Assignment14.01 Key Assignment

Station to Station Calls

04.22 ICM Call Mode 10.40 Barge in Station

10.40 Barge in Station 10.08 Off-hook ICM

10.41 Busy Override

10.42 DND

10.43 Off-hook Signaling

10.44 Protected Station

10.39 Direct Station to Station Call

10.50 ICM Group

Station Hunting

04.21 Hunting Time

07.02 Hunting Group Access No.

08.01 Hunt Group - Type

08.02 Hunt Group - Station

08.03 Hunt Group - ID

11.34 DIL to Hunt Group

Attendant

04.24 Attendant Call Park Orbit

04.55 True Attendant Position

10.53 Attendant Automatic Hold

10.54 Attendant Call Progress Tone

10.55 Attendant Overflow Level

10.56 Attendant Overflow Destination

11.26 Attendant Intercept Line

15.01 Attendant Key Assignment

16.01 BLF Assignment

Call Back and Queuing

04.09 Call Back Duration

04.10 Timed Trunk Queue Timer

04.11 Off-Hook Trunk Queue Duration

10.19 Queuing Class

10.20 Off-Hook Trunk Queuing

Paging

04.40 DISA-Paging

07.04 Paging Group Access No.

08.04 Page Group - Station/Zone

10.38 Paging Access

10.49 Meet-Me Answer Group

11.50 Ring through Page

Station Related Features (cont.)

Background Music

04.03 BGM Input Port 04.04 BGM Output Port

Station Password

04.27 Station Password Digits 10.05 Station Password

Station Class of Service

10.03 Station Distance

10.04 Station User ID

10.07 Quick Mode Operation

10.08 Off-hook ICM

10.09 Prime Line Access

10.10 Hookflash Timing

10.11 Data Module Communication

10.15 Handset Volume Control

10.17 Screened Transfer (SLT)

10.20 Off-hook Trunk Queuing

10.21 Outgoing CO Line Group

10.22 Incoming CO Group No.

10.26 DP to DTMF Signal Alteration

10.27 Auto. Signal Alternating

10.30 Automatic Outgoing CO

10.35 Off-Hook CO Answering

10.36 Answer Hold

10.37 Hold Recall10.38 Paging Access

10.39 Direct Station to Station Call

10.40 Barge in Station

10.41 Busy Override

10.42 DND

10.43 Off-hook Signaling

10.44 Protected Station

10.45 Message Key

10.46 SLT Hook-switch Flash

10.47 Howler Alert

10.48 Calling Mode

(04.22 ICM Calling Mode)

10.49 Meet-Me Answer Group

10.50 ICM Group

10.52 TR Class Alternating Group

10.60 DM Link

Attendant

04.24 Attendant Call Park Orbit 10.53 Attendant Automatic Hold 10.54 Attendant Call Progress Tone 10.55 Attendant Overflow Level 10.56 **Attendant Overflow Destination** 11.26 Attendant Intercept Line 15.01 Attendant Assignment 16.01 **BLF** Assignment

Networking

- 04.26 Networking Plan
- 07.05 PBX-Network Access No.
- 28.06 Network Route Advance Step

Remote Diagnostics

- 02.04 Remote System ID
- 02.05 Remote Programming Password
- 02.06 Diagnostics Callout No.
- 02.07 Diagnostics Callout Time (hh:mm)
- 02.08 Diagnostics Callout Level
- 02.09 Diagnostics Callout CO Group

SMDR

- 04.50 SMDR-Output Port
- 04.51 SMDR-Minimum Call Duration
- 04.52 SMDR-Incoming Call Report
- 04.53 SMDR-toll Only Report
- 04.54 SMDR-Account Code Only
- 06.07 SMDR Table
- 10.18 SMDR Report
- 11.29 SMDR Report

Relay/Sensor

- 01.03 Port Definition
- 04.35 MISC Function Port
- 04.36 MISC Relay Timer
- 04.37 MISC Function
- 10.58 Doorphone Relay
- 11.35 Loud Ringer Relay Number
- 11.28 UNA Relay Number

System Programming

02.05 Remote PROGRAMMING Password

Modem/Data

- 02.02 Modem Signal Output Level
- 04.06 Pooled Modem Port
- 10.11 Data Module Communication
- 10.60 DM Link

Voice Messaging

- 04.20 VSS Recording Time
- 04.32 Auto CO Answer Start Time
- 04.33 CO Answer Day
- 11.24 Auto. Answer Line
- 11.45 Auto Answer Message 1
- 11.46 Auto Answer Message 2

Hotel/Motel

- 04.13 Wake Up Call Report Port
- 04.28 Hotel Mode
- 10.52 TR Class Alternating Group

(The following features are only available with Software Versions 4.0 and higher.)

Call Coverage

- 04.71 Call Coverage
- 10.70 Call Coverage of ICM Calls
- 11.70 Call Coverage Trunks
- 10.12 Key Assignment (Station Key Patterns)
- 14.01 Key Assignment
- 15.01 Attendant Key Assignment

Fixed Call Forward

- 04.13 Call Forward No Answer
- 10.16 Call Forwarding
- 10.73 Call Forward Modes
- 10.78 Fixed Call Forward Destination

Voice Mail/Automated Attendant Integration

01.03	Port Definition
01.04	Configuration
)4.71	Call Coverage/Voice Mail Data
)4.77	Voice Mail/Auto Attendant Packet Codes
07.02	Hunting Group Access No.
08.02	Hunt Group - Station
11.34	DIL to Hunt Group
14.01	Key Assignment
15.01	Attendant Key Assignment

Uniform Call Distribution (UCD) System Programming

Remote Programming Password
VSS Recording Time (Elements 31, 32, 59,
60)
Hunting Time
UCD Answer Time
Hunting Group Access No.
Hunt Group - Type
Hunt Group - Station
UCD Line
DIL to Hunt Group
UCD Overflow Calls