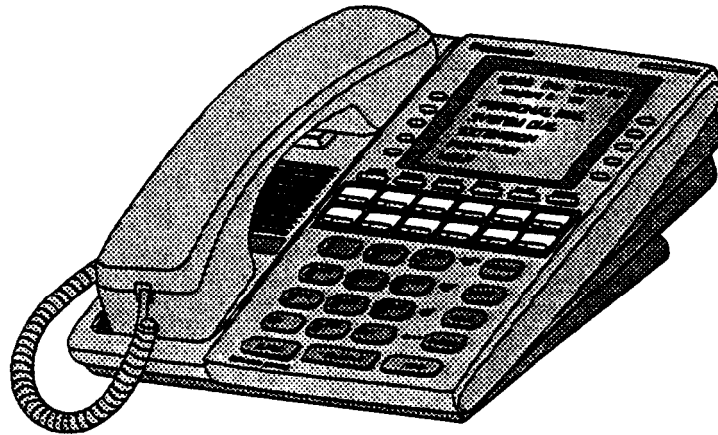# Panasonic

DBS
Digital Business System

DBS Release Notes

CPC-AII/B Version 8.0

Document Number: DBS-80-705

Part Number: 550X1 0101

April 18, 1996

Introduction

CPC-AII/B Version 8.0 offers support for the new Panasonic 44-Series telephones (VB-44xxx), as well as Computer Telephony Integration (CTI) through the Windows™ Telephony Applications Processing Interface (TAPI).

Contents

44-Series Phone Support

CPC-AII/B Version 8.0 provides full support for Panasonic's 44-Series phones (VB-44xxx). Table 1 below lists all 44-Series phone models and their part numbers. Most models are available in two colors: gray and black.

Table 1. 44-Series Phones

16-Key Phone (gray)	VB-4421 OG
16-Key Phone (black)	VB-4421 OB
16-Key Speakerphone (gray only)	VB-44211 G
22-Key Phone (gray only)	VB-44220G
22-Key Small-Display Speakerphone (gray)	VB-44223G
22-Key Small-Disdav Speakerphone (black)	VB-442238
34-Key Small-Display Phone (gray only)	VB-44230G
34-Key Small-Display Speakerphone (gray)	VB-44233G
34-Key Small-Display Speakerphone (black)	VB-442338
22-Key Large-Display Speakerphone (gray)	VB-44225G
22-Key Large-Display Speakerphone (black)	VB-442258
DSS/72 Console (gray)	VB-44320G
DSS/72 Console (black)	VB-443208
EM/24 Unit (gray)	VB-4431 OG
EM/24 Unit. (black)	VB-44310B

New Phone Features

New DBS features that can be executed on the **44-Series** phones are described below.

Note: The new features introduced with these phones are supported by **CPC-AII/B** Version 8.0, CPC-S/M Version 2.0, and CPC-EX Version 1.0. You can also use the 44-series phones with previous DBS versions, but the new features won't be supported.

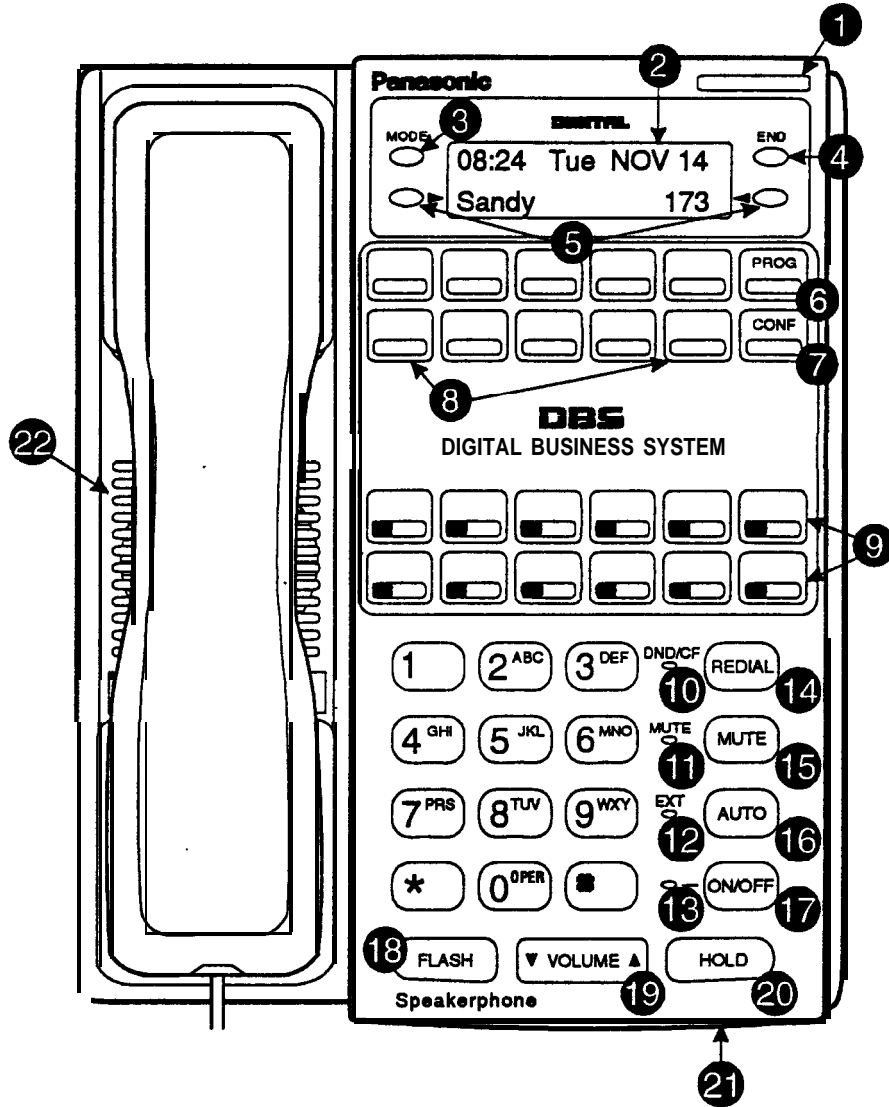*Figure 1.   44-Series Small-Display Phone*

Table 2. Key to 44-Series Small-Display Phone

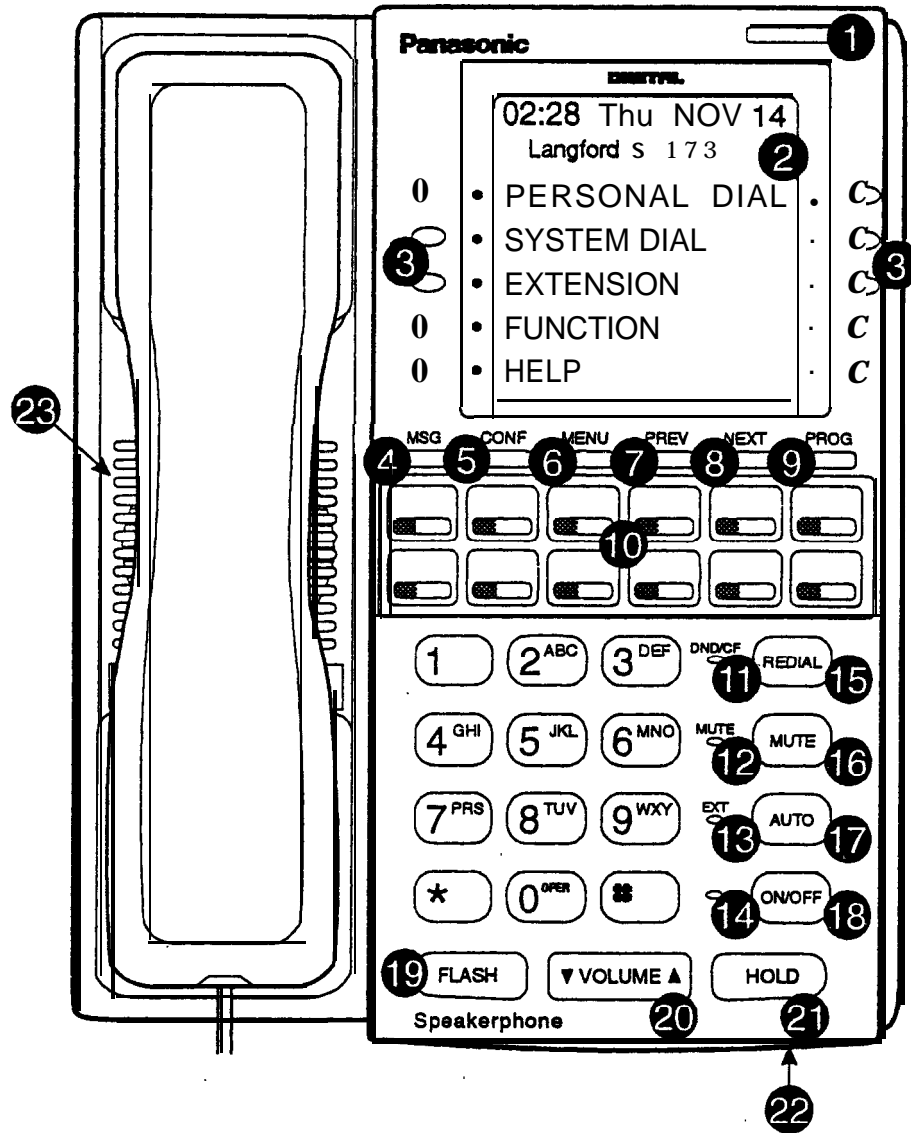| #	Feature	Description
1	Message Indicator	Indicates that you have a message.
2	Display	Displays information about phone's status, menus, dialing directories, and text message information.
3	Mode Key	Used to change display modes from default to directory mode.
4	End Key	Used to exit directory mode and return display to default mode.
5	Select Keys	Used to select and dial a System Speed Dial, Personal Speed Dial, or Extension number from a directory.
6	PROG Key	Used to program FF and one-touch keys and to adjust ringer volume. Depending on the setup of your system, may also be used to transfer calls.
7	CONF **Key**	Used to establish conference calls, check FF key and one-touch features, and scroll through messages.
8	One-Touch Keys	Used to make outside calls or to access call-handling features.
9	Flexible Function **(FF) Keys**	Used to access outside lines or to access call-handling features.
10	DND/CF Indicator	Indicates that Do-Not-Disturb, Call Forwarding, or Absence Message is set.
11	MUTE Indicator	Indicates that your voice is muted - i.e., party on the other end cannot hear you. Lights solid when your **hands-free·microphone** is muted and flashes when your handset is muted.
12	EXT Indicator	Lights when you are on a call; flashes when you hold a call.
13	ON/OFF Indicator	Lights when ON/OFF key has been pressed.
14	REDIAL Key	Used to redial last outside number dialed.
15	MUTE Key	Used to activate/deactivate MUTE function. When activated, the party on the other end cannot hear you. (See item **11,** MUTE Indicator.)
16	AUTO Key	Used to access speed dialing, enter account codes, or for message waiting answer/cancel.
17	ON/OFF Key	Used to make a call without lifting handset.
18	FLASH Key	Used to end an outside call and to restore dial tone without hanging up receiver.
19	VOLUME Key	Used to adjust level of tones, background music, ringing, receiver volume, and display contrast.
20	HOLD Key	Used to hold calls, to retrieve held calls, and to complete FF key programming.
21	Microphone	Used to talk with other party without using the handset.
22	Speaker	Outputs tones and voice at your extension.

Figure 2. *44-Series* Large-Dispiay Phone

Table 3. *Key to 44-Series* Large-Display Phone

#	Feature	Description
1	Message Indicator	Indicates that you have a message.
2	Display	Displays information about phone's status, menus, dialing directories, and text message information.
3	Soft Keys	Used to make outside calls or to access call-handling features.

#	Feature	Description
4	MSG Key	Used for Auto-CallBack to a telephone which has left a text message or to access voice messages.
5	CONF Key	Used to establish conference calls, check FF and one-touch key settings, and scroll through messages.
6	MENU Key	Used to return to the Main Menu screen. The default Main Menu screen contains the following items: • PERSONAL DIAL • SYSTEMDIAL • EXTENSION • FUNCTION • HELP
7	PREV Key	Used to return to the previous menu.
8	NEXT Key	Used to advance to the next menu.
9	PROG Key	Used to program FF and one-touch keys and to adjust ringer volume. Depending on the setup of your system, may also be used to transfer calls.
10	Flexible Function (FF) Keys	Used to access outside lines or to access call-handling features.
11	DND/CF Indicator	Indicates that Do-Not-Disturb, Call Forwarding, or Absence Message is set.
12	MUTE Indicator	Indicates that your voice is muted - i.e., party on the other end cannot hear you. Lights solid when your hands-free microphone is muted and flashes when your handset is muted.
13	EXT Indicator	Lights when you are on a call; flashes when you hold a call.
14	ON/OFF Indicator	Lights when ON/OFF key has been pressed.
15	REDIAL Key	Used to redial last outside number dialed.
16	MUTE Key	Used to activate/deactivate MUTE function. When activated, the party on the other end cannot hear you. (See item 12, MUTE Indicator.)
17	AUTO Key	Used to access speed dialing, enter account codes, or for message waiting answer/cancel.
18	ON/OFF Key	Used to make a call without lifting handset.
19	FLASH Key	Used to end an outside call and to restore dial tone without hanging up receiver.
20	VOLUME Key	Used to adjust level of tones, background music, ringing, receiver volume, and display contrast.
21	HOLD Key	Used to hold calls, to retrieve held calls, and to complete FF key programming.
22	Microphone	Used to talk with other party without using the handset.
23	Speaker	Outputs tones and voice at your extension.

Directory Mode
#-Series phones only
CPC-All/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version 1.0 only

Description

On the new small-display phones, you can use the phone's select keys (as well as other keys) to scroll through a directory of existing System Speed Dial (SSD) names, Personal Speed Dial (PSD) names, or extension names -- and select one to dial. For example, if you can't remember the party's extension number or speed-dial number to which you want to transfer a call on hold, you can use Directory Mode to find the number and execute the transfer.

Note: This new feature applies to the 44-series small-display phone only (i.e., phones with a 2-line LCD display).

Operation

The select keys on the 44-series small-display phone are located next to the display's 2nd line. Pressing select key 1 (">" on the left) or select key 2 ("<" on the right) will access the displayed directory.

To use Directory Mode:

1. Press the MODE key to turn Directory Mode on. The 2nd line of the LCD will display "SSD" on the left and "PSD" on the right.

   - Press the MODE key again to access the directory for extension names. The 2nd line of the LCD will display "EXT" on the left.

2. Press the > select key to access the directory of existing SSD or EXT names; or the < select key to access the PSD directory. The 2nd line will show two speed-dial or extension names at a time (the first 7 characters of each name), beginning with the A's.

3. To scroll through the names (two at a time), press the # key. To back-scroll, press the * key.

4. To jump to another letter in the directory, press the numeric key for it. For example, press the "6" key to jump to the M's, N's, and O's. The M's will appear first. Press "6" again to jump to the N's, and again to jump to the O's. (*Note:* This doesn't work for PSD names unless the system is a DBS 824 CPC-M Version 2.0 or higher, which allows up to 40 PSDs.)

   - For names beginning with Q or Z, use the 1 key.

5. When the correct speed-dial or extension name is displayed, you can execute the dialing of its speed-dial or extension number by pressing the select key that points to it (> if the name is displayed on the left; or < if the name is on the right).

   . Or, to exit the directory without selecting a number to dial, press the END key or go on-hook.

Notes

Available on small-display phones only. This new feature applies to the 44-series small-display phone only (i.e., phones with a 2-line LCD display).

Incompatibility with older phone versions. Directory Mode is available on the new 44-Series phones only.

Hot Dial Pad and Directory Mode. The Hot Dial Pad feature (FF3 ExtPort# 48#) will not work on an extension in Directory Mode.

Variable Mode
44-Series phones only
CPC-AII/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version '7.0 only

Description

This new feature applies to the 44-series small-display phone only (i.e., phones with a 2-line LCD display).

When the phone is in Variable Mode, the features for Flexible Function Screen select keys 1 and 2 will display during each of the following call states:

Call	Existing Proaram Address*
• During an intercom call	FF3 (ExtPort)# 28# (25-39)#
• During CO dial tone	FF3 (ExtPort)# 29# (25-39)#
• Duringatrunkcall	FF3 (ExtPort)# 30# (25-39)#
• After dialing a busy extension	FF3 (ExtPort)# 33# (25-39)#

* In these addresses, you assign a Flexible Function Screen (25-39) to appear on the extension while it is in the call state.

Operation

The select keys on the 44-series small-display phone are labeled "**>**" and "**<**" to the left and right of the display's 2nd line. Pressing select key 1 ("**>**" on the left) or select key 2 ("**<**" on the right) will perform the displayed feature.

To use Variable Mode:

1. Activate Variable Mode by pressing **ON/OFF *61 ON/OFF.**
   - When you dial ● 61 in the above sequence, the 1st line of the LCD will display "Variable md ON". The display will return to normal when you press the second ON/OFF.
   - Use existing addresses **FF1 2# 7# 2#** to assign screen text.
   - The ***61** code toggles Variable Mode on and off. Press **ON/OFF *61 ON/OFF** again to turn Variable Mode off.

2. While the extension is engaged in an intercom call, the 2nd line will display select key 1 and 2 features from the Flexible Function Screen

assigned to display in **FF3 ExtPort# 28#**. The same applies when the extension receives CO dial tone (FF3 **ExtPort# 29#**); during a trunk call (FF3 **ExtPort# 30#**); and after dialing a busy extension (FF3 **ExtPort# 33#**).

- Use existing addresses **FF1 2# 7# 1#** thru **4#** to assign select key features to Flexible Function Screens.
- Select key features for **Fixed** Function Screens will not appear on small-display phones.

3. While the select key feature is displayed, you can execute the feature by pressing the **>** or **<** select key.

Notes

Toggling Variable Mode On/Off with an FF-Key. You can program the ● 61 code into an FF-key: In programming mode, press **FF5 (ExtPort)# (KeyNo.)# (*61)#**. The FF-key will toggle Variable Mode on/off while the extension is idle or in an off-hook/dial-tone state. The FF-key LED will remain lit (red) while Variable Mode is "On". (You can also use a one-touch key to toggle Variable Mode on and off; however, one-touch keys do not contain an LED to indicate when Variable Mode is on.)

Variable Mode After Power-cycling. If Variable Mode is "On", the extension will stay in Variable Mode even after power-cycling (system is powered down, then powered back up).

Incompatibility with older phone versions. Variable Mode is available on the new 44-Series phones only.

Conditions under which Variable Mode does not work. Variable Mode will be temporarily overridden under the following conditions: during an incoming message state, hold state, message-waiting state, or call-waiting state. Incoming messages include:

CO Queuing
Incoming [trunk no.]
REV.[extension no.]
TRF. [trunk no.]
H-Recall
Call wait
REC.[trunk no.]
Recall Hnt [Hunt Group no.]
DISA Incoming
Call [extension no.]
Transf [extension no.]
Recall [trunk no.]
HOLD Recall

Handset Mute
44-Series phones only
CPC-AII/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version 1.0 only

Description   While using the handset (not on speaker) during a phone conversation, you can press the MUTE key to block audio to the other party -- you can still hear them, but they can't hear you. This feature is called "Handset Mute."

Operation
1. To turn on Handset Mute while using the handset, press the MUTE key.
    - The MUTE indicator lamp (LED next to MUTE key) will flash.
    - The handset trarismitter will be muted. You will still be able to hear the other party, but they can't hear you.

2. To turn off Handset Mute, do one of the following:
    -- press the MUTE key again;
    -- press HOLD to place the call on hold;
    -- replace the handset on-hook; or
    -- press the flashing FF-key to answer another call,
    - Note: This will drop the first call unless Key Bank Hold is enabled (FF1 2# 1# 9#).
    - The MUTE indicator lamp will stop flashing.

N o t e s   Headset Use. The Handset Mute feature also works if you are using a headset on the phone to handle calls (#51 activates Headset mode).

SpeakerphoneUse. The MUTE key works the sames as before (mutes the microphone) when you are on speaker. The MUTE lamp lights steadily when the microphone is muted, and flashes when the handset is muted.

Handsfree Answerback. The MUTE key enables or disables Handsfree Answerback the same as before. (Handsfree Answerback allows you to answer intercom calls on speaker, without picking up the handset. While the phone is idle, press the MUTE key to toggle between Handsfree Answerback On and Off. When the MUTE indicator lamp is unlit, Handsfree Answerback is ON. When the lamp is lit, Handsfree Answerback is OFF.)

Offhook Monitoring. This new feature and Handset Mute can both be ON simultaneously, so that both the speaker and handset transmitters are muted (but the speaker and handset receivers still operate). For more information about Offhook Monitoring, see page 13 of these Release Notes.

Barge-Zns During Handset Mute. If another phone barges in on your call while Handset Mute is ON, and you change to conference talk (but not by pressing HOLD), Handset Mute will remain ON.

FF-KeylOne-Touch Key Restriction. Handset Mute cannot be assigned to an FF-key or a one-touch (soft) key.

Off-Hook Monitoring
M-Series phones only
CPC-AII/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version 1.0 only

Description   Off-Hook Monitoring lets you put a call on speaker while the handset is off-hook. You can still communicate with the outside party via the handset, but you will also be able to hear him on the phone's speaker. He will only be able to hear what is spoken through your handset, however - audio will not be transmitted through your microphone.

Operation   1.   During a handset call, press the ON/OFF key.

- Another receiver path is established on the phone's speaker -- you can now hear the outside party on the speaker as well as in the handset.
- Your phone's microphone is muted so that the outside party hears only what is spoken through your handset. (To mute handset transmission, press MUTE.)

2.   To disable Off-Hook Monitor ("kill" the speaker but stay on the line with the outside party through the handset), press ON/OFF again.

Separate Speaker Volumes for Internal vs. CO calls
44-Series phones only
CPC-AII/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version 1.0 only

Description   You can now establish separate speaker volumes for internal (intercom) and external (CO) calls.

Operation   To adjust volume levels, press the VOLUME key (A or ▼) during the appropriate call state.

Notes   Adjusting speaker volume will affect only the speaker (i.e., not the handset), and vice-versa.

Analog Adapter
44-Series phones only
CPC-AII/B Version 8.0, CPC-S//U Version 2.0, or CPC-EX Version 1.0 only

Description   The Analog Adapter (VB-44100) consists of a base adapter and PC board which is installed on the underside of the phone. It is used to connect the 44-series large-display phone to an analog device such as an SLT telephone, cordless phone, FAX machine, or modem. This allows the same phone line to be used to alternate between normal phone calls and analog communications. *(To install, see the instructions supplied with VB-44100).*

Programming

> to register the installation of the Analog Adapter on an extension...
>
> ### FF3 (ExtPort)# 51# (0 or 1)#
>
> Extension Port where
> VB-44225 Large-Display
> Phone is installed
>
> **0=Analog Adapter is not installed on this extension.**
> l=Analog Adapter is installed on this extension.

> to implement data security measures (interrupt tones, overrides) for the Analog Port...
>
> ### FF3 (ExtPort)# 52# (0 or 1)#
>
> Extension Port where
> VB-44225 Large-Display
> Phone is installed
>
> O=Disable data security on the Analog Adapter.
> **l=Enable data security on the Analog Adapter.**
>
> NOTE: This address will affect only the Analog Adapter, not the Large-Display phone itself.

Operation

The first device to go off-hook will seize the line (off-hook is either lifting the handset or pressing the ON/OFF key). If the analog device goes off-hook first, the large-display phone will be unable to dial or go off-hook.

You can choose which device will ring by going off-hook at either the digital key telephone or the analog device and dialing ***71.** The digital key telephone display will reflect "Analog port RING" or "Key Tel RING", depending on which device is selected - the default is "Key Tel RING".

You can still *answer* an incoming call from either device, regardless of which device is ringing. For example, if the analog device is ringing, you can pick up the call on the digital key telephone by going off-hook before the analog device does. Similarly, if the digital key telephone is ringing or has not answered a voice call, the analog device can pick up the call by going off-hook first.

You can program the *71 ring select comand into an FF key. Pressing the key toggles between "Analog Port RING" and "Key Tel RING". When the analog port is set to ring, the FF key LED lights red. When the key telephone is set to ring, the LED is off.

Notes

Phone Restrictions

- The Analog Adapter will work on the large-display phone only (VB-44225).
- A dial-pulse SLT will not function on the analog port.
- Stutter Dial Tone'(indicating Call-Forwarding mode, Do-Not-Disturb mode, etc.) will not function on an SLT connected to the Analog Adapter.
- An analog phone connected to the Analog Adapter cannot program or access speed dials.

Incoming Calls

- You cannot program both devices to ring simultaneously.
- The."*71" code will not work if the other device is in use.
- The "*7 1" code will not work if FF3 (ExtPort)# 51# is set to "0".
- If set to "Analog port RING", the large-display phone will work like an SLT/OPX (no page announcements, no voice calls from other extensions, etc.).
- If the phone is in CF/DND (Call-Forward or Do Not Disturb), the phone will remain in CF/DND even if the ringing device is changed via the *71 code.
- The incoming ring pattern for the analog device is the same as for the digital key telephone (determined by the Extension Ring Pattern in FF3 (ExtPort)# 39# (0-9)#). If this address is set to "0" (determined by CO), the analog device will automatically default to "1 second ON, 3 seconds OFF."

Ring Patterns Not Applicable to Analog Device. The following ring pattern addresses ***will not*** affect the analog device:

Analog Transfer Ring Pattern FF1 2# 1# 31# (0-6)#
SLT DISA Ring Pattern   FF1 2# 1# 34# (0 or 1)#
Inbound Ring Pattern   FF2 (Trunk)# 17# (0-9)#

Flash Interaction. Any disconnect signal sent to the analog port must be greater than the SLT Flash Control; otherwise the disconnect signal will be interpreted as a flash and the call will be placed on hold.

Programming Addresses That Affect the Analog Device. The following addresses will control the analog device, but will not affect the digital key telephone:

AEC Disconnect Duration   FF1 2# 1# 35# (0-15)#
SLT Flash Control   FF1 2# 1# 1 1# (0 or 1)#
SLT Onhook Flash Timer   FF1 3# 14# (0-6)#
AEC Disconnect   FF3 (ExtPort)# 46# (0 or 1)#
Analog Port on Large-Display Phone (new) FF3 (ExtPort)# 51# (0 or 1)#
Data Security on Analog Port (new)   FF3 (ExtPort)# 52# (0 or 1)#

MSG (Message) Key
44-Series phones only
CPC-AII/B Version 8.0, CPC-S/M Version 2.0; or CPC-EX Version 1.0 only

Description

The new MSG key on the VB-44225 Large-Display Phone adds the following functionality to the phone:

- ***Auto-Callback.*** If a callback message has been left by another extension, you can press the MSG key to place an automatic callback to the extension that sent the message. If more than one callback message has been received, pressing the MSG key will perform auto-callback in the order received.

- ***Auto-Answer Voice Message.*** You can press the MSG key to automatically access your voice mailbox. The phone will dial your voice mailbox and send access codes (if programmed) for retrieving new messages.

Programming

Auto-Callback is always enabled for large display phones. Use the following to enable the MSG key for Auto-Answer Voice Message.

Panasonic@
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to enable the MSG key for Auto-Answer Voice Message...

FF3 (ExtPort)# 53# (0 or 1)#

Extension Port where
VB-44225 Large-Display
Phone is installed

0=Disable MSG key from returnin
a "Message Waiting".
l=Enable MSG key for returning
a "Message Waiting".

Operation

To Program Voice Mailbox Access Codes into the MSG Key:

Press PROG MSG [16-digit number] HOLD

The display will reflect "Regist Data".

To Confirm a Voice Mailbox Access Code Programmed into the Message Key..

Press CONF MSG.

The programmed access code will be displayed.

Notes

Operation With Message Waiting Indicator. The Message Waiting Indicator on the'phone's upper right corner will flash whenever a callback message or voice message has been received.

Operation During Call *States.* The MSG key will work only when the phone is idle, receiving dial tone, or in Directory Mode (via select key).

Operation If Phone Has Both a Callback Message from another Extension and a Voice Message. Messages are accessed in a First In, First Out order. If the callback message was received before the voice message, then pressing the MSG key will activate Auto-Callback first. Likewise, if the voice message was received before the callback message, pressing the MSG key will access your Voice Mailbox.

Interaction with Tone-Calling Mode. If an Auto-Callback is placed to a phone that is in tone-calling mode (i.e., not voice-calling), that phone must answer or the message canceled before another message can be accessed.

FF-Key Restriction. These new MSG features cannot be assigned to an FF-key.

Reprogramming the MSG key if Extension Number Digits is changed. If the
DBS is reprogrammed to use a different extension numbering plan (i.e., changed
from 2-digit to 3-digit extensions, 3-digit to 4-digit extensions, etc.), the Voice
Mailbox Access Code must be reprogrammed into the MSG key.

DSS/72 Console - Key Arrangement
#-Series phones only
CPC-AII/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version 1.0 only

Description

The keys on the new DSS/72 Console (VB-44320) are arranged differently from
the XI-43320 model. The new DSS console has 6 columns x 12 rows of keys (not
8 columns x 9 rows as in the previous version). This affects the following:

- ***Name and Message Assignments (FF6 addresses). The*** alphabetical
  arrangement of the keys is different.

- ***FF-Keys.*** The FF-keys on the DSS/72 console are numbered left-to-right,
  bottom row first.

- ***DSS #I Defaults.*** The default extension number assignments on DSS #1 are
  different.

The new arrangement for the DSS keys is shown in Figures 3 & 4.

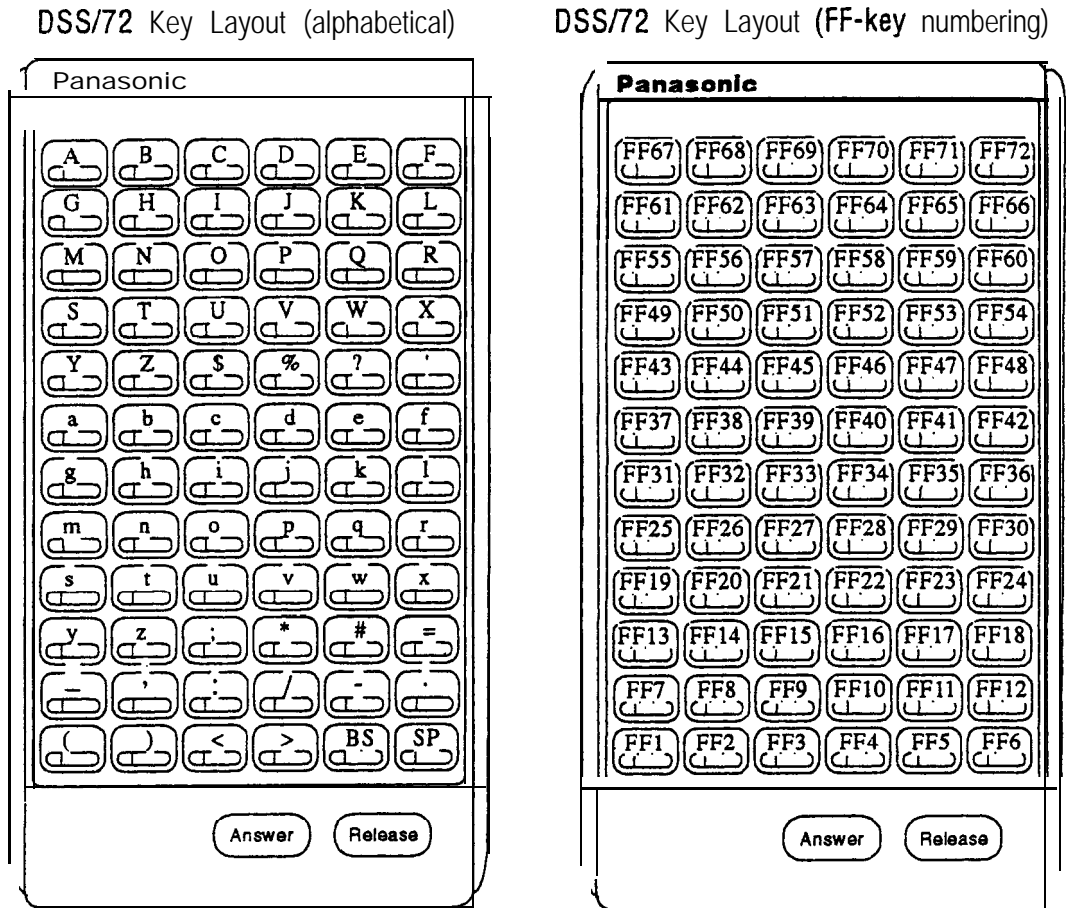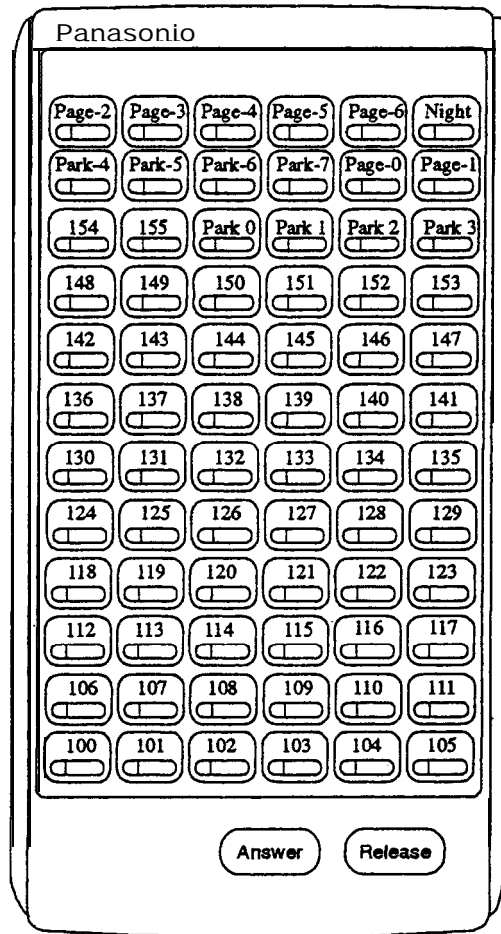**Figure 3. *DSS/72 Console (VB-44320) key layout***

DSS/72 Key Layout (alphabetical)

DSS/72 Key Layout (FF-key numbering)

Figure 4. DSS/72 #I Default Extension Numbers

DSS #1 Default Extension Numbers

Programming   The DSS/72 cons&e (DSS #1 . . . DSS #4) is assigned to its extension number in the same manner as before:

Terminal Type: FF3 (ExtPort)# 2# (11-14)#

where.,.

- 11 is the first DSS console for the first attendant
- 12 is the second DSS console for the first attendant
- 13 is the first DSS console for the second attendant
- 14 is the second DSS console for the second attendant

The DSS/72 console's FF-keys are assigned feature codes in the same manner as before (the only difference is the numbering arrangement of FF-keys l-72):

FF Key Assignments: FF5 **(DSSPort)#** CONF (1-72)# (Code)#

The Name and Message Assignment addresses are the same as before on the DSS/72 console (the only difference is the placement of the keys when entering the characters of the text):

Extension Name: FF6 1# **(ExtPort)#** CONF (10 char.)#
SSD Name: FF6 **2#** (SSD)# CONF (16 char.)#
PSD Name: FF6 **3#** (ExtPort)# **(PSD)#** CONF (16 **char.)#**
Absence **Message:FF6 4# (5-9)#** CONF (15 **char.)#**
Trunk Name: FF6 **5# (Trunk)#** CONF (6 char.)#
Hunt Group Name: FF6 **6#** (HuntGrp)# CONF (10 char.)#
CW/OHVA Reply: FF6 **7# (1-5)#** CONF (15 char.)#
DID Name: FF6 **8# (1-200)# (1/2)# (0000-9999)#** (6 char.)#
DNIS Name: FF6 **9# (1-200)# (1/2)# (0000-9999)#** (6 char.)#

Note: If you use the 44-Series DSS/72 for Name and Message assignment, you should use the **44-Series** phone for the attendant.

Operation

The 44-Series DSS/72 operates the same as previous models.

EM/24 - Key Arrangement
44-Series phones only
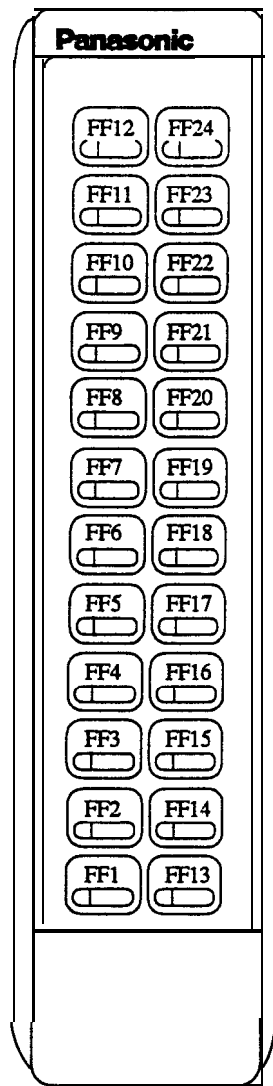### CPC-AII/B Version 8.0, CPC-S/M Version 2.0, or CPC-EX Version 1.0 only

Description   The keys on the new EM/24 unit (VB-443 10) are arranged differently from the VB-433 10 model. The new EM/24 unit has 2 columns x 12 rows of keys (not 3 columns x 8 rows as in the previous version). This affects the following:

- *FF-Keys.* The FF-keys on the EM/24 are numbered bottom-to-top, left column first.

The new arrangement for the EM/24 keys is shown in Figure 5.

Figure 5.   EM/24 Unit (VB-44310) keys

Programming   The terminal type for the EM/24 is specified in the same manner as before:

Terminal Type: FF3 (EM/24 ExtPort)# 2# (l-48)

The EM/24 unit is linked to its extension phone in the same manner as before:

EM/24 Port Assignment: FF3 (EM/24 ExtPort)# 3# (phone ExtPort)#

The EM/24's FF-keys are assigned feature codes in the same manner as before (the only difference is the numbering arrangement of FF-keys l-24):

FF Key Assignments: FF5 (ExtPort)# (1-24)# CONF (Code)#

Operation   The 44-Series EM/24 operates the same as previous models.

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Modification to Toll Restriction Service

Description

The program address for TRS Operator Access (FF7 1# 18#...) has been modified to allow an extension to dial "O+NXX" phone numbers, even if "O-only" dialing is denied.

Four settings are possible. See Table 4 for descriptions.
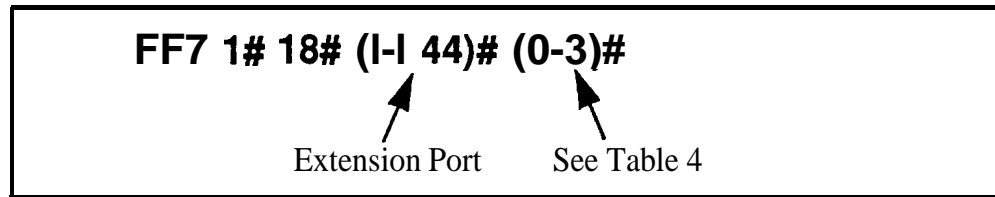
Programming

```
FF7 1# 18# (l-l 44)# (0-3)#
              ↑              ↑
        Extension Port    See Table 4
```

Table 4. TRS Operator Access settings

IF EQUAL ACCESS CODE FORMAT IS: 0 = Old Format (10XXX ONLY)			IF EQUAL ACCESS CODE FORMAT IS: l = New Format (101XXXX ONLY)		
Setting ·	Action	Type of Call	Setting'	Action	Type of Call
0 (default)	Restrict	"O-only" and "00-only" calls. "10XXX0-only" calls.	0 (default)	Restrict	"O-only" and "00-only" calls. "101XXXX0-only" calls.
	Allow/Deny	"0" + additional digits per TRS tables. "00" + additional digits per TRS tables "01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch. "10XXX0" + additional digits per TRS tables. "10XXX01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch.		Allow/Deny	"0" + additional digits per TRS tables. "00" + additional digits per TRS tables "01" + additional digits per TRS tables Overseas Access Switch, and International Calls Switch. "101XXXX0" + additional digits per TRS tables. "101XXXX01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch.
continued					

IF EQUAL ACCESS CODE FORMAT IS: 0 = Old Format (**10XXX ONLY**)			IF EQUAL ACCESS CODE FORMAT IS: 1 = New For **nat (101XXXX** ONLY)		
Setting	Action	Type of Call	Setting	Action	Type of Call
1	Allow	"O-only" and "OO-only" only calls. "**10XXX0-only**" calls.	1	Allow	"O-only" and "**00-only**" calls. "**101XXXX0-only**" calls.
	Allow/Deny	"**0**" + additional digits per TRS tables. "**00**" + additional digits per TRS tables "**01**" + additional digits per TRS tables Overseas Access Switch, and International Calls Switch. "**10XXX0**" + additional digits per TRS **tables.** "**10XXX01**" + additional digits per TRS **tables,** Overseas Access Switch, and International **Calls** Switch.		Allow/Deny	"**0** + additional digits per TRS tables. "**00**" + additional digits per TRS **tables** "01" + additional digits per TRS tables Overseas Access Switch, and International Calls Switch. "**101XXXX0**" + additional digits per TRS tables. "**101XXXX01**" + additional digits **per** TRS tables, Overseas Access Switch, and International Calls Switch.
2	**Restrict**	"O-only" and "00-only" calls. "**10XXX0-only**" calls.	2	Restrict	"O-only" and "00-only" calls. "**101XXXX0-only**" calls.
	Allow	"**0**" + additional digits. "00" + additional digits. "**10XXX0**" + additional digits.		**Allow**	"**0**" + additional digits. "**00**" + additional digits. "**101XXXX0**" + additional digits.
	Allow/Deny	"**01**" + additional digits per Overseas Access Switch and International **Calls** Switch. "**10XXX01**" + additional digits per Overseas Access Switch and International Calls Switch.		Allow/Deny	"01" + additional digits per Overseas Access Switch and International Calls Switch. "**101XXXX01**" + additional digits per Overseas Access Switch and International Calls Switch.
3	Allow	"O-only" and "OO-only" calls. "**10XXX0-only**" c a l l s . "0" + additional digits. "**00**" + additional digits. "**10XXX0**" + additional digits.	3	Allow	"O-only" and "**00-only**" calls. "**101XXXX0-only**" calls. "**0**" + additional digits. "**00**" + additional digits. "**101XXXX0**" + additional digits.
	Allow/Deny	"**01**" + additional digits per Overseas Access Switch and International **Calls** Switch. "**10XXX01**" + additional digits per Overseas Access Switch and International **Calls** Switch.		**Allow/Deny**	"**01**" + additional digits per Overseas Access Switch and International Calls Switch. "**101XXXX01**" + additional digits per Overseas Access Switch and International Calls Switch.

Notes

- The Operator Access address applies only to DBS systems using the new (1995) NANP dialing plan (FF7 1# 17# 1#), and to TRS types 2-6 (TRS types Cl and 1 do not allow outbound dialing; TRS type 7 allows all dialing).

- If "O-only", "OO-only", "10XXX0-only", or "101XXXX0-only" calls are restricted (settings 0 or 2), the system will wait 6 seconds before automatically disconnecting the call. However, if the user dials additional digits within 6 seconds, the DBS will check other switches to determine whether to allow or deny the call.

- For all settings (0-3), the system will check the Equal Access Code Format switch (FM 1# 21#...) if a CIC (carrier identification code) is dialed to reach a preferred inter-exchange carrier.

- For all settings (0-3), the system will check the international calls switches (FF7 1# 1# and FF7 1# 19#) if "01", "10XXX01", or "10XXXX01" is dialed.

- For settings 2 and 3, the system will not consider TRS settings for the trunk.

TAPI Support

CPC-AII/B offers full support for the Panasonic Telephony Applications Processing Interface (TAPI). TAPI is a Windows™ application which allows a PC to be connected to a telephone extension and used to control incoming and outgoing calls through that extension. Typical PC applications that might be used with TAPI include Contact Managers and Personal Organizers.

The Panasonic TAP1 product (VB-43720) provides the necessary interface between a DBS and a PC-based TAPI application. This product consists of a TAP1 Adapter and the Panasonic TAPI Service Provider (SP) software which resides on the PC. The TAP1 Adapter provides the physical connection between a PC, a DBS extension, and the DBS itself. Its purpose is to intercept telephone and call control signaling messages from the DBS and telephone extension and then forward a copy of those messages to the Service Provider software on the PC. After interpreting the messages, the Service Provider software passes them on to the TAPI application.

No special programming of the DBS is required for TAPI. For detailed information, see the *TAPI Installation Guide, Part Number 575X00201, Section 570.*

# Key Telephone Installation Notes

Desi Strip Cover

The 44-Series Key Telephones are shipped with a thin green protective film over the Desi strip cover. Be sure to remove this film from both sides of the Desi cover before placing the phone in service.

Key Telephone Wall Mounting Instructions

The following procedures apply to 44-Series Key Telephones only. Please be sure to follow these procedures exactly. Removing the desk stand incorrectly can result in damage to the telephone and/or desk stand.

1. Place the telephone face down on a flat surface.

2. Grasp the top of the desk stand (at the >ABS< label) and pull up the end to 90" vertical (refer to Step 2 in Figure 6). The stand will click as it releases from the plastic securing latches.

3. Lift the desk stand as shown in Step 3 of Figure 6.

Figure 6. Desk Stand Removal.
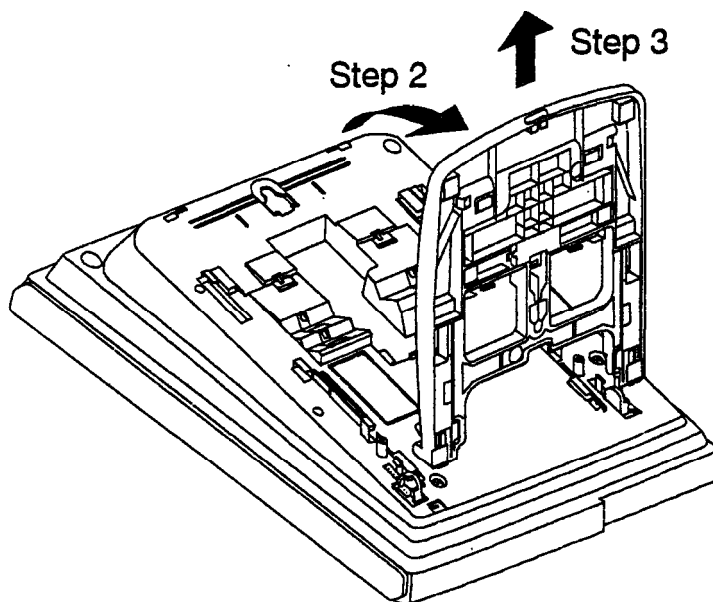
4. Rotate the desk stand 180". In this position it doubles as a wall mount bracket.

5. Insert the wall mount bracket into the mounting guides as shown in Figure 7.

6. Slide the wall mount bracket onto the telephone.

Figure 7.   Inserting the wall mount bracket (rotated desk stand)
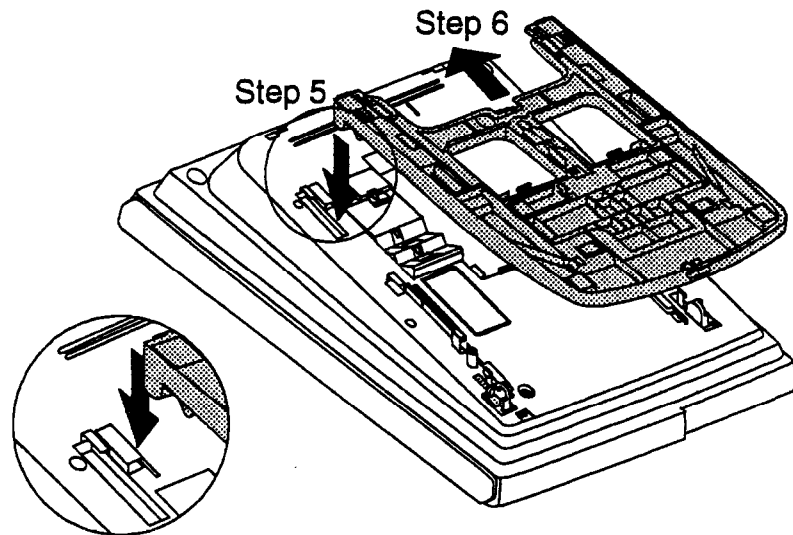
7. While viewing the front of the telephone, find the handset guide located just below the hookswitch (see Figure 8).

8. Slide the handset guide out, rotate 180° so that the holding clip is exposed, and reinsert.

Figure 8.   Handset guide insertion for wall mounting, key telephone

Panasonic
DBS
Digital Business System
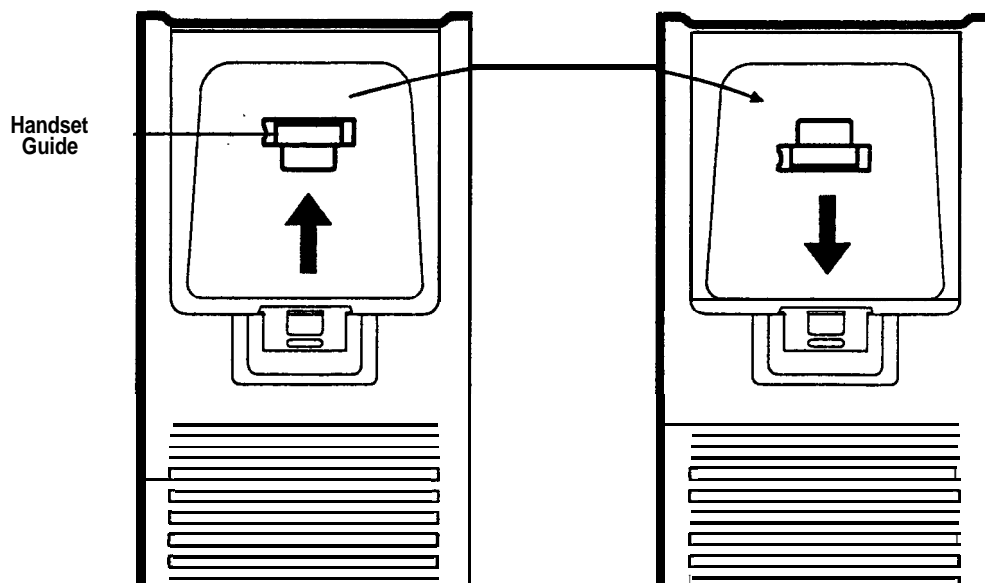
DBS Release Notes

CPC-EX Version 1.0
(Preliminary)

Document Number: DBS-EX1O-705

Part Number: 550X07901

June 10, 1996

Contents

Introduction

CPC-EX Version 1.0 offers the following new enhancements to the DBS phone system:

Compatibility

CPC-EX Version 1.0 supports all features of CPC-B Version 7.1 (with the exception of TSAPI support). In addition, CPC-EX Version 1.0 adds support for new features, including the 44-Series phones, T1 Networking, and ISDN.

The CPC-EX card can be installed into an existing DBS cabinet, with no hardware modifications.

CPC-EX software uses existing CPC-B programming addresses, with the same numbering. Additional addresses have been added for new CPC-EX features.

44-Series Phone Support

CPC-EX provides full support for Panasonic's 44-Series phones (VB-44xxx). Table 1 below lists all 44-Series phone models and their part numbers. Most models are available in two colors: gray and black.

Table 1. 44-Series Phones

16-Key Phone (gray)	VB-44210G
16-Key Phone (black)	VB-44210B
16-Key Speakerphone (gray only)	VB-44211G
22-Key Phone (gray only)	VB-44220G
22-Key Small-Display Speakerphone (gray)	VB-44223G
22-Key Small-Display Speakerphone (black)	VB-44223B
34-Key Small-Display Phone (gray only)	VB-44230G
34-Key Small-Display Speakerphone (gray)	VB-44233G
34-Key Small-Display Speakerphone (black)	VB-44233B
22-Key Large-Display Speakerphone (gray)	VB-44225G
22-Key Large-Display Speakerphone (black)	VB-44225B
DSS/72 Console (gray)	VB-44320G
DSS/72 Console (black)	VB-44320B
EM/24 Unit (gray)	W-4431 OG
EM/24 Unit (black)	VB-4431 OB

New DBS features that can be executed on the 44-Series phones are described below.

Directory Mode

On the new small-display phones, you can scroll through SSD names, PSD names, or extension names and select a displayed name for dialing.

Variable Mode

The new small-display phones provide one-touch access to various features displayed during each of the following call states: 1) during an intercom call; 2) during CO dial tone; 3) during a trunk call; and 4) after dialing a busy extension.

Handset Mute

The new large-display phone now contains a MUTE key, and a new mute feature is available on all 44-series phones. Pressing the MUTE key during an off-hook call will block audio from the handset transmitter to the outside party. You can still hear them, but they can't hear you.

Off-Hook Monitoring

If you press the ON/OFF key during an off-hook call on any 44-series speakerphone, the other party's voice will be heard through both the handset and the speaker. This allows a third party to hear both sides of a conversation. Note: This feature does not activate your phone's microphone - audio will be transmitted only through, your handset.

Separate Volume Control for Internal vs. CO calls

CPC-EX allows you to establish separate speaker volumes for internal and external calls.

Analog Adapter

The new large-display phone can be enhanced with an analog port adapter which allows you to connect to an analog device such as a FAX or modem to the phone. This allows the same phone to be alternately used for analog or digital communications.

MSG (Message) Key

A new MSG key on the large-display phone will perform Auto-Callback (automatically dialing the extension that sent a "Message Waiting" to your phone), or Auto-Answer Message (automatically dialing your voice mailbox).

DSS/72 and EM/24 - Key Arrangement

The keys on the new consoles are arranged differently, affecting the text layout and default extension numbers assigned to these keys.

FF-Key Programming

Because T1 Networking adds the capability of 4-digit extension numbering, you can now program up to 8 digits (not 6) into an FF-key.

Speed Dial Enhancements

CPC-EX supports up to 500 System Speed Dial (SSD) numbers. CPC-EX also allows SSD codes to be chained, or "linked", to another SSD number, and either PSD or SSD codes to be chained to a PSD number.

Additional Serial Port

The CPC-EX card contains an on-board serial port (Serial Port 2) which can be used for Bus Monitor/Maintenance. This allows remote maintenance to be accomplished without disconnecting SMDR cabling.

T1 Networking Capability

Up to 4 DBS's can now be connected together via T1 interface to form a DBS phone network. The DBS's can be located in the same building, in separate buildings in a campus-type environment, or at remote locations in separate states. Networked DBS's use 4-digit extensions, with the first digit of the extension number identifying the DBS site.

Each site requires its own DBS cabinet with a CPC-EX card and a T1 card. 'New programming addresses are included in CPC-EX software for setting up the T1 Network. (see the *T1 Networking Reference Manual for complete instructions)*

Modification to Toll Restriction Service

The program address for TRS Operator Access (FF7 1#18#) has been modified to allow an extension to dial "0+NXX" phone numbers, even if "O-only" dialing is denied.

Maximum Time Priority Route Tables

CPC-EX allows a maximum of 8 Time Priority Route Tables (not 15) to be used during LCR programming. Since few systems use more than 3 Time Priority Route Tables, this change will allow the saved memory space to be used for future enhancements.

SMDR Modifications

SMDR reports contain several new call types and other parameters due to CPC-EX support of T1 Networking and ISDN calls.

ISDN Support

CPC-EX supports ISDN-PRI (Integrated Services Digital Network -- Primary Rate Interface). *The program address for Trunk Circuit Type (FF2 (trunk #)# 21#) has been modified to allow for ISDN. New programming addresses have also been added in CPC-EX to support ISDN. (See the ISDN Reference Manual for complete instructions.)*

Modification to T1 Signaling Types

To allow easier programming of E&M trunks, CPC-EX uses "Wink Start" (not "Trnmediate Start") as the default for T1 Incoming and Outgoing Signal Types.

Installation Notes

CPC-EX Installation

Use normal installation procedures to install the CPC-EX. The following illustration shows an installed CPC-EX.

Figure 1. CPC-EX
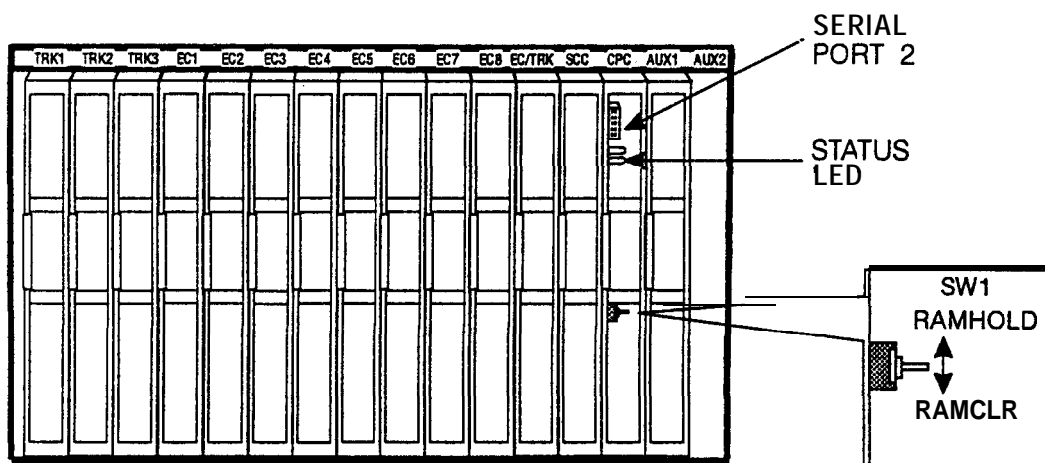
Key Telephone Installation

Desi Strip Cover

Tine 44-Series Key Telephones are shipped with a thin green protective film over the Desi strip cover. Be sure to remove this film from both sides of the Desi cover before placing the phone in service.

Key Telephone Wall Mounting Instructions

The following procedures apply to **44-Series** Key Telephones only. Please be sure to follow these procedures exactly. Removing the desk stand incorrectly can result in damage to the telephone and/or desk stand.

1. Place the telephone face down on a flat surface.

2. Grasp the top of the desk stand (at the **>ABS<** label) and pull up the end to 90" vertical (refer to Step 2 in Figure 2j. The stand will click as it releases from the plastic securing latches.

3. Lift the desk stand as shown in Step 3 of Figure 2.

Figure 2.   Desk Stand Removal.
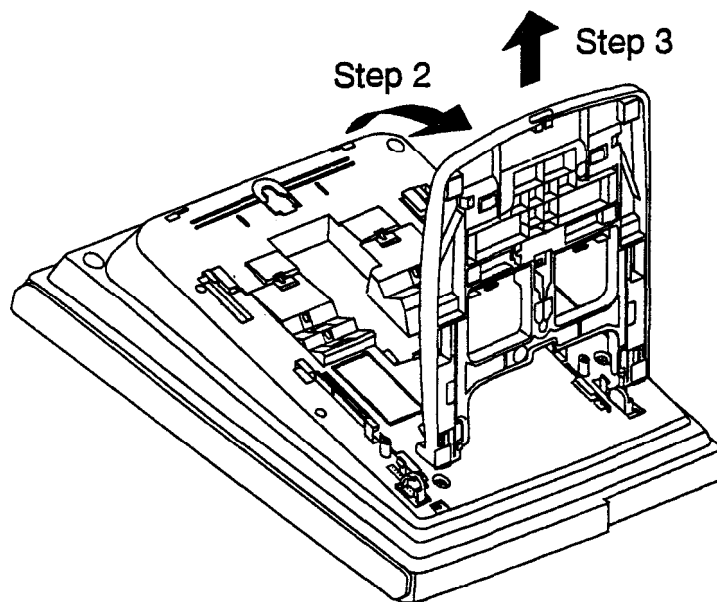
4. Rotate the desk stand 180". In this position it doubles as a wall mount bracket.

5. Insert the wall mount bracket into the mounting guides as shown in Figure 3.

6. Slide the wall mount bracket onto the telephone.

Figure 3.   Inserting the wail mount bracket (rotated desk stand)
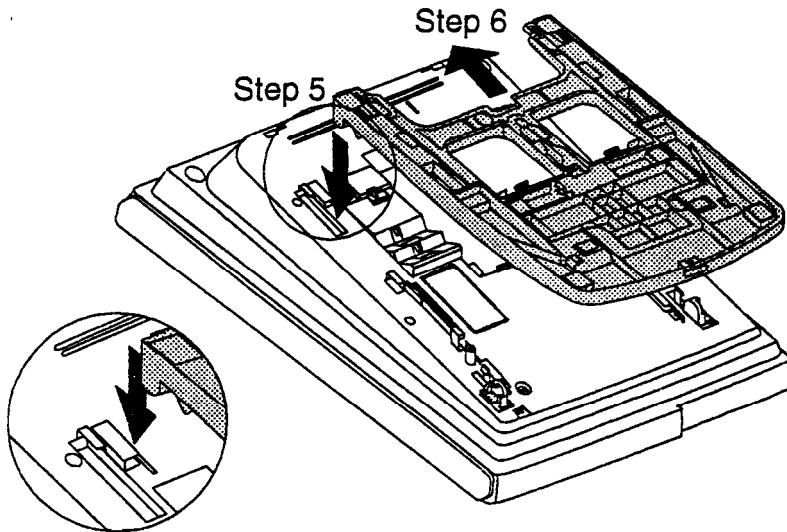
7. While viewing the front of the telephone, find the handset guide located just below the hookswitch (see Figure 8).

8. Slide the handset guide out, rotate 180" so that the holding clip is exposed, and reinsert.

Figure 4.   Handset guide insertion for wall mounting, key telephone

Panasonic@
June 10, 1996

DBS Release Note!
CPC-EX, Version 1 .O (Preliminary
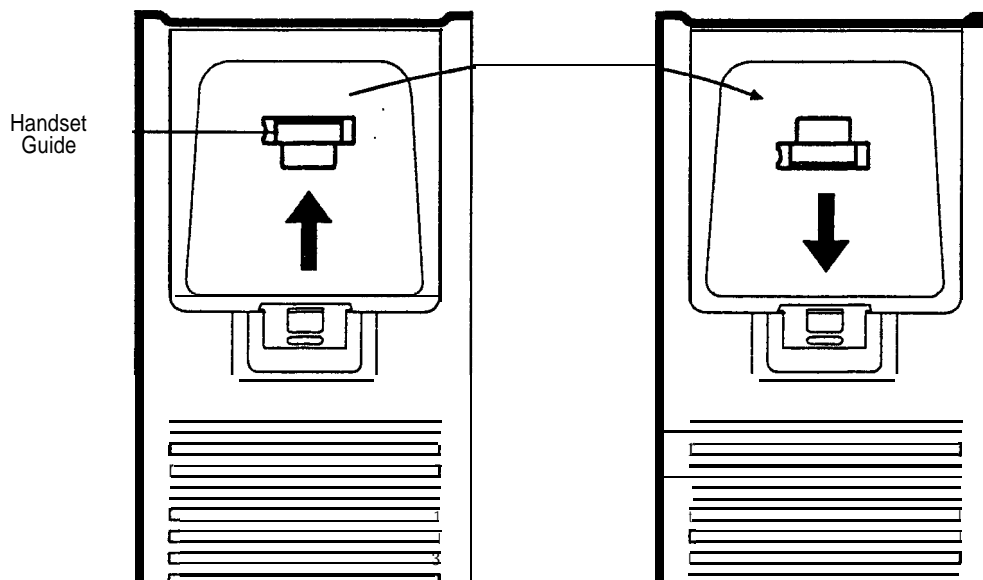
44-Series New Phone Features

Note: The new features introduced with these phones are supported by CPC-EX Version 1 .0, CPC-AII/B Version 8.0, and CPC-S/M Version 2.0. You can also use the 44-series phones with previous DBS versions, but the new features won't be supported.

Figure 5.   44-Series Small-Display Phone
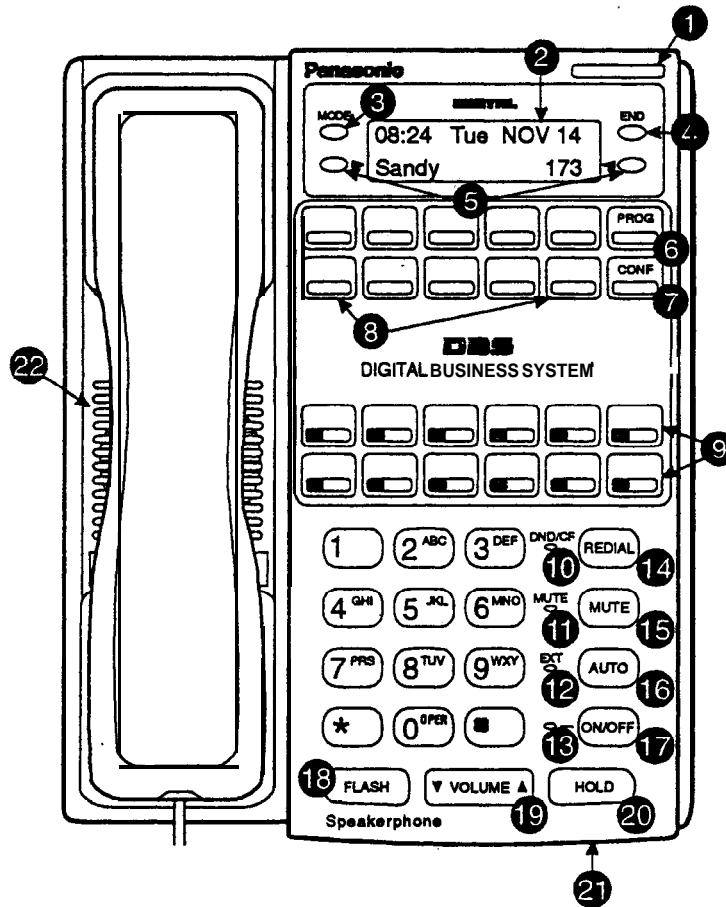
Table 2. Small-Display Phone Features

#	Feature	Description
1	Message Indicator	Indicates that you have a message.
2	Display	Displays information about phone's status, menus, dialing directories, and text message information.
3	Mode Key	Used to change display modes from default to directory mode.

#	Feature	Description
4	End Key	Used to exit directory mode and return display to default mode.
5	Select Keys	Used to select and dial System Speed Dial, Personal Speed Dial, and Extension numbers from a directory.
6	PROG Key	Used to program FF and one-touch keys and to adjust ringer volume. Depending on the setup of your system, may also be used to transfer calls.
7	CONF Key	Used to establish conference calls, check FF key and one-touch features, and scroll through messages.
8	One-Touch Keys	Used to make outside calls or to access call-handling features.
9	Flexible Function (FF) Keys	Used to access outside lines or to access call-handling features.
10	DND/CF Indicator	Indicates that Do-Not-Disturb, Call Forwarding, or Absence Message is set.
11	MUTE Indicator	Indicates that your voice is muted - i.e., party on the other end cannot hear you. Lights solid when your hands-free microphone is muted and flashes when your handset is muted.
12	EXT Indicator	Lights when you are on a call; flashes when you hold a Cdl.
13	ON/OFF Indicator	Lights when ON/OFF key has been pressed.
14	REDIAL Key	Used to redial last outside number dialed.
15	MUTE Key	Used to activate/deactivate MUTE function. When activated, the party on the other end cannot hear you. (See item 11, MUTE Indicator.)
16	AUTO Key	Used to access speed dialing, enter account codes, or for message waiting answer/cancel.
17	ON/OFF Key	Used to make a call without lifting handset.
18	FLASH Key	Used to end an outside call and to restore dial tone without hanging up receiver.
19	VOLUME Key	Used to adjust level of tones, background music, ringing, receiver volume, and display contrast.
20	HOLD Key	Used to hold calls, to retrieve held calls, and to complete FF key programming.
21	Microphone	Used to talk with other party without using the handset.
22	Speaker	Outputs tones and voice at your extension.

Figure 6.   44-Series Large-Display Phone
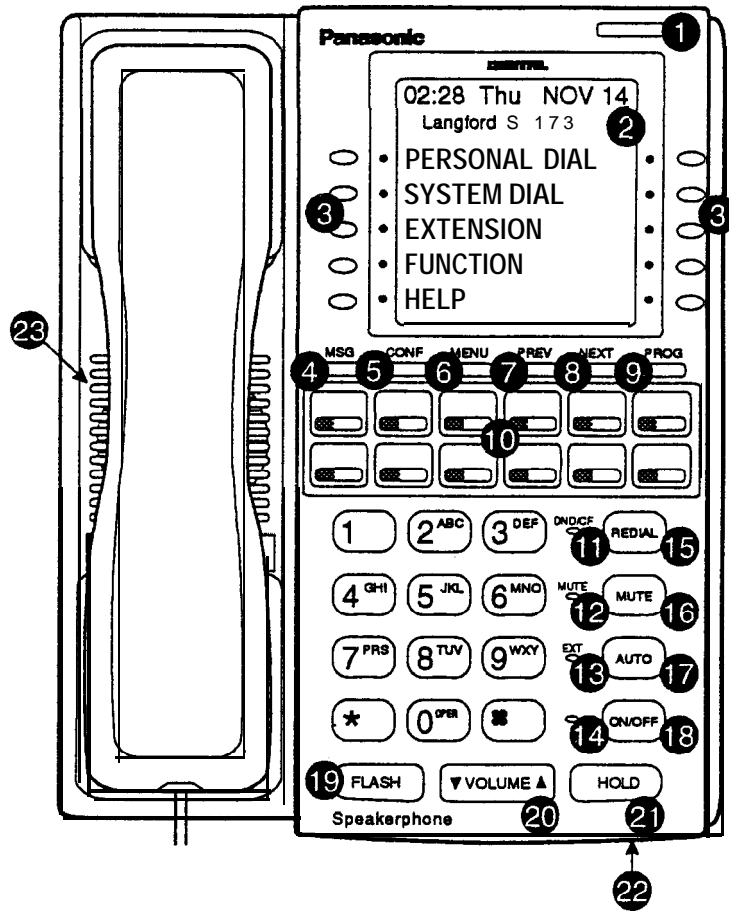
Table 3. Large-Display Phone Features

#	Feature	Description
1	Message Indicator	Indicates that YOU have a message.
2	Display	Displays information about phone's status, menus, dialing directories, and text message information.
3	Soft Keys	Used to make outside calls or to access call-handling features.
4	MSG Key	Used for Auto-CallBack to a telephone which has left a text message or to access voice messages.
5	CONF Key	Used to establish conference calls, check FF and one-touch key settings, and scroll through messages.

#	Feature	Description
6	MENU Key	Used to return to the Main Menu screen. The default Main Menu screen contains the following items: • PERSONAL DIAL • SYSTEMDIAL • EXTENSION • FUNCTION • ｱ ▾ @ ｾ
7	PREV Key	Used to return to the previous menu.
8	NEXT Key	Used to advance to the next menu.
9	PROG Key	Used to program FF and one-touch keys and to adjust ringer volume. Depending on the setup of your system, may also be used to transfer calls.
10	Flexible Function (FF) Keys	Used to access outside lines or to access call-handling features.
11	DND/CF Indicator	Indicates that Do-Not-Disturb, Call Forwarding, or Absence Message is set.
12	MUTE Indicator	Indicates that your voice is muted - i.e., party on the other end cannot hear you. Lights solid when your hands-free microphone is muted and flashes when your handset is muted.
13	EXT Indicator	Lights when you are on a call; flashes when you hold a call.
14	ON/OFF Indicator	Lights when ON/OFF key has been pressed.
15	REDIAL Key	Used to redial last outside number dialed.
16	MUTE Key	Used to activate/deactivate MUTE function. When activated, the party on the other end cannot hear you. (See item 12, MUTE Indicator.)
17	AUTO Key	Used to access speed dialing, enter account codes, or for message waiting answer/cancel.
18	ON/OFF Key	Used to make a call without lifting handset.
19	FLASH Key	Used to end an outside call and to restore dial tone without hanging up receiver.
20	VOLUME Key	Used to adjust level of tones, background music, ringing, receiver volume, and display contrast.
21	HOLD Key	Used to hold calls, to retrieve held calls, and to complete FF key programming.
22	Microphone	Used to talk with other party without using the handset.
23	Speaker	Outputs tones and voice at your extension.

Directory Mode

Description

This new feature applies to the 44-series small-display phone only (i.e., phones with a 2-line LCD display).

In Directory Mode, you can use the phone's select keys (as well as other keys) to scroll through a directory of existing System Speed Dial (SSD) names, Personal Speed Dial (PSD) names, or extension names -- and select one to dial.

- *For example, if you can't remember the party's extension number or speed-dial number to which you want to transfer a call on hold, you can use Directory Mode to find the number and execute the transfer.*

Operation

The select keys on the 44-series smaildisplay phone are located next to the display's 2nd line.   Pressing select key 1 ("**>**" on the left) or select key 2 ("**<**" on the right) will access the displayed-directory.

To use Directory Mode:

1. Press the MODE key to turn Directory Mode on. The 2nd line of the LCD will display "SSD" on the left and "PSD"on the right.

    - Press the MODE key again to access the directory for extension names. The 2nd line of the LCD will display "EXT" on the left.

2. Press the **>** select key to access the directory of existing SSD or EXT names; or the **<** select key to access the PSD directory. The 2nd line will show two speed-dial or extension names at a time (the first 7 characters of each name), beginning with the A's.

3. To scroll through the names (two at a time), press the #key. To back-scroll, press the * key.

4. To jump to another letter in the directory, press the numeric key for it. For example, press the "6" key to jump to the M's, N's, and O's. The M's will appear first. Press "6" again to jump to the N's, and again to jump to the O's. (*Note:* This doesn't work for PSD names unless the system is a DBS 824 CPC-M Version 2.0 or higher, which allows up to 40 PSDs.)

    - For names beginning with Q or Z, use the 1 key.

5. When the correct speed-dial or extension name is displayed, you can execute the dialing of its speed-dial or extension number by pressing the select key that points to it (**>** if the name is displayed on the left; or **<** if the name is on the right).

- Or, to exit the directory without selecting a number to dial, press
  the END key or go on-hook.

Notes   *Incompatibility with older phone versions.*   Directory Mode is available on the
                     new 44-Series phones only.

                     Hot Dial Pad and Directory Mode.   The Hot Dial Pad feature (FF3 ExtPort# 48#)
                     will not work on an extension in Directory Mode.

Variable Mode

Description   This new feature applies to the 44-series small-display phone only (i.e., phones
                     with a 2-line LCD display).

                     When the phone is in Variable Mode, the features for Flexible Function Screen
                     select keys 1 and 2 will display during each of the following call states:

Call State	Existing Proaram Address*
• During an intercom call	FF3 (ExtPort)# 28# (25-39)#
• During CO dial-tone	FF3 (ExtPort)# 29# (25-39)#
• During a trunk call	FF3 (ExtPort)# 30# (25-39)#
• After dialing a busy extension	FF3 (ExtPort)# 33# (25-39)#

                     **• In these addresses, you assign a Flexible Function Screen (2539) to appear on
                     the extension while it is in the call state.**

Operation   The select keys on the 44-series small-display phone are labeled ">" and "<" to the
                     left and right of the display's 2nd line.   Pressing select key 1 (">" on the left) or
                     select key 2 ("<" on the right) will perform the displayed feature.

                     To use Variable Mode:

                     1.   Activate Variable Mode by pressing **ON/OFF *61 ON/OFF.**
                          - When you dial '61 in the above sequence, the 1st line of the LCD
                            will display "Variable md ON". The display will return to normal
                            when you press the second ON/OFF.
                          - The ● 61 code toggles Variable Mode on and off. Press **ON/OFF ● 61
                            ON/OFF** again to turn Variable Mode off.

                     2.   While the extension is engaged in an intercom call, the 2nd line will
                          display select key 1 and 2 features from the Flexible Function Screen
                          assigned to display in FF3 ExtPort# 28#.   The same applies when the
                          extension receives CO dial tone (FF3 ExtPort# 29#); during a trunk

call (FF3 ExtPort# 30#); and after dialing a busy extension (FF3 ExtPort# 33#).

- Use existing addresses FF1 2# 7# 1# thru 4# to assign select key features to Flexible Function Screens.
- Use existing addresses FF1 2# 7# 2# to assign screen text.
- Select key features for *Fixed* Function Screens will not appear on small-display phones.

3. While the select key feature is displayed, you can execute the feature by pressing the > or < select key.

Notes

Toggling Variable Mode On/Off with an FF-Key. You can program the ● 6 1 code into an FF-key: In programming mode, press FF5 (ExtPort)# (KeyNo.)# (*61)#. The FF-key will toggle Variable Mode on/off while the extension is idle or in an off-hook/dial-tone state. The FF-key LED will remain lit (red) while Variable Mode is "On". (You can also use a one-touch key to toggle Variable Mode on and off; however, one-touch keys do not contain an LED to indicate when Variable Mode is on.)

Variable Mode After Power-Cycling. If Variable Mode is "On", the extension will stay in Variable Mode even after power-cycling (system is powered down, then powered back up).

Incompatibility with older phone versions. Variable Mode is available on the new 44-Series phones only.

Conditions under which Variable Mode does not work. Variable Mode will be temporarily overridden under the following conditions: during an incoming message state, hold state, message-waiting state, or call-waiting state. Incoming messages include:

CO Queuing
Incoming [trunk no.]
REV.[extension no.]
TRF.[trunk no.]
H-Recall
Call wait
REC.[trunk no.]
Recall Hnt [Hunt Group no.]
DISA Incoming
Call [extension no.]
Transf [extension no.]
Recall [trunk no.]
HOLD Recall

Handset Mute

Description

While using the handset (not on speaker) during a phone conversation, you can press the MUTE key to block audio path to the other party -- you can still hear them, but they can't hear you. This feature is called "Handset Mute."

Operation

1. To turn on Handset Mute while using the handset, press the MUTE key.
    *   The MUTE indicator lamp (LED next to MUTE key) will flash.
    *   The handset transmitter will be muted. You will still be able to hear the other party, but they can't hear you.

2. To turn off Handset Mute, do one of the following:
    -- press the MUTE key again,
    -- press HOLD to place the call on hold;
    -- replace the handset on-hook; or
    -- press the flashing FF-key to answer another call.
        *   Note: This will drop the first call unless Key Bank Hold is enabled (FF1 2# 1# 9#).
    *   The MUTE indicator lamp will stop flashing.

Notes

Headset Use. The Handset Mute feature also works if you are using a headset on the phone to handle calls (#51 activates Headset mode).

Speakerphone Use. The MUTE key works the same as before (mutes the microphone) when you are on speaker. The MUTE lamp lights steadily when the microphone is muted, and flashes when the handset is muted.

Handsfree Answerback. The MUTE key enables or disables Handsfree Answerback the same as before. (Handsfree Answerback allows you to answer intercom calls on speaker, without picking up the handset. While the phone is idle, press the MUTE key to toggle between Handsfree Answerback On and Off. When the MUTE indicator lamp is unlit, Handsfree Answerback is ON. When the lamp is lit, Handsfree Answerback is OFF.)

Offhook Monitoring. This new feature and Handset Mute can both be ON simultaneously, so that both the speaker and handset transmitters are muted (but the speaker and handset receivers still operate). For more information about Offhook Monitoring, see page 19 of these Release Notes.

Barge-Ins During Handset Mute. If another phone barges in on your call while Handset Mute is ON, and you change to conference talk (but not by pressing HOLD), Handset Mute will remain ON.

FF-Key/One-Touch Key Restriction. Handset Mute cannot be assigned to an FF-key or a one-touch (soft) key.

Off-Hook Monitoring

Description   Off-Hook Monitoring lets you put a call on speaker while the handset is off-hook. You can still communicate with the outside party via the handset, but you will also be able to hear the other party on the phone's speaker. He/she will only be able to hear what is spoken through your handset, however - audio will not be transmitted through your microphone.

Operation   1. During a call, press the ON/OFF key.

- Another receiver path is established on the phone's speaker -- you can now hear the outside party on the speaker as well as in the handset.
- Your phone's microphone is muted so that the outside party hears only what is spoken through your handset. (To mute handset transmission, press **MUTE.**)

2. To turn off Off-Hook Monitor ("kill" the speaker but stay on the line with the outside party through the handset), press ON/OFF again.

Separate Speaker Volume for Internal vs. CO calls

Description   You can now establish separate volumes for internal (intercom) and external (CO) calls.

To adjust volume levels, press the VOLUME key (A or ▼) during the appropriate call state.

Notes   Adjusting speaker volume will affect only the speaker (i.e., not the handset), and vice-versa.

Analog Adapter

Description   The Analog Adapter (VB-44100) consists of a base adapter and PC board which is installed on the underside of the phone. It is used to connect the 44-series largedisplay phone to an analog device such as an SLT telephone, cordless phone, FAX machine, or modem. This allows the same phone line to be used to alternate between normal phone calls and analog communications. *(To install, see the instructions supplied with VB-44100).*

Programming

> to register the installation of the Analog Adapter on an extension...
>
> ### FF3 (ExtPort)# 51# (0 or 1)#
>
> Extension Port where
> VB-44225 Large-Display
> Phone is installed
>
> **O=Analog Adapter is not
> installed on this extension.**
> l=Analog Adapter is
> installed on this extension.

> to implement data security measures (interrupt tones, overrides)
> For the Analog Port...
>
> ### FF3 (ExtPort)# 52# (0 or 1)#
>
> Extension Port where
> VB-44225 Large-Display
> Phone is installed
>
> **0=Disable data security on the
> Analog Adapter.**
> l=Enable data security on the
> Analog Adapter.
>
> NOTE: This address will affect only the Analog Adapter, not the
> Large-Display phone itself.

Operation

The first device to go off-hook will seize the line (off-hook is either lifting the handset or pressing the ON/OFF key). If the analog device goes off-hook first, the large-display phone will be unable to dial or go off-hook.

You can choose which device will ring by going off-hook at either the digital key telephone or the analog device and dialing *71. The digital key telephone display will reflect "Analog port RING" or "Key Tel RING", depending on which device is selected - the default is "Key Tel RING".

You can still *answer* an incoming call from either device, regardless of which device is ringing. For example, if the analog device is ringing, you can pick up the call on the digital key telephone by going off-hook before the analog device does. Similarly, if the digital key telephone is ringing or has not answered a voice call, the analog device can pick up the call by going off-hook first.

You can program the *71 ring select comand into an FF key. Pressing the key toggles between "Analog Port RING" and "Key Tel RING". When the analog port is set to ring, the FF key LED lights red. When the key telephone is set to ring, the LED is off.

Notes

Phone Restrictions

- The Analog Adapter will work on the large-display phone only (VB-44225).
- A dial-pulse SLT will not function on the analog port.
- Stutter Dial Tone (indicating Call-Forwarding mode, Do-Not-Disturb mode, etc.) will not function on an SLT connected to the Analog Adapter.
- An analog phone connected to the Analog Adapter cannot program or access speed dials.

Incoming Calls

- You cannot program both devices to ring simultaneously.
- The "*71" code will not work if the other device is in use.
- The "*71" code will not work if FF3 (ExtPort)# 51# is set to "0".
- If set to "Analog port RING", the large-display phone will work like an SLT/OPX (no page announcements, no voice calls from other extensions, etc.).
- If the phone is in CF/DND (Call-Forward or Do Not Disturb), the phone will remain in CF/DND even if the ringing device is changed via the *7 1 code.
- The incoming ring pattern for the analog device is the same as for the digital key telephone (determined by the Extension Ring Pattern in FF3 (ExtPort)# 39# (0-9)#). If this address is set to "0" (determined by CO), the analog device will automatically default to "1 second ON, 3 seconds OFF."

Ring Patterns Not Applicable to Analog Device. The following ring pattern addresses *will not* affect the analog device:

Analog Transfer Ring Pattern FF1 2# 1# 31# (0-6)#
SLT DISA Ring Pattern   FF1 2# 1# 34# (0 or 1)#
Inbound Ring Pattern   FF2 (Trunk)# 17# (0-9)#

Flash Interaction. Any disconnect signal sent to the analog port must be greater than the SLT Flash Control; otherwise the disconnect signal will be interpreted as a flash and the call will be placed on hold.

Programming Addresses That Affect the Analog Device. The following addresses will control the analog device, but will not affect the digital key telephone:

AEC Disconnect Duration   FF1 2# 1# 35# (0-15)#
SLT Flash Control   FF1 2# 1# 11# (0 or 1)#

SLT Onhook Flash Timer	FF1 3# 14# (0-6)#
AEC Disconnect	FF3 (ExtPort)# 46# (0 or 1)#
Analog Port on Large-Display Phone (new)	FF3 (ExtPort)# 51# (0 or 1)#
Data Security on Analog Port (new)	FF3 (ExtPort)# 52# (0 or 1)#

MSG (Message) Key

Description   The new MSG key on the VB-44225 Large-Display Phone adds the following
functionality to the phone:

- *Auto-Callback.* If a callback message has been left by another extension, you
  can press the MSG key to place an automatic callback to the extension that sent
  the message. If more than one callback message has been received, pressing the
  MSG key will perform auto-callback in the order received.

- *Auto-Answer Voice Message.* You can press the MSG key to automatically
  access your voice mailbox. The phone will dial your voice mailbox and send
  access codes (if programmed) for retrieving new messages.

Programming   Auto-Callback is always enabled for large display phones. Use the following to
enable the MSG key for Auto-Answer Voice Message.

> to enable the MSG key for Auto-Answer Voice Message...
>
> ## FF3 (ExtPort)# 53# (0 or 1)#
>
> Extension Port where
> VB-44225 Large-Display
> Phone is installed
>
> 0=Disable MSG key from returning
>   a "Message Waiting".
> 1=Enable MSG key for returning
>   a "Message Waiting".

Operation   **To Program Voice Mailbox Access Codes into the MSG Key:**

Press PROG MSG [16-digit number] HOLD

The display will reflect "Regist Data".

To Confirm a Voice Mailbox Access Code Programmed into the Message Key..

Press CONF MSG.

The programmed access code will be displayed.

Notes

Operation With Message Waiting Indicator. The Message Waiting Indicator on the phone's upper right comer will flash whenever a callback message or voice message has been received.

Operation During Call States. The MSG key will work only when the phone is idle, receiving dial tone, or in Directory Mode (via select key).

Operation If Phone Has Both a Callback Message from another Extension and a Voice Message. Messages are accessed in a First In, First Out order. If the callback message was received before the voice message, then pressing the MSG key will activate Auto-Callback first. Likewise, if the voice message was received before the callback message, pressing the MSG key will access your Voice Mailbox.

Interaction with Tone-Calling Mode. If an Auto-Callback is placed to a phone that is in tone-calling mode (i.e., not voice-calling), that phone must answer or the message canceled before another message can be accessed.

FF-Key Restriction. These new MSG features cannot be assigned to an FF-key.

Reprogramming the MSG key if Extension Number Digits is changed. If the DBS is reprogrammed to use a different extension numbering plan (i.e., changed from 2-digit to 3-digit extensions, 3-digit to 4-digit extensions, etc.), the Voice Mailbox Access Code must be reprogrammed into the MSG key.

DSS/72 Console - Key Arrangement

Description

The keys on the new DSS/72 Console (VB-44320) are arranged differently from the VB-43320 model. The new DSS console has 6 columns x 12 rows of keys (not 8 columns x 9 rows as in the previous version). This affects the following:

- *Name and Message Assignments (FF6 addresses).* The alphabetical arrangement of the keys is different.

- *FF-Keys.* The FF-keys on the DSS/72 console are numbered left-to-right, bottom row first.

- *DSS #I Defaults.* The default extension number assignments on DSS #1 are different.

The new DSS key arrangement is shown in Figures 7 & 8.

Figure 7. **DSS/72** *Console* **(VB-44320)** *key layout*
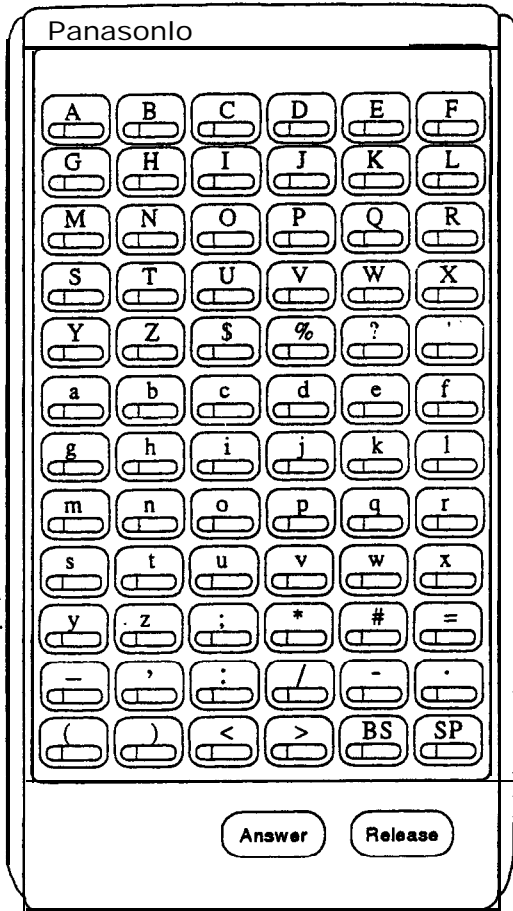
DSS/72 Key Layout (alphabetical)

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z	$	%	?	'
a	b	c	d	e	f
g	h	i	j	k	l
m	n	o	p	q	r
s	t	u	v	w	x
y	z	:	*	#	=
—	'	:	/	-	.
(	)	<	>	BS	SP

Answer   Release

DSS/72 Key Layout (FF-key numbering)

FF67	FF68	FF69	FF70	FF71	FF72
FF61	FF62	FF63	FF64	FF65	FF66
FF55	FF56	FF57	FF58	FF59	FF60
FF49	FF50	FF51	FF52	FF53	FF54
FF43	FF44	FF45	FF46	FF47	FF48
FF37	FF38	FF39	FF40	FF41	FF42
FF31	FF32	FF33	FF34	FF35	FF36
FF25	FF26	FF27	FF28	FF29	FF30
FF19	FF20	FF21	FF22	FF23	FF24
FF13	FF14	FF15	FF16	FF17	FF18
FF7	FF8	FF9	FF10	FF11	FF12
FF1	FF2	FF3	FF4	FF5	FF6

Answer   Release

Figure 8. *DSS/72 #I Default Extension Numbers*
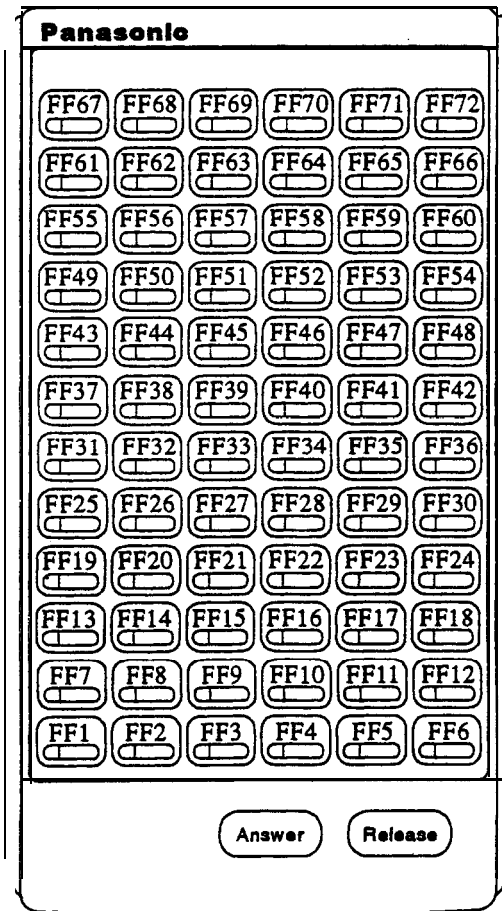
DSS #1 Default Extension Numbers
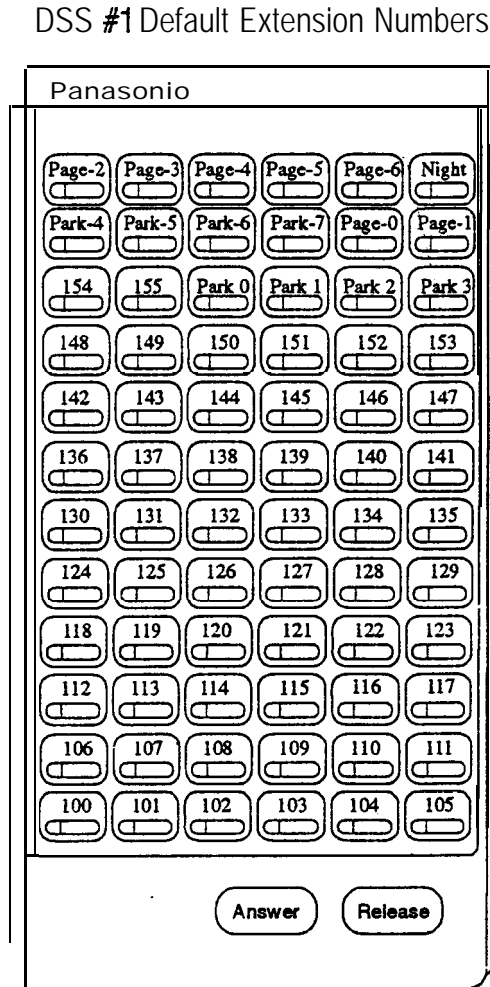
Programming

The DSS/72 console (DSS #1 . . . DSS #4) is assigned to its extension number in the same manner as before:

Terminal Type: FF3 (ExtPort)# 2# (11-14)#

where...

- 11 is the first DSS console for the first attendant
- 12 is the second DSS console for the first attendant
- 13 is the first DSS console for the second attendant
- 14 is the second DSS console for the second attendant

The DSS/72 console's FF-keys are assigned feature codes in the same manner as before (the only difference is the numbering arrangement of FF-keys l-72):

FF Key Assignments: FF5 (DSSPort)# CONF (I-72)# (Code)#

The Name and Message Assignment addresses work the same way as before on the DSS/72 console (the only difference is the placement of the keys when entering the characters of the text):

Extension Name: FF6 1# (ExtPort)# CONF (10 char.)#
SSD Name: FF6 2# (SSD)# CONF (16 char.)#
PSD Name: FF6 3# (ExtPort)# (PSD)# CONF (16 char.)#
Absence Message:FF6 4# (5-9)# CONF (15 char.)#
Trunk Name: FF6 5# (Trunk)# CONF (6 char.)#
Hunt Group Name: FF6 6# (HuntGrp)# CONF (10 char.)#
CW/OHVA Reply: FF6 7# (1-5)# CONF (15 char.)#
DID Name: FF6 8# (1-200)# (1/2)# (0000-9999)# (6 char.)#
DNIS Name: FF6 9# (1-200)# (1/2)# (0000-9999)# (6 char.)#

Note: If you use the 44-Series, DSS/72 for Name and Message assignment, you should use the 44-Series phone for the attendant.

Operation   The 44-Series DSS/72 operates the same as previous models.

EM/24 - Key Arrangement

Description   The keys on the new EM/24 unit (VB-44310) are arranged differently from the VB-43310 model., The new EM/24 unit has 2 columns x 12 rows of keys (not 3 columns x 8 rows as in the previous version). This affects the following:

. **FF-Keys.** The FF-keys on the EM/24 are numbered bottom-to-top, left column first.

The new EM/24 key arrangement is shown in Figure 9.

Figure 9.   EM/24 Unit (VB-44310) keys
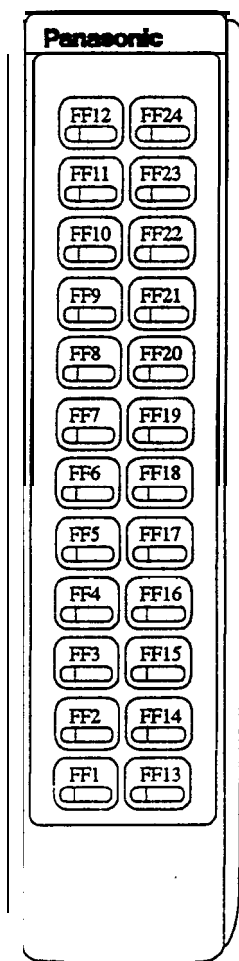
Programming   The terminal type for the EM/24 is specified in the same manner as before:

Terminal Type: FF3 (EM/24 ExtPort)# 2# (1-48)#

The EM/24 unit is linked to its extension phone in the same manner as before:

EM/24 Port Assignment: FF3 (EM/24 ExtPort)# 3# (phone ExtPort)#

The EM/24's FF-keys are assigned feature codes in the same manner as before (the only difference is the numbering arrangement of FF-keys l-24):

FF Key Assignments: FF5 (ExtPort)# (1-24)# CONF (Code)#

Operation   The 44-Series EM/24 operates the same as previous models.

Speed-Dial Enhancements

Description
The CPC-EX supports up to 500 SSD numbers (code range 000-499) for each system, and up to 10 PSD numbers (code range 900-909) for each extension.

With CPC-EX, you can chain up to 4 SSD codes together within a fifth SSD number. You can also chain up to 4 SSD or PSD codes together within a fifth PSD number. You can include both speed-dial codes and regular dialed numbers into the same speed-dial number.

The maximum length of any speed-dial number is still 16 digits.

Programming
Figure 10. Assigning SSDs from programming mode

to assign a System Speed Dial number from programming mode...

FF1 0 1# (000-499)# (up to 16 digits)#

3-Digit SSD Code

000 thru 499 = range for CPC-EX
Version 1 .O

Valid Entries (using a DSS console):

o-9	(digits O-9)
CONF	(to clear data)
< or BS	(to backspace)
>	(to forward-space)
P	(to insert a pause)
C	(to access trunk group)
AUTO	(to insert an SSD code)

EXAMPLE: To chain together SSD code 000 *(C9-Pause)*, SSD code 001 *(10288-Pause)*, and SSD code 002 (555-1212) within SSD code *003*...
    FF10 1# 000## C9 P **#**
    FF10 1# 001# 10288 **P** **#**
    FF10 1# 002# 5551212 **#**
    FF10 1# 003# AUTO 000 **AUTO 001 AUTO 002 #**

EXAMPLE: To program SSD code 350 to access trunk group 81, then pause, then dial *555-1212*...
    FF10 1# 350# C 1 P 5551212#

Figure 11. Assigning SSDs from the attendant phone

to assign a System Speed Dial number from the attendant phone...

1. Press ON/OFF.
2. Press PROG.
3. Press AUTO.
4. Enter the SSD code (000-499).
5. Enter the number to be dialed.
6. Press HOLD.
7. Press ON/OFF.

EXAMPLE: To chain together SSD code 000 (C9-Pause), SSD code 001 (10288-Pause), and SSD code 002 (555-1212) within SSD code 003...

1. Program SSD code 000 to dial "C9-Pause":
   a. Press ON/OFF, then PROG, then AUTO.
   b. Enter 000.
   c. Press CONF (to access a trunk group), then 9.
   d. Press REDIAL (to specify a "pause").
   e. Press HOLD.
2. Program SSD code 001 to dial "10288-Pause".
   a. Press ON/OFF, then PROG, then AUTO.
   b. Enter 001.
   c. Enter 10288.
   d. Press REDIAL (to specify a "pause").
   e. Press HOLD.
3. Program SSD code 002 to dial "555-12 12".
   a. Press ON/OFF, then PROG, then AUTO.
   b. Enter 002.
   c. Enter 5551212.
   d. Press HOLD.
4. Program SSD code 003 to chain dial all digits in SSD 000, SSD 001, and SSD 002.
   a. Press ON/OFF, then PROG, then AUTO.
   b. Enter 003.
   c. Press AUTO, 000, then AUTO, 001, then AUTO, 002.
   d. Press HOLD.

Figure 12. Assigning PSDs from programming mode

to assign a Personal Speed Dial number from programming mode...

FF10 2# (ExtPort)# (900-909)# (up to 16 digits)#

3-Digit PSD Code   Valid Entries (using a DSS console):
                             o-9   (digits O-9)
                          CONF   (to clear data)
                          < or BS   (to backspace)
                             >   (to forward-space)
                             P   (to insert a pause)
                             C   (to access trunk group)
                          AUTO   (to insert an SSD or
                                       PSD code)

*EXAMPLE: To chain-dial SSD code 001 and PSD codes 901-902 together into
PSD code 909 on extension port 033...*
  FF10 2# 033# 909# AUTO 001 AUTO 901 AUTO **902#**

*EXAMPLE: To program PSD code 906 on extension port 033 to access pooled
trunk group 81, then pause, then dial 555-1212...*
  FF10 2# 033# 906# C 1 P **5551212#**

Figure 13. Assigning PSDs from a key telephone

to assign a Personal Speed Dial number from a key telephone...

> 1. Press ON/OFF.
> 2. Press PROG.
> 3. Press AUTO.
> 4. Enter the PSD code (90-99 or 900-909).
> 5. Enter the number to be dialed.
> 6. Press HOLD.
> 7. Press ON/OFF.

*EXAMPLE: To chain together SSD code 000 (C9-Pause) and SSD code
002 (555-1212) within PSD code 900...*

> 1. Press ON/OFF, PROG, AUTO.
> 2. Enter 900.
> 3. Press AUTO, 000, then AUTO, 002.
> 4. Press HOLD.

Notes

1) Chain-Dialing Limitations and Restrictions:

- You cannot chain-dial any PSD codes within an SSD number, because the system would not be able to choose which extension to take the PSD code from (the same PSD code might exist on multiple extensions).

- You cannot "chain-within-a-chain". For example:

  -- SSD Code 001 = AUTO 002(will not dial out; returns busy tone instead)
  -- SSD Code 002 = AUTO 003(will dial out)
  -- SSD Code 003 = 555-1212(will dial out)

  (the above restriction applies to PSD codes as well)

- You cannot chain-dial PSD or SSD codes if they are both included in each other's speed-dial number. For example:

  -- SSD Code 000 = AUTO 001(will not dial out; returns busy tone instead)
  -- SSD Code 001 = AUTO 000(will not dial out; returns busy tone instead)

2) The programming address for SSD Display Restriction (FF1 2# 1# 5# [0 or 1]#) affects SSD codes 400-499.

- If disabled (i.e., set to "O"), the numbers assigned to SSD codes 400-499 will display during dialing. The default is "0".

- If enabled (set to "l"), the numbers assigned to SSD codes 400-499 will not display during dialing.

- Numbers associated with SSD codes 000-399 will always display during dialing.

Additional Serial Port on CPC Card
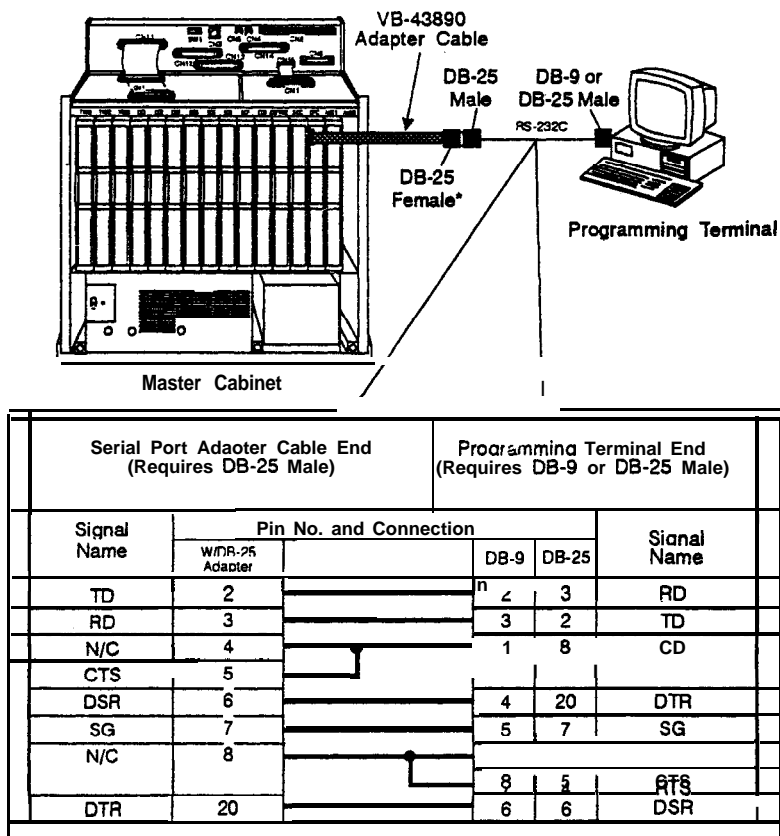
Description

The CPC-EX card contains an on-board serial port (Serial Port 2) which can be used for Bus Monitor/ Remote Maintenance. This serial port (labeled CN5) is located just above the LEDs on the front of the card (see the illustration on page 8). This additional serial port allows you to dial directly into the system for remote maintenance, without having to disconnect the SMDR cabling from the backplane serial port (Serial Port 1).

. Serial Port 1 (the backplane port) and Serial Port 2 have separate controls for baud rate, stop bit, parity, and data length

Installation

Serial Port 2 requires the CPC-EX Serial Port Adapter Cable (VB-43890). This cable connects to Serial Port 2 via a 10-pin connector, and to a programming terminal via a DB25 connector.

Figure 14. CPC-EX Serial Port 2

Serial Port Adaoter Cable End (Requires DB-25 Male)			Proorammina Terminal End (Requires DB-9 or DB-25 Male)		
Signal Name	W/DB-25 Adapter	Pin No. and Connection	DB-9	DB-25	Sianal Name
TD	2		2	3	RD
RD	3		3	2	TD
N/C	4		1	8	CD
CTS	5				
DSR	6		4	20	DTR
SG	7		5	7	SG
N/C	8				
			8	5	RTS
DTR	20		6	6	DSR

. The standard DBS SMDR/Maintenance cable (normally connected to CN6) may be connected to the programming terminal.

Programming   The following new addresses apply to CPC-EX Serial Port 2. (The addresses that control the SMDR port remain at FF1 2# 2# 1# thru 9#.)

---

to program the DBS to perform **Parity Check** on Serial Port 2...

FF1 2# 2# 11# (0 or 1)#

O=Parity check OFF
1=Parity check ON

---

to specify **Parity Count** for Serial Port 2 (if Parity Check is ON in the above address)...

FF1 2# 2# 12# (0 or 1)#

O=Odd parity count,
l=Even parity count

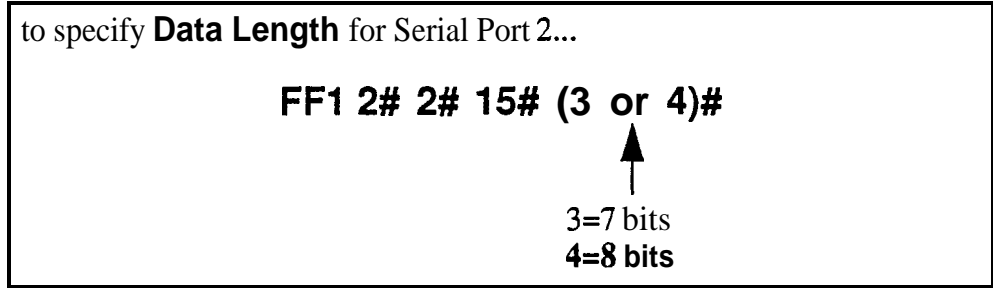to specify **Baud Rate** for Serial Port 2...

FF1 2# 2# 13# (1-4)#

1=300 bits per second (bps)
2=1200 bps
3=4800   bps
4=9600 bps

---

to specify **Stop Bit Length** for Serial Port 2...

FF1 2# 2# 14# (1-3)#

1=1 bit
2=2 bits

---

to specify **Data Length** for Serial Port 2...

FF1 2# 2# 15# (3 or 4)#

3=7 bits
4=8 bits

Notes

- Serial Port 2 requires a special interface cable.

- Serial Port 2 can be used for Bus Monitor/Maintenance only. You must continue to use the backplane port (Serial Port 1) for SMDR.

- Port selections are made from the Attendant phone as follows:

	to set Serial Port I for...	*and Serial Port 2 for...*
dial #90	Bus Monitor/Maintenance	no output
dial #92	SMDR	Bus Monitor/Maintenance
dial #93	SMDR/Maintenance	no output

- When Serial Port 2 is used (i.e., #92 has been entered), the internal RAI modem cannot be accessed.

T1 Networking

> **NOTE:** *The following inform&on covers Tl Networking features that directly affect CPC-EX operation. For detailed information regarding T1 Networking, see "T1 Networking Reference Guide", Part No.550X10001, Section 540.*

CPC-EX allows up to 4 DBS's to be connected together via Tl interface to form a DBS phone network. Such a network provides the following new features:

- Network Extension to Extension Calling
- Call Forwarding to Network Extensions
- Paging across Network nodes
- Network Route selection
- Remote DBS CO Access
- SMDR Network Support
- Independent Node Attendant Assignment

These feature are described in greater detail in the following sections.

Hardware Requirements

Each site (node) must contain the following hardware:

- CPC-EX
- SCC-B
- T1 Trunk Card
- T1 MDF
- T1 Synch Unit
- External CSU (not provided by Panasonic)

The maximum number of nodes which can be connected together is 4. Each node can be either a single or double DBS cabinet configuration. The connection between these systems is accomplished via T1 talk paths, with the quantity determined during installation.
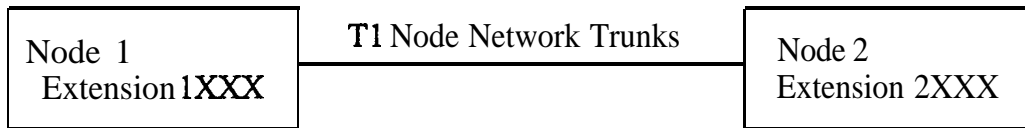
Network Extension to Extension Calling

Networked DBS's use a 4-digit extension numbering plan. The first digit determines the node being called. For example:

Node 1 - leading digit 1
Node 2 - leading digit 2
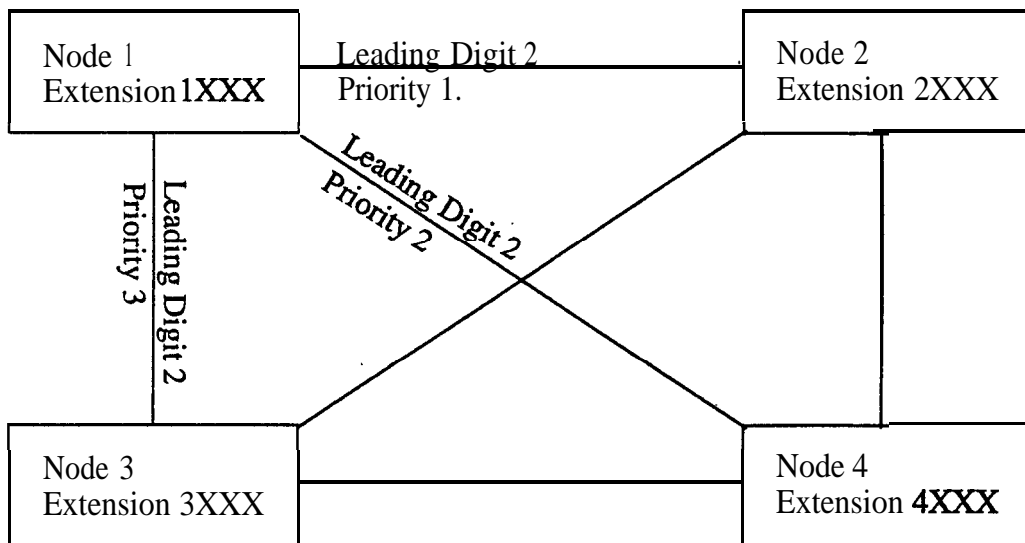
Node 3 - leading digit 3
Node 4 - leading digit 4

Figure 15. Tl Network Extension Numbering.

```
┌─────────────────┐                            ┌─────────────────┐
│ Node  1         │  T1 Node Network Trunks    │ Node 2          │
│   Extension 1XXX │                           │   Extension 2XXX │
└─────────────────┘                            └─────────────────┘
```

When an extension in one node is called via the intercom from an extension in a different node, the called extension rings - Intercom Voice Calling and OHVA do not work when calling from one node to another.

The DBS determines how to route the calls based on the network trunk group priorities established during programming. To allow optimum flexibility in a 4-node network, up to 3 different trunk group priorities can be established.

Figure 16. T1 Network Call Priority Routing

```
┌─────────────────┐   Leading Digit 2    ┌─────────────────┐
│ Node 1          │   Priority 1.        │ Node 2          │
│ Extension 1XXX  │                      │ Extension 2XXX  │
└─────────────────┘   Leading Digit 2    └─────────────────┘
       │ Leading Digit 2   Priority 2         │
       │ Priority 3                            │
┌─────────────────┐                      ┌─────────────────┐
│ Node 3          │                      │ Node 4          │
│ Extension 3XXX  │                      │ Extension 4XXX  │
└─────────────────┘                      └─────────────────┘
```

Call Forwarding to Network Extensions

Any call can forward to an extension on any node by assigning the targeted extension number in a Personal Speed Dial bin. To establish the call forward setting, the user follows normal call forwarding settings and uses the (AUTO)XXX personal speed dial number entry.

Paging Across Network Nodes

Every node can allow or deny network paging for each class of service.

Network Route Selection

A'new option is available for Forced Least Cost Routing to include network route selection. This option provides 50 6-digit entries which determine how dialed numbers are routed through the network for optimal cost performance.

For example, if Node 1 of a networked system is in the 20 1 area code and Node 2 is in the 2 12 area code, all calls from Node 1 to the 212 area code or surrounding area codes can be routed through the second node to the public network.

Remote CO Access

End users in one node can also place calls manually through a distant node by dialing the node number followed by a trunk group (9).

SMDR Network Support

New options are available in CPC-EX to support call accounting in networked systems.These options are:

Specifying the call record to be printed. A new field has been added:

FF1 2# 2# 6# (2#) - Incoming, Outgoing, Network

In the actual SMDR record output, network traffic will be indicated by the following new record types:

```
W = CO Outgoing to Network
w = CO Incoming from Network
t = Network Transfer
```

The following new data output is found in the extension number field:

```
#01-#64 - Network trunk number
```

Independent Node Attendant Assignment

A central network operator can be assigned for Dial 0 access from any node. Each node can independantly designate a network attendant. For example, Nodes 1, 2 & 3 can send Dial 0 calls to the attendant on Node 1, while Node 4 sends Dial 0 calls to its local attendant.

Settings Modified for Networking

The following programming addresses have been modified to add parameters necessary for T1 networking. (See *the T1 Networking Reference Manual* **for** *complete instructions)*

Extension Number Digits

Description   The CPC-EX card allows a 4-digit extension numbering plan to be used on networked DBS systems. The first digit of the extension determines on which DBS the extension is located - for example, extension 1321 will be on DBS 1, while extension 2547 will be on DBS 2. Each DBS routes calls based on the leading digit of the dialed extension.

A DBS operating in a network environment must use the 4-digit extension numbering plan. Stand-alone (non-networked) DBS systems, however, must continue to use 2 or 3 digit extensions.

Programming

to specify the length of extension numbers...

FF1 2# 1# 12# (0-2)##

0=2-digit numbering
1=3-digit numbering
new ——▶ 2=4-digit numbering

Note: An extra "#" must be entered to confii the selection. (or press "*" to cancel)

SMDR Printing Mode 1: Outbound and Inbound

Description   SMDR data sent to Serial Port 1 can now include Network Calls also.

Programming

to specify the call type to be included in SMDR...

FF1 2# 2# 6# (0 - 2)#

O=Include outbound calls only
1=Include both inbound and outbound calls
new ➤ 2=Include inbound, outbound, and network calls

T1 Trunk Type

Description   The setting for T1 Trunk Type now includes a parameter for E&M Network.

Programming

to determine the type of trunk signaling for each T1 channel...

FF1 8# 4# 6# (I-54) 1# (0-4)#

Trunk Number (l-64)

0=Loop start
1=Ground start 1 (used for all ground start trunks)
2=Ground start 2 (not currently used)
3=E&M
new-W 4=E&M Network

Extension Numbers

Description The address for extension number assignments has been modified to allow for 4-digit extensions.

Programming

> to assign extension numbers to ports...
>
> ### FF3 (l-l 44)# 1# (1 0-69, 100-699, N100-N699)#
>
> Extension Port   Extension Number
> Defaults: Port 1=10, 100, or 1000
>   Port 2=11, 101, or 1001
>   Port 3=12, 102, or 1002
>   etc.
> **Note:** N=DBS network node number l-4

Forced LCR/NRS

Description The address for Forced Least Cost Routing has been modified to include Network Node Route Selection (NRS).

Programming

> to set individual extensions for forced LCR/NRS...
>
> ### FF3 (1-l 44)# 4# (0/1)#
>
> Extension Port   **0=Disabled (no forced LCR/NRS)**
>   l=Enabled (forced LCR/NRS)
>
> Note: If not in a network (NRS is not enabled),
>   then only forced LCR is enabled.

Other Changes to Programming Addresses

Flexible Function Screen Soft-Key Assignments (FF12# 7# 25-39# (1-10)# (xxxxxxxx)#) and FF Key Assignments have been modified to allow up to S-digit entries.

New Programming Addresses

New programming addresses have been added to support T1 Networking. These new addresses are applicable only in a networked environment and can be ignored in a stand-alone (non-networked DBS). Refer to the Tl Networking Reference Guide for detailed information.

Modification to Toll Restriction Service

Description   The program address for TRS Operator Access (FF7 1#18#...) has been modified to allow an extension to dial "O+NXX" phone numbers, even if "O-only" dialing is denied.

Four settings are possible. See Table 5 for descriptions.

Programming

```
FF7  1#  18#  (I-I  44)#  (0-3)#
                   ↑            ↑
              Extension Port  See Table 5
```
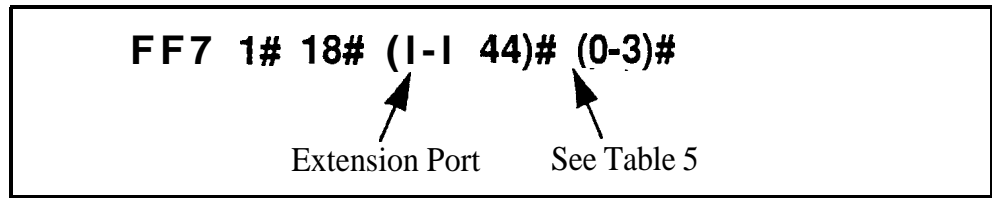
Table 5. TRS Operator Access settings

IF EQUAL ACCESS CODE FORMAT IS: 0 = Old Format (**10XXX** ONLY)			IF EQUAL ACCESS CODE FORMAT IS: 1 = New Format (**101XXXX** ONLY)		
Setting	Action	Type of Call	Setting	Action	Type of Call
0 (default)	Restrict	"O-only" and "00-only" calls. "10XXX0-only" calls.	0 (default)	Restrict	"O-only" and "00-only" calls. "101XXXX0-only" calls.
	Allow/Deny	"0" + additional digits per TRS tables. "00" + additional digits per TRS tables. "01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch. "10XXX0" + additional digits per TRS tables. "10XXX01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch.		Allow/Deny	"0" + additional digits per TRS tables. "00" + additional digits per TRS tables "01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch. "101XXXX0" + additional digits per TRS tables. "101XXXX01" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch.
continued...					

IF EQUAL ACCESS CODE FORMAT IS: 0 = Old Format (**10XXX** ONLY)			IF EQUAL ACCESS CODE FORMAT **IS:** 1 = New Format (**101XXXX** ONLY)		
Setting	Action	Type of Call	Setting	Action	Type of Call
1	Allow	"O-only" and "OO-only" only calls. "**10XXX0-only**" calls.	**1**	Allow	"O-only" and "**00-only**" calls. "**101XXXX0-only**" calls.
	Allow/Deny	"**0**" + additional digits per TRS tables. "**00**" + additional digits per TRS tables. "**01**" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch. "**10XXX0**" + additional digits per TRS **tables.** "**10XXX01**" + additional digits per **TRS** tables, Overseas Access Switch, and International Calls Switch.		Allow/Deny	"**0**" + additional digits per TRS tables. "**00**" + additional digits per TRS tables "**01**" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch. "**101XXXX0**" + additional digits per TRS tables. "**101XXXX01**" + additional digits per TRS tables, Overseas Access Switch, and International Calls Switch.
2	Restrict	"O-only" and "OO-only" calls. "**10XXX0-only**" calls.	2	Restrict	"O-only" and "00-only" calls. "**101XXXX0-only**" calls.
	Allow	"**0**" + additional digits. "**00**" + additional digits. "IOXXXO" **+** additional digits.		Allow	"**0**" + additional digits. "**00**" **+** additional digits. "**101XXXX0**" + additional digits.
	Allow/Deny	"01" + additional digits per Overseas Access Switch and International **Calls** Switch. "**10XXX01**" + additional digits per Overseas Access Switch and International Calls Switch.		Allow/Deny	"**01**" + additional digits per Overseas Access Switch and International Calls Switch. "**101XXXX01**" **+** additional digits per Overseas Access Switch and International Calls Switch.
3	Allow	"O-only" and "OO-only" calls. "**10XXX0-only**" calls. "0" + additional digits. "**00**" **+** additional digits. "**10XXX0**" + additional digits.	3	Allow	"O-only" and "**00-only**" calls. "**101XXXX0-only**" calls. "**0**" + additional digits. "**00**" **+** additional digits. "**101XXXX0**" + additional digits.
	Allow/Deny	"**01**" + additional digits **per** Overseas Access Switch and International Calls Switch. "**10XXX01**" + additional digits per Overseas Access Switch and International Calls Switch.		Allow/Deny	"**01**" + additional digits per Overseas Access Switch and International Calls Switch. "**101XXXX01**" + additional digits per Overseas Access Switch and International Calls Switch.

Notes

- The Operator Access address applies only to DBS systems using the new (1995) NANP dialing plan (FF7 1# 17# 1#), and to TRS types 2-6 (TRS types 0 and 1 do not allow outbound dialing; TRS type 7 allows all dialing).
- If "O-only", "00-only", "10XXX0-only", or "101XXXX0-only" calls are restricted (settings 0 or 2), the system will wait 6 seconds before automatically disconnecting the call. However, if the user dials additional digits within 6 seconds, the DBS will check other switches to determine whether to allow or deny the call.
- For all settings (0-3), the system will check the Equal Access Code Format switch (FF7 1# 21#...) if a CIC (carrier identification code) is dialed to reach a preferred inter-exchange carrier.
- For all settings (0-3), the system will check the international calls switches (FF7 1# 1# and FF7 1# 19#) if "01", "10XXX01", or "10XXXX01" is dialed.
- For settings 2 and 3, the system will not consider TRS settings for the trunk.

Maximum Time Priority Route Tables

Description CPC-EX allows a maximum of 8 Time Priority Route Tables to be used during LCR programming. (CPC-AII/B allows a maximum of 16 Time Priority Route Tables. This number is reduced with CPC-EX since very few systems require more than 3 of these tables and the saved memory space will allow for a planned future enhancement.)

The DBS uses Time Priority Route Tables to route calls to the least expensive carrier based on the time of day the call is placed. The following program addresses use Time Priority Route Tables:

- FF8 1#...LCR Area Codes
- FF8 2#...LCR Office Codes
- FF8 4#...Special LCR Office Code Tables
- FF8 5#...Time Priority Route Tables

. ISDN Support

Description
CPC-EX supports ISDN-PRI (Integrated Services Digital Network -- Primary Rate Interface). This ISDN Interface provides 23 voice channels ("B" channels) and a control channel ("D" channel) over a 4-wire circuit.

One program address, for Trunk Circuit Type (FF2 (trunk #)# 21#), has been modified to allow for ISDN. This modification is described below. In addition, CPC-EX provides several new programming addresses to support ISDN. The new program addresses, as well as additional detail on ISDN, are described in the *ISDN Reference Manual, Part No. 504X00301A, Section 530.*

Hardware Requirements

The following are the minimum hardware requirements for ISDN support in the DBS:

- ISDN Trunk Card (VB-43571)
- CPC-EX (VB-43415)
- SCC-B (VB-43421) (with ROM 1.3 or later)
- MDF Card (VB-43562)
- Sync Unit (VB-43563)
- External CSU (not provided by Panasonic)

Setting Modified for ISDN

Programming

to specify the Trunk Circuit Type...

FF2 (1-64)# 21# (0-5)#

Trunk Number

0=Loop start
1=Ground start
2=DID
3=T1
4=CID
5=ISDN
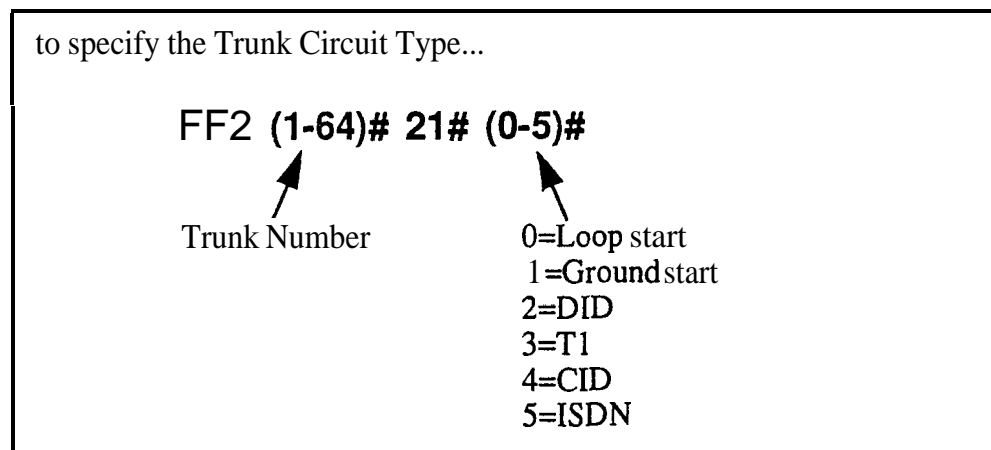
Modifications to SMDR

Description Station Message Detail Recording (SMDR) provides detailed call records of outgoing calls. SMDR records can be output to a printer or an external call accounting system. Additional call record types have been added to the SMDR feature to support network calls and ISDN calls.

Figure 17 shows the SMDR format for CPC-EX. New values added for CPC-EX are shaded.

Figure 17. SMDR Format for CPC-EX

```
 0          1          2          3          4          5          6          7
 0123456789012345678901234567890123456789~234567890~2345678901234567890~234567


 1   2      3       4      5             6                          7         8   9
 T MM/DD HH:MM:SS HH:MM.SS NNN DDDDDDDDDDDDDDDDDDDDDDDDDDDDDD AAAAAAAAAA VWW NN

1=Call type                              5=Extension number (or network trunk)
  S=Inbound DISA                            10-69, 100-699=extensions
  s=Outbound DISA                           CO number=DISA
  I=Incoming                                n01-n04=virtual port 1 to 4
  O=Outgoing                                #01-#64=network trunk number
  T=Transfer (See Note 1)
  N=DNIS                                 6=Dialed digits, Caller ID or ANI
  D=DID                                     DD=digits O-9 or symbols • or#
  W=CO outgoing to Network                  (See Note 2)
  w=CO incoming from network
  t=Network Transfer                     7=Account code
  r=ISDN incoming call                      A=0-9999999999
  R=ISDN outgoing call
                                         8=Verified account code or walking
                                            COS code
2=Date                                      V0000-V9999=verified account codes
  MM=month                                  W0000-W9999=walking COS codes
  DD=day

3=Call start time                        9=Trunk Number
  HH=hours                               NN=number    (01-64)
  MM=minutes
  SS=seconds

4=Call duration
  HH=hours
  MM=minutes
  SS=seconds

Notes:
1. Transferred calls include direct and group call pickups and conference calls.
   If a station call is transferred to an outside number, an SMDR record is
   also created for the  station that is transferred.
2. The • symbol appears as a greater-than sign (>) on the SMDR printout; the # symbol
   appears as a less-than sign (<). Centrex and PBX codes, as well as LCR access codes, do
   not appear as dialed digits. If the Caller ID Feature is installed and enabled,
   "Private" appears with calls that have restricted Caller ID display and "Out of Area"
   with long distance calls that do not provide Caller ID information.
```

Setting Modified for SMDR

Values have been redefined for the SMDR Start Timer. The following table shows the new values.

Note: These new values apply to CPC-EX only.

Programming

to specify the SMDR Display Start Timer for CO Calls...

FF1 2# 1# 2# (O-1 0)#

0 = 4sec	6 = 16 sec
1 = 6 sec	7 = 18 sec
2 = 8 sec	8 = 20 sec
3 = 10 sec	9 = 25 sec
4 = 12 sec	10 = 30 sec
5 = 14 sec	

Related Programming

- FF1 (System): SMDR Print

- FF1 (System): Parity Check

- FF1 (System): Odd/Even Parity

- FF1 (System): Baud Rate

- FF1 (System): Stop Bit Length

- FF1 (System): Data Length

- FF1 (System): Serial Port Flow Control (X On/ X Off)

- FF1 (System): SMDR Display Start Timer for CO Calls

- FF1 (System): SMDR Printing Mode 1: Outbound, Inbound, Network

- FF1 (System): SMDR Printing Mode 2: Long Distance and Local Calls

- FF1 (System): SMDR Printing Mode 3: Header Title

- FF3 (Extension) Station Message Detail Recorder (SMDR) Report

Hardware Requirements

- A printer or external call accounting system is required to receive SMDR data.

Considerations

- Unlike other CPC circuit cards, the CPC-EX supports two serial ports. Serial Port 1 is labeled CN4 and is located on the backplane. Serial Port 2 is labeled CN5 and is located on the front of the CPC-EX card. Serial Port 2 requires a special interface cable.

. Be sure to select the correct port to output SMDR data. From the Attendant's phone:

  - dial **#90** to set Serial Port 1 (the backplane port) to output Bus Monitor/Maintenance and Serial Port 2 to no output.

  - dial **#92** to set Serial Port 1 to output SMDR and Serial Port 2 to output Bus Monitor/Maintenance data.

  - dial **#93** to set Serial Port 1 to output SMDR data and Serial Port 2 to no output.

Modification to T1 Signaling Types

Description   The default values for T1 Incoming and Outgoing Signal Types have been
changed to set "Wink Start" as the default. This will allow easier programming of
E&M trunks.

Outgoing Signaling Type

Programming

> **FF1 8# 4# 6# (1-64)# 3# (0-2)#**
>
>   ↑   ↑
>
>   Trunk Number (l-64)   O=Immediate Start
>   **l=Wink Start**
>   **2=Dial** Tone Start

Incoming Signaling Type

'Programming

> **FF1 8# 4# 6# (1-64)# 4# (0 or 1)#**
>
>   ↑   ↑
>
>   Trunk Number (l-64)   O=Immediate Start/Ringdown
>   **l=Wink Start**

Panasonic®

DBS

Digital Business System

Section 300
Installation

FCC Warning

This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used properly, that is, in strict accordance with the instruction manual, may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class A computing device in Subject J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference by one or more of the following measures:

1. Reorient the receiving antenna,

2. Relocate the key service unit and key telephones with respect to the receiver,

3. Move the equipment from the receiver,

4. Plug the key service unit into a different outlet so that the equipment and receiver are on different branch circuits.

Battery Recycling Statement

RECYCLE

The following statement applies if you purchased backup batteries with your system.

THE PRODUCT YOU HAVE PURCHASED MAY CONTAIN SEALED LEAD ACID BATTERIES WHICH ARE RECYCLABLE. AT THE END OF THEIR USEFUL LIFE, UNDER VARIOUS STATE AND LOCAL LAWS, IT IS ILLEGAL TO DISPOSE OF THESE BATTERIES INTO YOUR MUNICIPLE WASTE STREAM. PLEASE CALL 1-800-SAV-LEAD FOR INFORMATION ON HOW TO RECYCLE THESE BATTERIES.

The information contained in this document is subject to change without notice and should not be construed as a commitment by the Panasonic Telecommunication Systems Company (PTSC). PTSC reserves the right, without notice, to make changes to equipment design as advances in engineering and manufacturing methods warrant.

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About This Manual

Purpose

This manual provides installation instructions for the Digital Business System (DBS). The following table summarizes the purpose of each chapter.

Chapter No.	Title	Purpose
1	Requirements	Includes DBS model numbers and FCC information that may be required during installation. In addition, environmental requirements are included to ensure proper operation.
2	System Overview	Provides an overview of the DBS. The overview includes descriptions of the cabinet, system configurations, printed circuit cards, and the call processor.
3	Cabinet Installation	Explains how to install and power up the cabinet. Before, you begin installation, be sure to read Chapter 1 - "Requirements.".
4	Trunks and Lines	Describes trunk and line installation. See the "Peripheral Equipment" chapter for instructions on connecting peripheral equipment through trunks or lines.
5	Peripheral Equipment	Describes peripheral equipment installation. Some peripheral equipment also requires trunk and/or line interfaces (door phones or power failure units. for example). For information on trunk and line connections, see Chapter 4.
6	Double-Cabinet Systems	Explains installation procedures for two-cabinet systems.
7	Specifications	Contains frequently referenced DBS specifications.

Related Documents

For instructions on DBS programming, *see Programming Guidance (Section 400).*

For detailed descriptions of DBS features, *see Feature Operation (Section 700).*

Chapter 1. Requirements

This chapter includes DBS model numbers and FCC information that may be required during installation. In addition, environmental requirements for proper operation are included.

This chapter covers the following topics:

Model Numbers

Table l-l. DBS model numbers

DBS System	Model Number
DBS 40	**VB-43030**
DBS 72	**VB-43050**
DBS 96	VB-43060

FCC Requirements

General Requirements

- The Federal Communications Commission (FCC) has established Rules which permit the DBS to be directly connected to the telephone network. Standardized jacks are used for these connections. This equipment should not be used on party lines or coin lines.

- Key FCC information appears in the following table.

Table l-2. FCC information

Item	Specification
FCC Registration Number	When used as a key system: ACK4A4-60490-KF-E
	When used as a PBX: ACK4A4-60489-MF-E
Ringer Equivalence	0.5B *
Network Address Signaling Code	E
* The ringer equivalence number (REN) is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your number is called. In most areas, the sum of the RENs of all devices on any one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should call your telephone company to determine the maximum REN for your calling area.	

- Before connecting the DBS, provide the telephone company with the following information

Table l-3. Interface information

Port Type	Type of Interface	USOC Jack Connector	Service Order Code*	Facility Interface Code
Loop Start Trunk	2-wire loop	RJ21X	9.0F	02LS2
Ground Start Trunk	2-wire ground	RJ21X	9.0F	02GS2
DID Trunk	2-wire DID	RJ21X	9.0F	02RV2-T
T1 Trunk	T1	RJ48C	6.0F	04DU9-DN, 04DU9-1SN
OPX Adaptor	OPX	RJ21X (at DBS DBS)	9.0F	0L13A 0L13B 0L13C (recommended)

- This equipment complies with Part 68 of the FCC Rules. On the left cover panel of this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, provided this information to your telephone company.

- If the DBS telephone equipment caused harm to the Telephone Network, the Telephone Company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

- Under the FCC Rules, no customer is authorized to repair this equipment. This restriction applies regardless of whether the equipment is in or out of warranty.

- The Telephone Company may make changes in its facilities, equipment, operations or procedures, that could affect the proper operation of your equipment. If they do, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

- The Digital Key Telephones designed for use with this system are hearing aid compatible.

- This equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

- If you experience trouble with the DBS, please contact Panasonic Communication & Systems Company, Business Telephone Systems Division, Two Panasonic Way Panazip 7B-3, Secaucus, NJ 07094 (Phone: (1-800-822-

0909) for repair/warranty information. The telephone company may ask you to disconnect this equipment from the network until the problem has been corrected.

DID Requirements

Allowing this equipment to be operated in a manner that does not provide for proper answer supervision is a violation of Part 68 of the FCC Rules.   Proper answer supervision occurs if this equipment returns answer supervision to the PSTN when DID calls are:

- Answered by the called station

- Answered by the attendant

- Routed to a recorded announcement that can be administered by the CPE user

- Routed to a dial prompt.

T1 Requirements

This device must only be connected to the T1 network connected behind an FCC Part 68 registered channel service unit. Direct connection is not allowed.

Environmental Requirements

Temperature: The environment should be free from excessive temperatures in order to avoid component damage. Room temperatures should be 32 to 104° F (0 to 40" C).

Humidity: The environment should be free from excessive humidity, which may rust metallic parts and degrade performance. Do not install the system where humidity could condense on its surfaces. Relative humidity ranges should be between 30 and 90 percent.

Ventilation: Adequate ventilation must be provided to allow upward air circulation through the cabinet grille.

Gas and airborne particles: To avoid corrosion or oxidation of electrical contacts, the environment should be free from airborne particles and corrosive gas.

Electrical noise: The environment should be free from excessive electrical noise, which could disturb the operation of digital circuits. The system should be located at least 10 ft. (3 m) away from welders, dimmers, or other high-current machines. Phones connected to the system should not be located near fluorescent lamps, air conditioners, washing machines, TVs, or radios.

Vibration: The environment should be free from excessive vibration, which could loosen components.

Water Exposure: Because the DBS is an electric device, exposure to water is dangerous. Do not place anything containing water on the system. Do not install under overhead plumbing, sprinkler system valves, or in areas that are susceptible to flooding.

Lighting: Sufficient lighting is required for testing and maintenance.

Lightning Protection/Grounding: The system must be properly grounded to protect from lightning damage. The following UL conditions must be met to ensure proper grounding. (For grounding instructions, see page 3-5.)

- Supplemental and independent equipment grounding conductors are to be installed between the system and the wiring system ground.

- One of the equipment grounding conductors must be a conductor that is as large or larger than the ungrounded branch-circuit supply conductors. The equipment grounding conductor is to be installed as part of the circuit that supplies the system and is to be connected to ground at the service equipment. Bare, covered, or insulated grounding conductors are acceptable. Individually covered or insulated grounding conductors should have a continuous outer finish that is either green or green with one or more yellow stripes. The equipment grounding conductor should be connected to ground at the service equipment.

- The other equipment grounding conductor shall comply with the general rules for grounding contained in Article **250** of the **National Electric Code, NFPA** 70, but its connection to ground shall not depend on the cord and plug of the system.

- The attachment-plug receptacles of the same type as that used by the systems that are in the vicinity of the DBS are all to be of a grounding type, and the equipment grounding conductors serving these receptacles are to be connected to earth ground at the service equipment.

- A marking adjacent to the telecommunications jacks must instruct the user to connect a supplementary equipment grounding conductor before any telecommunication lines are connected to the product or system.

Cleaning

- Use a *slightly* damp cloth to clean the phones. The phones should never be cleaned with benzene, paint thinner, or other solvents.

Chapter 2. System Overview

This chapter gives an overview of the Digital Business System (DBS). This overview includes descriptions of the DBS cabinet, system configurations, printed circuit cards, and the call processor.

This chapter covers the following topics::

Cabinet Description

Panasonic's Digital Business System (DBS) is a hybrid telephone system that can be used as a key service unit (KSU) or a private branch exchange (**PBX**).

The DBS cabinet includes an AC power supply, backup batteries (optional), dedicated card slots, and a central connector panel for line and trunk connections.

Figure 2-1. The DBS cabinet (DBS 96 shown)
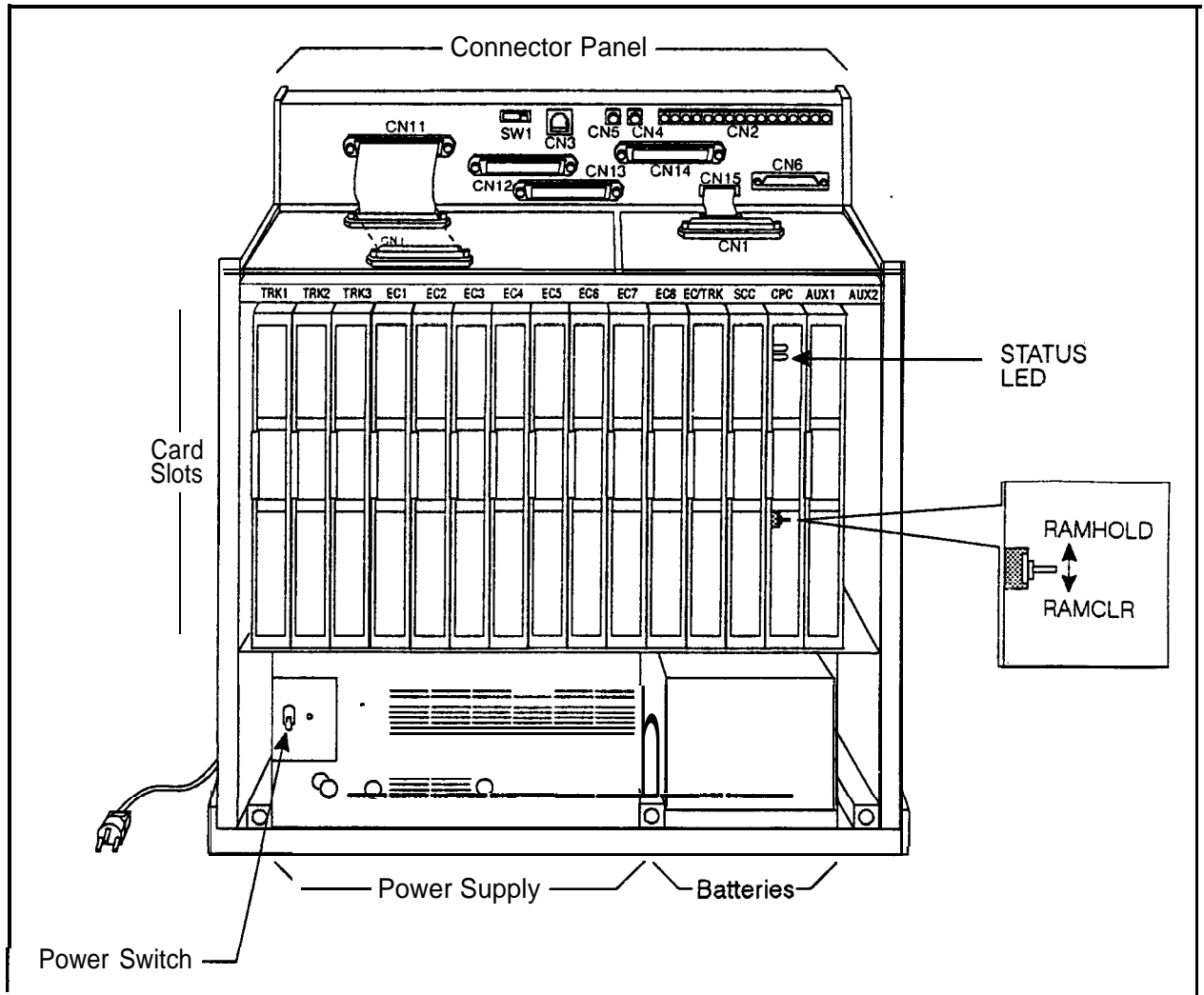
In addition to trunk and line connection, the connector panel is used to connect peripheral equipment such as paging speakers, external ringers, and music-on-hold/background music sources. Figure 2-2 on page 2-4 shows trunk and line connections, as well as some peripheral connections. Peripheral connections are covered in detail in Chapter 5, "Peripheral Equipment."

Figure 2-2. Trunk, line, and peripheral connections
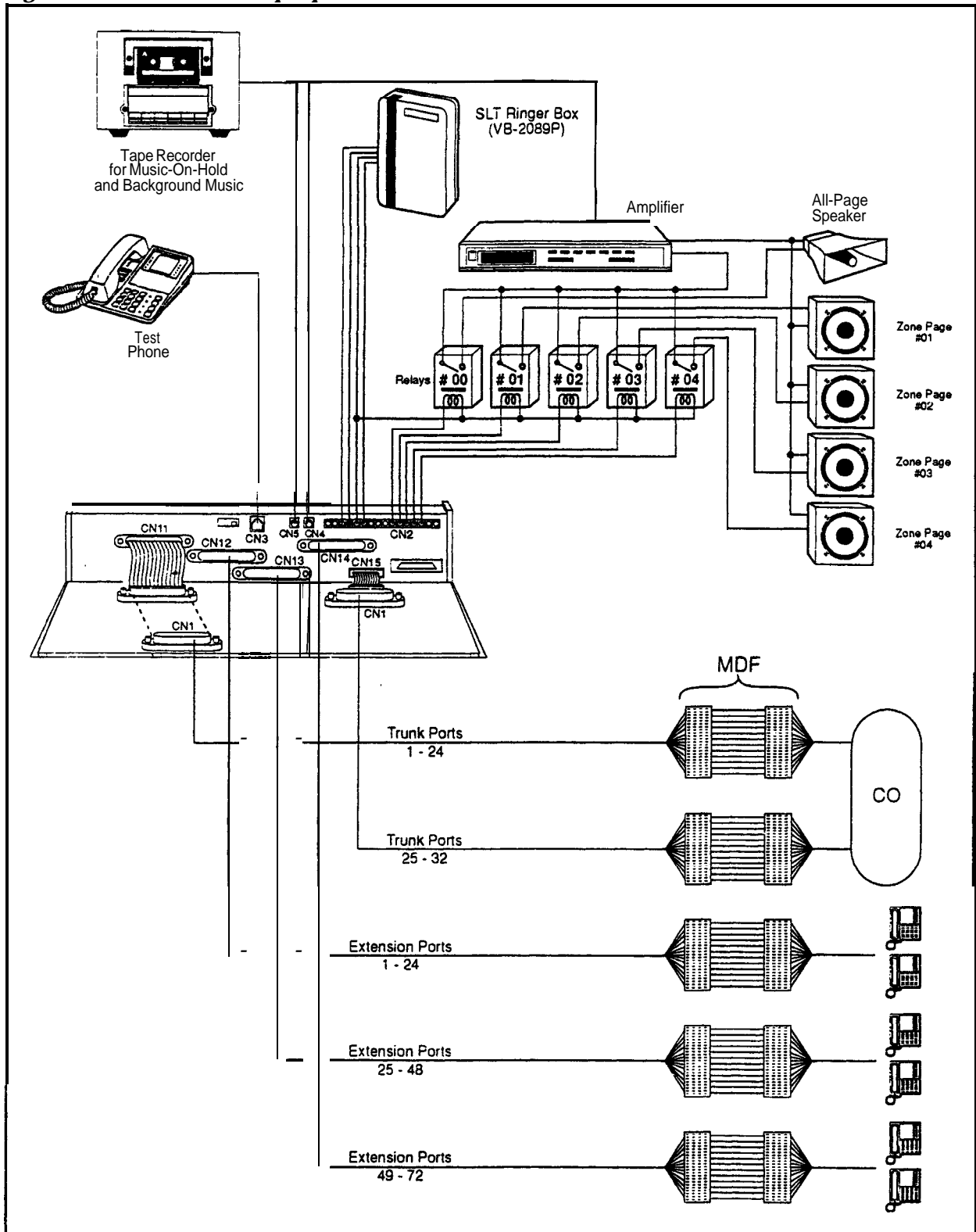
Configurations

The DBS comes in three models, which provide from 40 to 96 ports. Up to two systems can be combined to increase port capacity up to 192 ports (DBS 96 + DBS 96).

In addition to dedicated trunk and extension slots, each system includes one expansion slot (labeled EC/TRK) that can be used for either trunks or extensions. The following table shows port capacities for individual systems and for different combinations of systems.

Table 2-I. **Trunk and extension capacities according to system size**

System Size	Trunk Ports	Extension Ports	Expansion Ports (Trunks or Extensions)
DBS 40	8	24	8
DBS 72	16	48	8
DBS 96	24	64	8
DBS 40 + DBS 40	16	48	8 (See Note 1.)
DBS 72 + DBS 40	24	72	0 (See Note 2.)
DBS 72 + DBS 72	32	96	8 (See Note 1.)
DBS 96 + DBS 40	32	88	16
DBS 96 + DBS 72	40	112	16
DBS 96 + DBS 96	48	128	16
Notes:			
1. The slave cabinet must be used for expansion ports.			
2. When a DBS 72 and DBS 40 are connected, expansion ports cannot be used.			

Printed Circuit Cards

The following table describes the printed circuit cards and other equipment
that can be used with the DBS. Also included are brief descriptions of each
card and the maximum number that can be installed in each cabinet

Table 2-2.   Printed circuit card descriptions and maximums

Part No.	Printed Circuit Cards and Other Equipment	Quantity		
		DBS 40	DBS 72	DBS 96
VB-43110	Cable kit for 2-system connection	N/A	N/A	N/A
VB-43410	Call processor card (CPC-A)			
VB-43411	Call processor card (CPC-B)	1	1	1
VB-43412	Call processor card (CPC-AII)			
VB-43420	Service circuit card (SCC-A)	1	1	1
VB-4342 1	Service circuit card (SCC-B)			
VB-4343 1	DTMF signal receiver for 8 SLT lines (MFR/8)	1	1	1
VB-43510A	4-port loop-start trunk card (L-TRK/4)			
VB-43511A	8-port loop-start trunk card (L-TRK/8)			
VB-43541	8-port Direct-inward-dialing trunk card (DID)	2	3	4
VB-4353 1	8-port ground-start trunk card (G-TRK/8)			
VB-43561	T1 Interface	1	1	1
VB-43562	T1 MDF card	1	1	1
VB-43563	T1 Sync Unit	1	1	1
VB-43611	8-port digital extension card (DEC)	4	7	9
VB-43621A	8-port analog extension card (AEC)	3	4	4
Expansion Connectors				
VB-43 120	Trunk expansion connector	1	1	1
VB-43121	Extension expansion connector			
Doorbox Equipment (Trunk)				
VB-43701	2-port Door box adaptor	8"	12*	16*
VB -43705	Door box	16*	24*	32*
Doorbox Equipment (Extension)				
VB -437 11	1-port Extension-Based Door box adaptor	4	4	4
VB-43705	Door box	4	4	4

Part No.	Printed Circuit Cards and Other Equipment	Quantity		
		DBS 40	DBS 72	DBS 96
Optional Equipment				
VB-43706	Remote Administration Interface (RAI-A)	1	1	1
VB-43707	Remote Administration Interface (RAI-B)			
VB-4355 1	8-circuit Caller ID daughter board	1 per VB-43511AAEC	1 per VB-43511A AEC	1 per VB-43511A AEC
V-R-43 130	Built-in system backup battery kit	1	1	1
v-B-43709	Single Line Telephone Adaptor	8	14	18
VB-2089P	SLT ringer box	1	1	1
VA-43703	4-line power failure unit	6	8	8
V-B-43702	Off-premise extension adaptor	8	8	8
VB-43940	Standard Application processor interface (API)	1	1	1
VB-43941	Telephony Services Kit (includes revised API card, described in Telephone Services Documentation)	1	1	1
* **Note:** These maximums are based on overall trunk capacities and do not allow for trunks used for outside lines.				

Printed circuit cards are installed in dedicated slots in the DBS cabinet. Table 2-3 shows the cards that can be installed in each slot. Figure 2-3 on page 2-9 illustrates slot labels.

Table 2-3.   Printed circuit package slot usage

Card Type	Card	Acceptable Slots
Analog Trunks	L-TRK/4	TRK or EC/TRK
	L-TRK/8	
	G-TRK/8	
	DID/8	
Digital Trunks	T1/24	EC/TRK
Digital Lines	DEC/8	EC l-8 or EC/TRK
Analog Lines	AEC/8	EC 2-8 or EC/TRK
Service Circuits	SCC-A	SCC
	SCC-B	
Processor Cards	CPC-A	CPC
	CPC-B	
	CPC-AI1	
DTMF Circuits	MFR/8	AUX1 or AUX2 CPC (See Note 1.)
Interface Cards	API (1 or 2 Circuits)	AUX1 or AUX2 (See Note 2.)
	CBL-M	CPC or AUX2 (See Note 3.)
	CBL-S	

Notes:

1. With one-cabinet systems, the MFR card can be installed in the AUX1 or AUX2 slot, depending on whether an API card is used. With two-cabinet systems, placement of the MFR cards differs according to the cable kit used. With Cable Kit Version 1.1, one MFR is installed in the Master AUX1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. (See page 6- 10 for instructions on installing MFR cards in double-cabinet systems.)

2. The API card is installed in AUX1 only when a CBL card is used.

3. Part VB-43 110 includes both the CBL-M and CBL-S cards, as well as the required connecting cables. CBL-M is installed in the master cabinet, CBL-S in the slave cabinet.

Figure 2-8. Slot labels for printed circuit packages
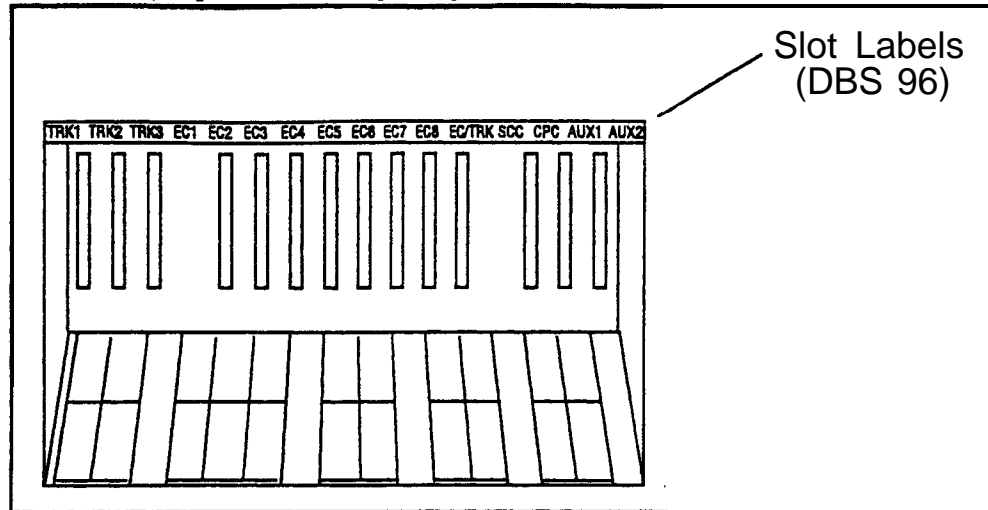
Processor Description

DBS call-processing is controlled by the Call Processor Card (CPC). Three CPC models are available: CPC-A, CPC-B, and CPC-AII.

In most cases, the features provided with the DBS depend on the model and software version of the CPC. However, the availability of some features also depends on the model and version of the Service Circuit Card (SCC).

The following table shows some of the major differences between CPC/SCC features. Other differences are noted throughout this manual when they apply to specific installation instructions. For more details on the features provided with each processor, *see Feature Operation, Section 700.*

Table 2-4.   CPCISCC features

Feature	CPC/SCCRequirements
Double cabinet system	CPC-B, Version 1.0 or greater plus SCC-B
DID	CPC-B, Version 2.0 or greater plus SCC-B, Version 1.2 or greater
T1 Interface	CPC-B, Version 4.0 or greater plus SCC-B. (The CPC-B must have BPU 1.3 or later. The SCC-B ROM 1.3 or later is required if the CO does not provide dial tone.)

Chapter 3. Cabinet Installation

This chapter explains how to install and power up the cabinet. Before you begin installation, be sure to read the "Requirements" chapter, which begins on page l-l.

This chapter covers the following topics::

Topic	Page
Wall-Mounting the Cabinet	3-3
Grounding	3-5
Card Installation	3-6
Battery Backup	3-9
Key Phone Wall Mounting	3-13
DSLT Wall Mounting	3-15
System Initialization	3-17
Test Phone	3-18

Wall-Mounting the Cabinet

Guidelines

⚠ Caution: Always turn the power switch OFF before beginning installation.

- The DBS is shipped with the cover installed to protect components. Before wall-mounting the cabinet, remove the cover.

- Handle the cabinet carefully to avoid damage.

Installation

1. Remove the eight screws from the front and sides of the cabinet.

2. Take the front cover off by pulling it from the bottom and lifting it up.

3. Take the side covers off by sliding them up, then away.

Figure 3-1. Cover removal
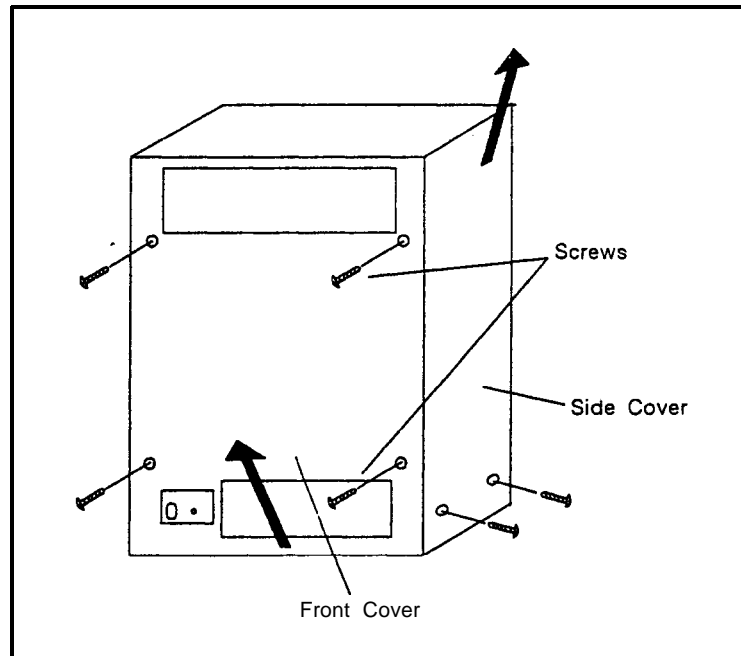
4. Attach the mounting brackets to the four comers of the back side of the cabinet.

Figure 3-2. Cabinet mounting bracket
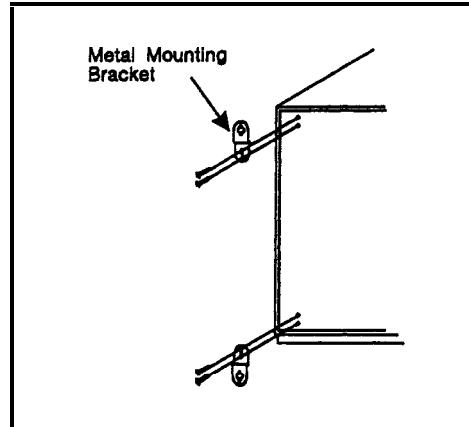
5. Install four screws in the wall studs according to the dimensions given in Figure 3-3. (Note that the width dimension is different for the DBS 40.)

   The screws are used to attach the mounting brackets to the wall. The screws should protrude from the wall 5/16 in.

Figure 3-3. Cabinet wall-mounting
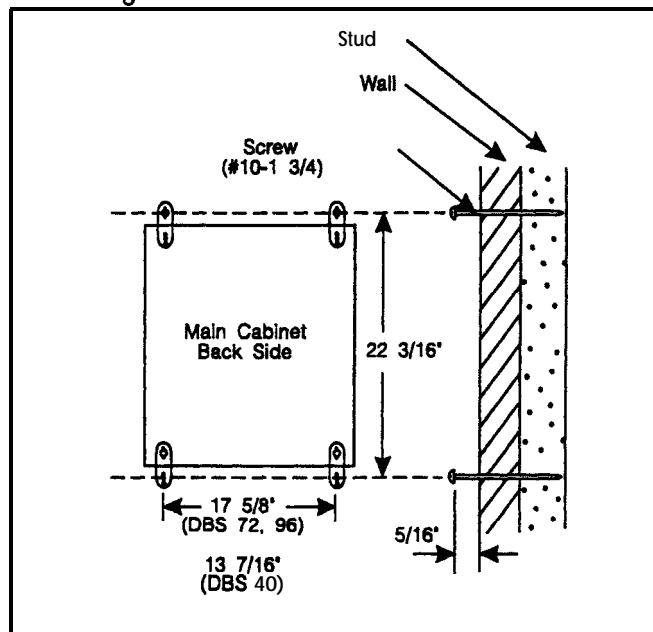
6. Hang the cabinet on the wall by placing the mounting brackets over the screws.

7. Tighten the screws to secure the cabinet.

Grounding

Guidelines

- Before grounding the DBS, read the "Lightning Protection/Grounding" requirements beginning on page l-6.

- The ground cable must be at least 18 AWG.

- Resistance to ground must be 10 Ohms or less.

Installation

1. Attach the ground cable to the ground screw on the front of the power supply.

2. Connect the ground cable to the building ground.

Figure 3-4. Cabinet ground screw

Ground Screw
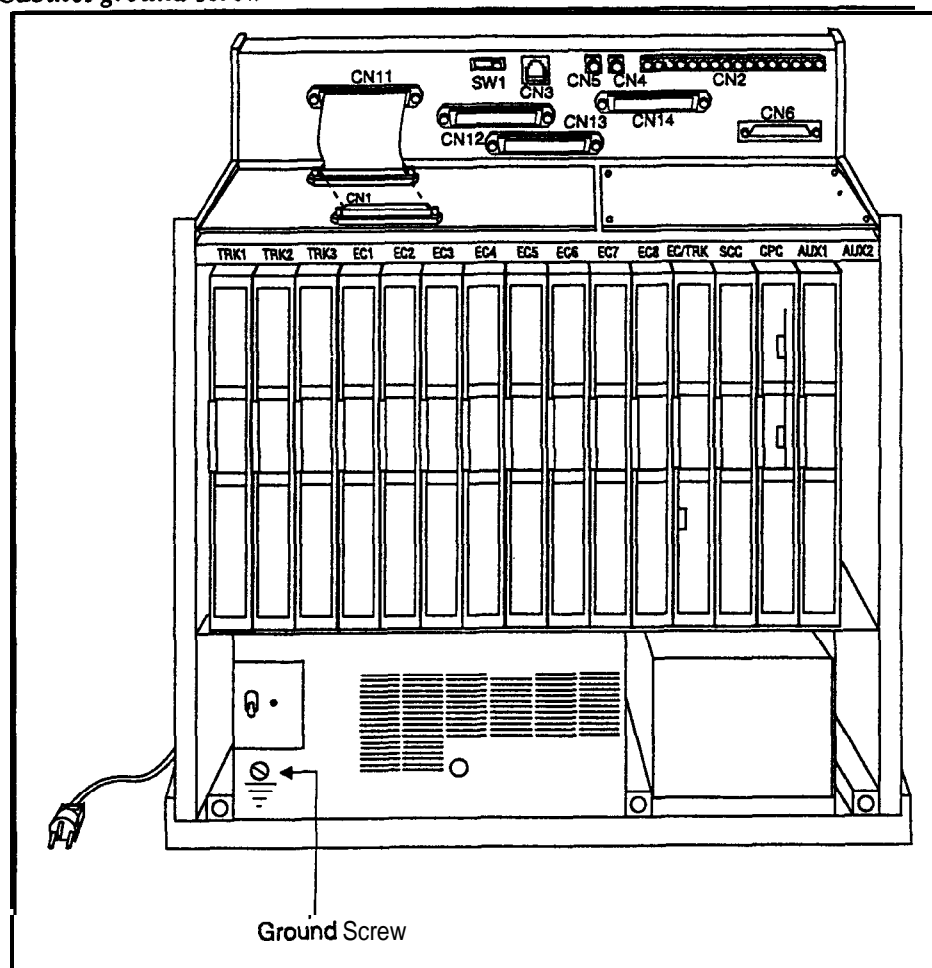
Card Installation

Guidelines

⚠️ **Caution:** Before handling printed circuit cards, discharge static electricity by grounding yourself. Static electricity can damage components. Turn off the power before installiing. Installing cards with the power on can damage components.

- Install the cards in the following order:

    - TRK

    - DEC

    - AEC or API

    - SCC

    - CPC

    - MFR or CBL

- If you are installing a CPC-A or CPC-AII card with an SCC-B card, set SW4 to "Mode A." The default setting is "Mode B," which specifies that CPC-B is used.

Figure 3-5. SCC-B Switch 4
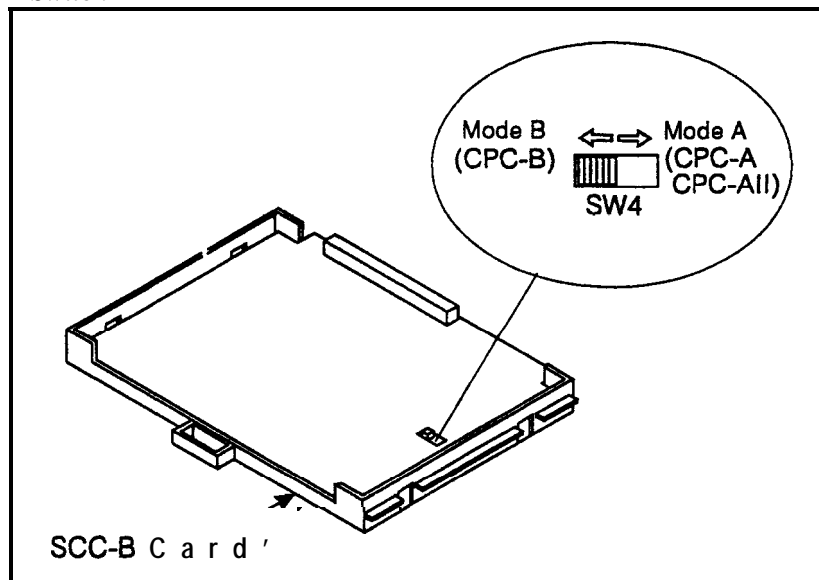
- Before installing the CPC card, determine if the DBS will be used as a KSU or PBX. To **use it as a PBX, cut Strap S1 on the CPC.** Cutting this strap allows use of pooled trunks as opposed to line appearances.

Figure 3-6. *CPC Strap Sl*

Cut S1 for Pooled Trunks (PBX Operation)
Do Not Cut S1 for Line Appearances (KSU Operation)

S1

CPC-All or
CPC-B
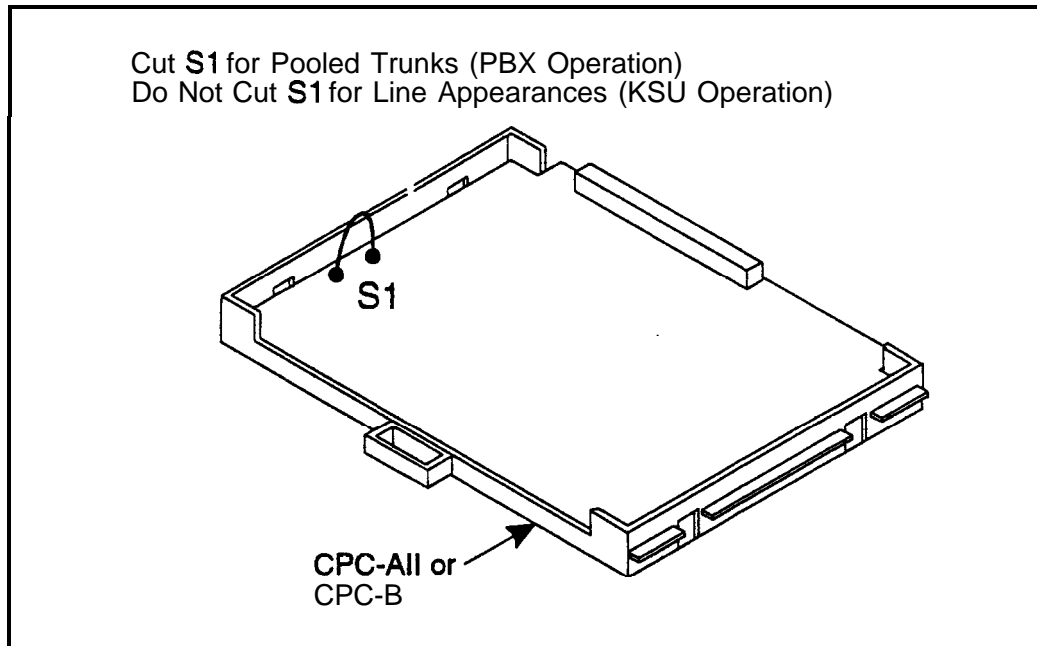
- Install cards only in their dedicated slots. The slot type is marked on the cabinet directly above each slot.

Installation

1. With the lettering on the card pointed up, position the card within the slot guides. (See Figure 3-7.)

2. Hold the card on the top and bottom edges with both hands and carefully push the card into the slot.

3. When the connector at the far end of the card touches the corresponding connector on the backplane, press the card in until it is firmly seated.

Figure 3-7. Printed circuit card installation

* The extension card installed in this slot must be digital.

\#The MFR card can be installed in the CPC slot of slave cabinets.
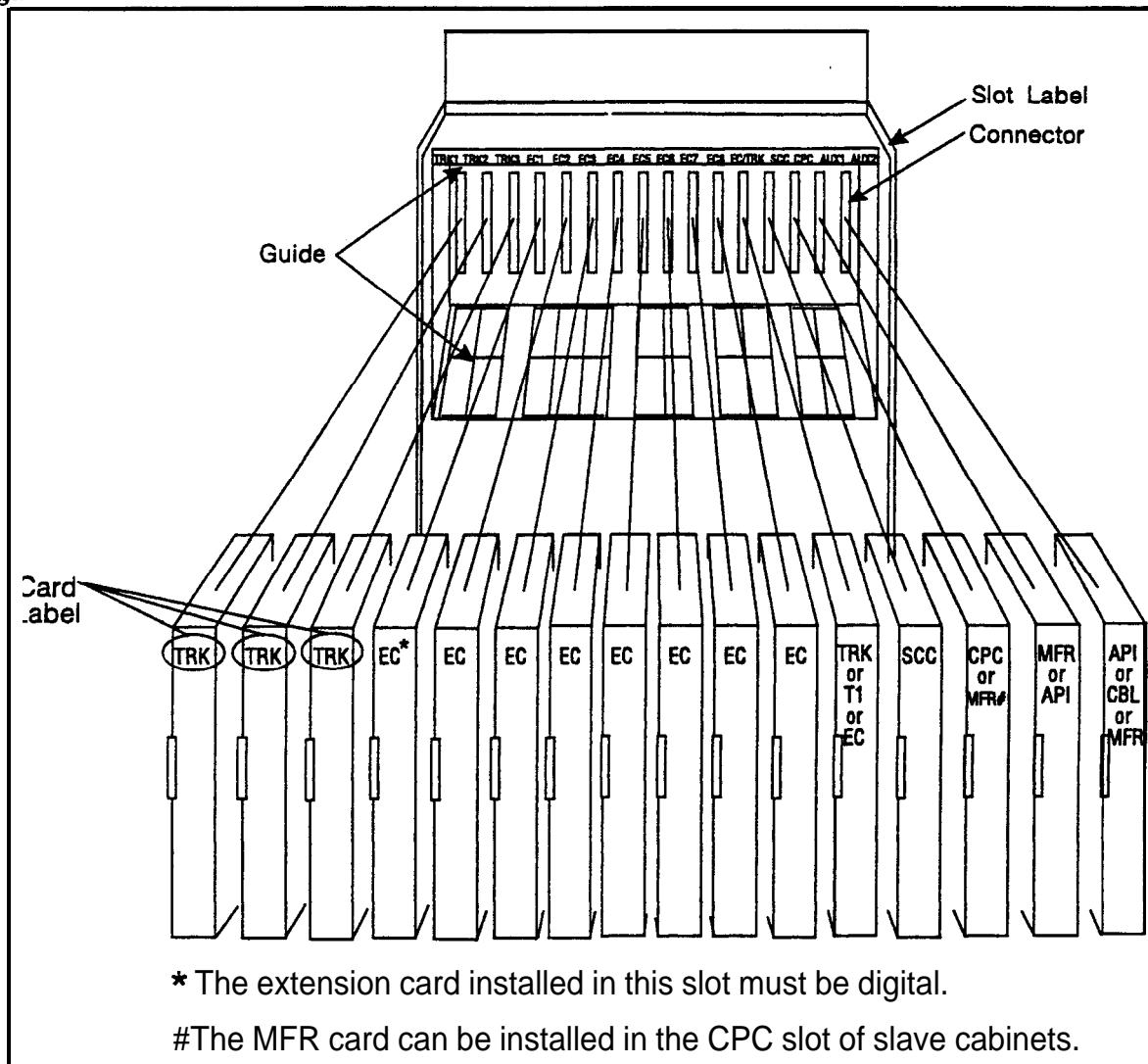
Battery Backup

Guidelines

- The DBS 40 uses two 12-volt batteries; the DBS 72 and 96 use four 6-volt batteries or two 12-volt batteries. The following table includes the part numbers for the battery packages.

Table 3-I.   Battery backup packages for the DBS 40, 72, and 96

System	Battery Backup Part No.
DBS 40	VB-43130 (some systems may be equipped with VB-2450A-2P)
DBS 72 and 96	VB-43 130 (some systems may be equipped with VB-2650-2P)

- The backup batteries are connected in a series circuit, using cables provided with the DBS.

- With maximum traffic, the backup batteries last up to 40 minutes for the DBS 40 and 72, and up to 30 minutes for the DBS 96.

- The backup batteries should be replaced about every 3 years.

RECYCLE	THE PRODUCT YOU HAVE PURCHASED MAY CONTAIN SEALED LEAD ACID BATTERIES WHICH ARE RECYCLABLE. AT THE END OF THEIR USEFUL LIFE, UNDER VARIOUS STATE AND LOCAL LAWS, IT IS ILLEGAL TO DISPOSE OF THESE BATTERIES INTO YOUR MUNICIPLE WASTE STREAM. PLEASE CALL 1-800-SAV-LEAD FOR INFORMATION ON HOW TO RECYCLE THESE BATTERIES.

Installation for the DBS 40

1. Place one battery in the top tray of the battery compartment, the other battery in the bottom tray.

Figure 3-8. Battery location. DBS 40
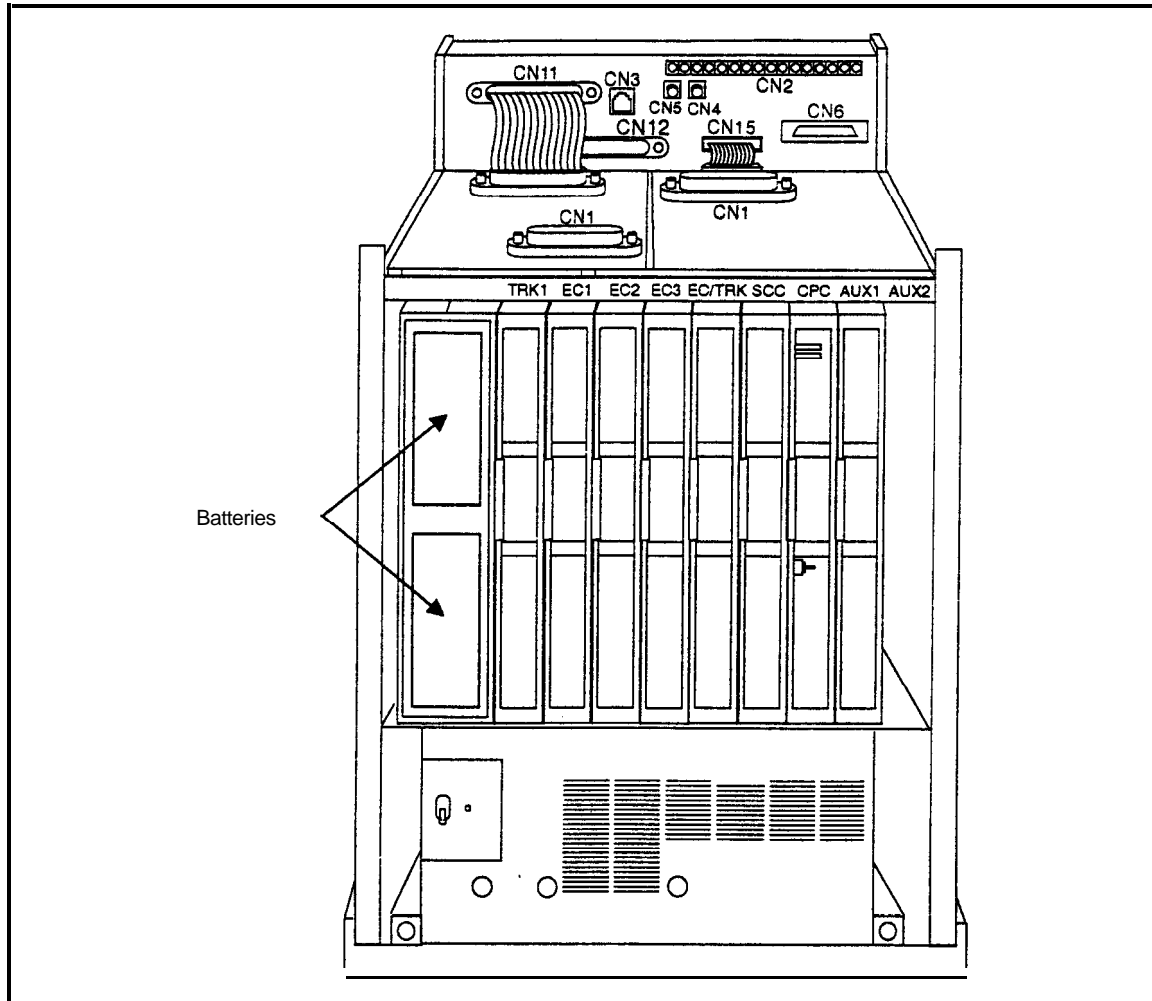
2. Connect the positive cable (red) to the + terminal of the top battery.

3. Connect the connecting cable (white) to the - terminal of the top battery.

4. Connect the negative cable (blue) to the - terminal of the bottom battery.

5. Connect the connecting cable (white) from the top battery to the + terminal on the bottom battery.

Installation for the DBS 72 and 96

1. Slide the battery compartment out and place the batteries inside the tray.

Figure 3-9. Battery tray, DBS 72 and 96

Remove Screws
and Slide Battery
Tray Out
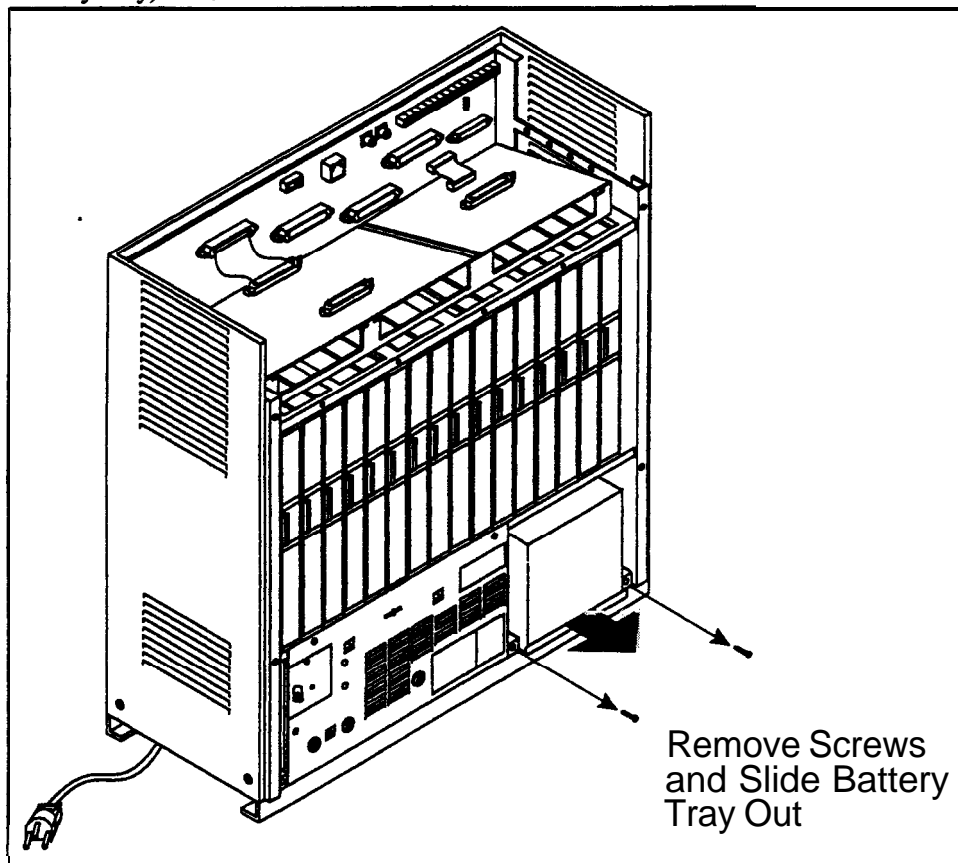
2. Connect the positive cable (red) to the + terminal on the first battery.

3. Connect the negative cable (blue) to the - terminal on the last battery.

4. Connect the remaining positive and negative terminals with the white connection cables, as shown in Figure 3-10.

Figure 3-10. Battery pack connection, DBS 72 and 96

Red Connection Cable
Back Positive

White
Connection
Cables

Blue Connection Cable
Front Negative

Four 6-Volt Batteries
(Older Version)
VB-2650-2P

Red Connection Cable
Back Positive

White
Connection
Cables

Blue Connection Cable
Front Negative

Two 1 O-Volt Batteries
(Newer Version)
VB-43130
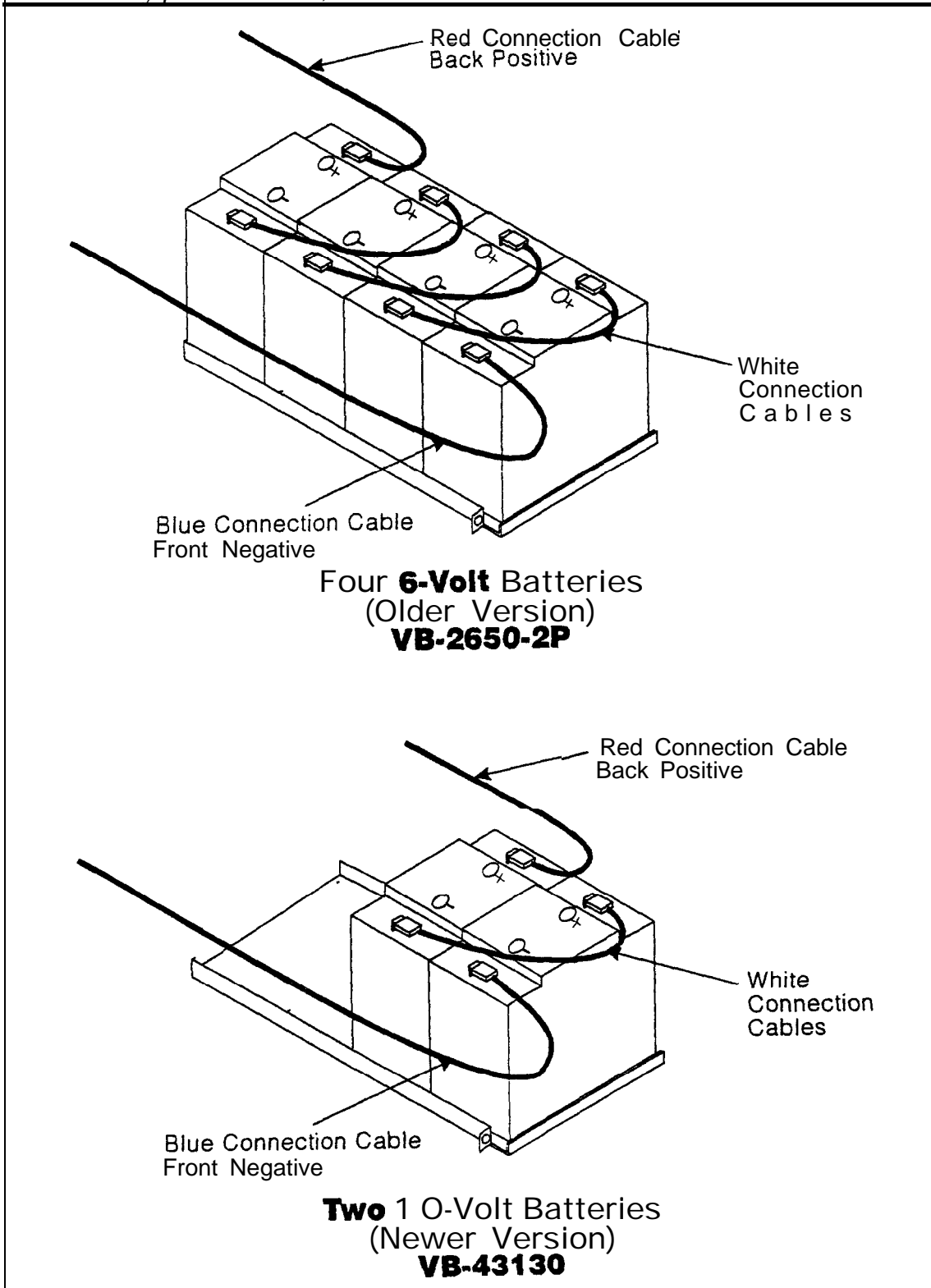
Key Phone Wall Mounting

DBS key phones can be modified for wall mounting by reversing the wall-mount adaptor on the bottom of the phone. The wall-mount adaptor includes a small hole for attaching the phone to a screw inserted in the wall.

1. Place the bottom edge of the telephone on a desk or other hard surface.

2. Press the wall-mount adaptor down until it detaches from the phone (Figure 3-11).

Figure 3-11. Wall-mount adaptor removal
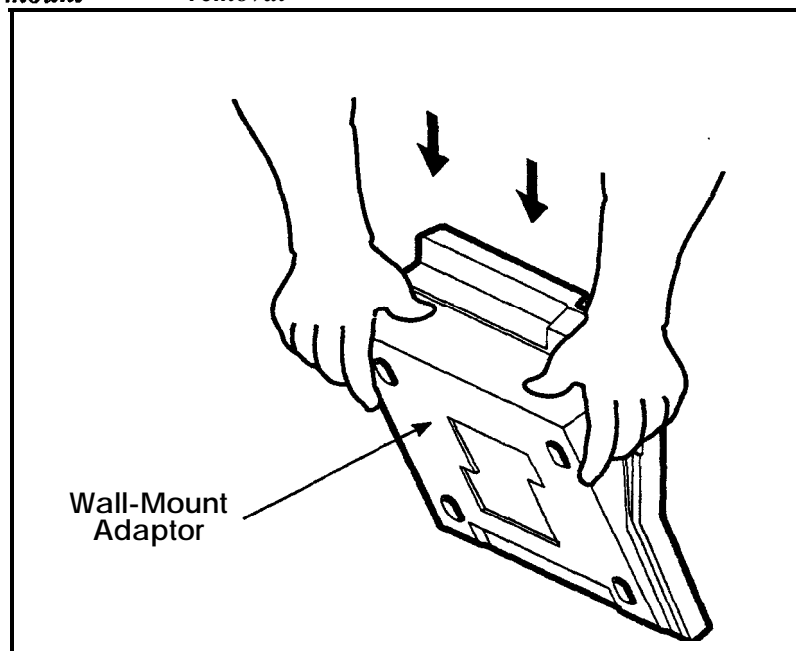
3.   Turn the wall-mount adaptor around and re-attach it to the phone.

Figure 3-12. Wall-mount adaptor replacement
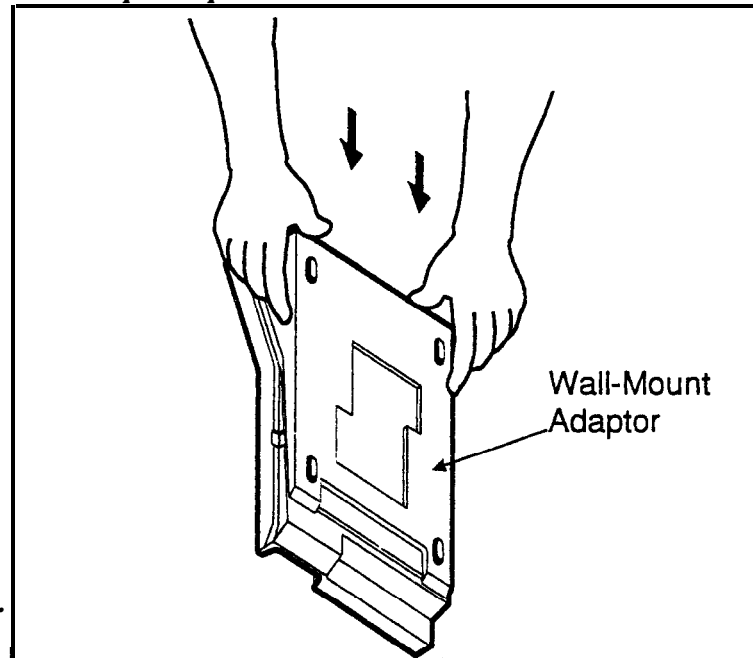
4.   Remove the handset guide with a small screwdriver, turn it over, and reinsert it into the phone.

igure 3-13. Handset guide insertion for wall-mounting, key phone
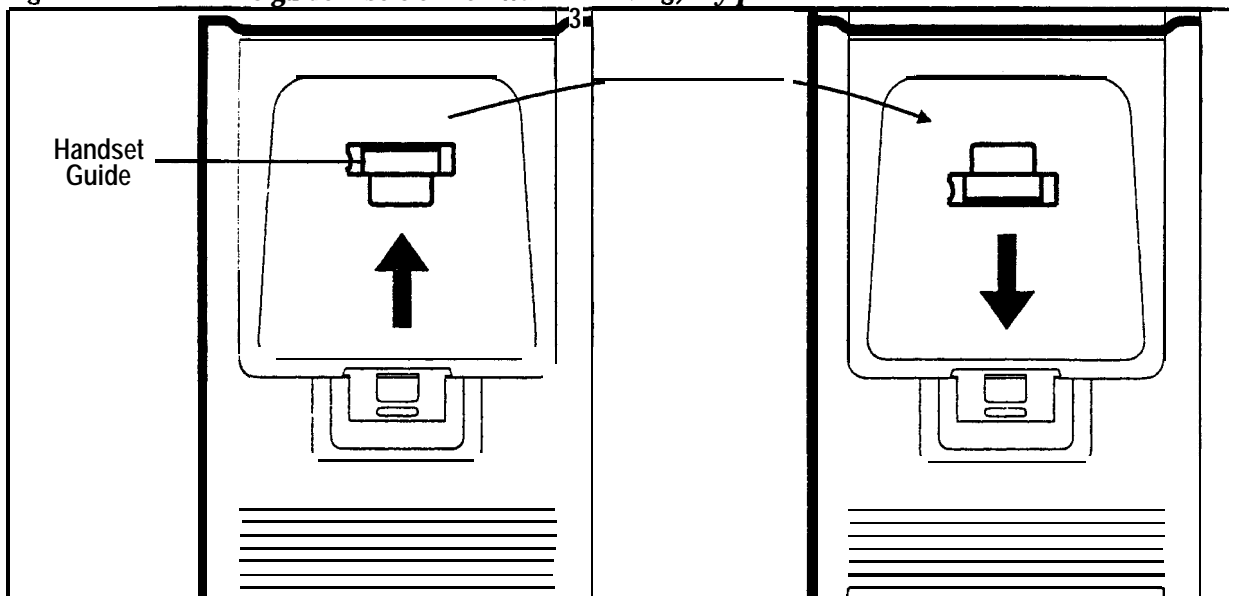
DSLT Wall Mounting

Digital Single-Line Telephones (DSLTs) can be modified for wall mounting by removing the desk stand and mounting it on the bottom of the phone. The back of the DSLT and the desk stand include slots for attaching the phone to a screw inserted in the wall.

1. Press the stand releases in toward the middle of the phone to release the desk stand (Figure 3- 14).

Figure 3-14. Desk stand removal for DSLT wall mounting
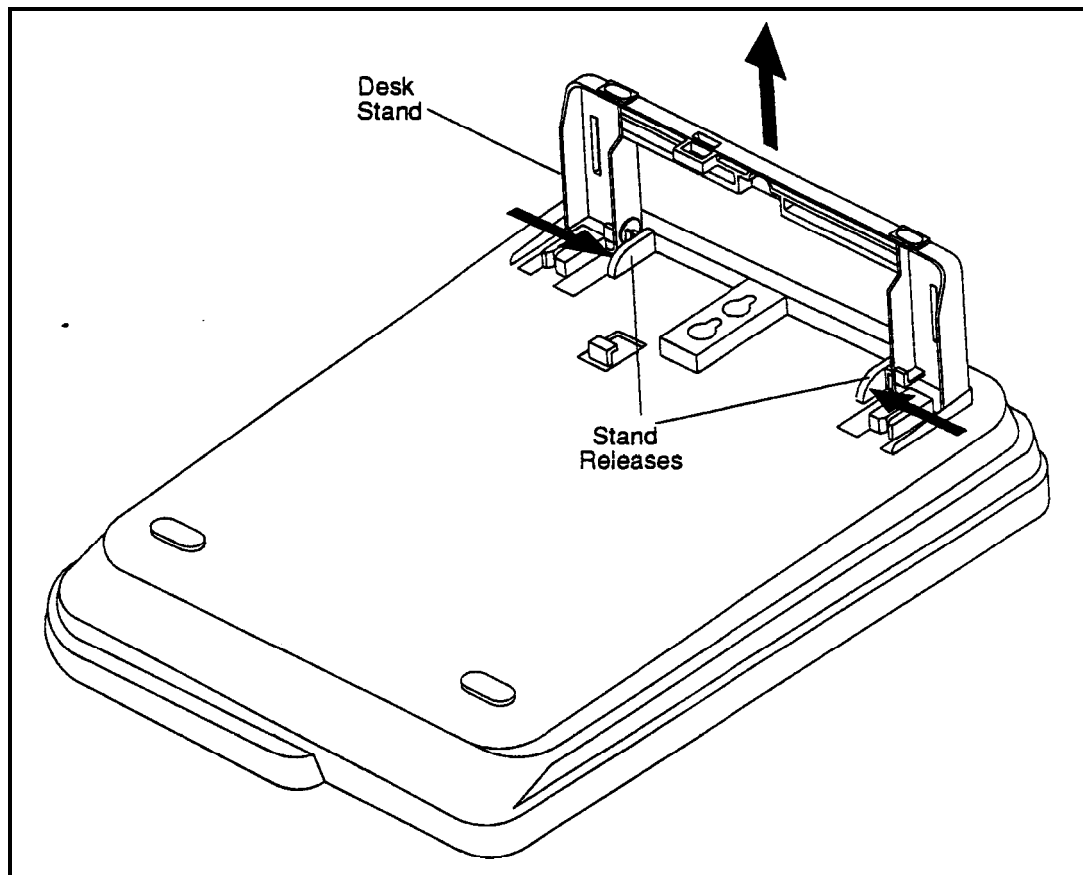
2. Attach the desk stand to the bottom of the phone by aligning the tabs and tab guides and sliding it into place (Figure 3-15).

Figure 3-15. Desk stand attachment for DSLT wail mounting
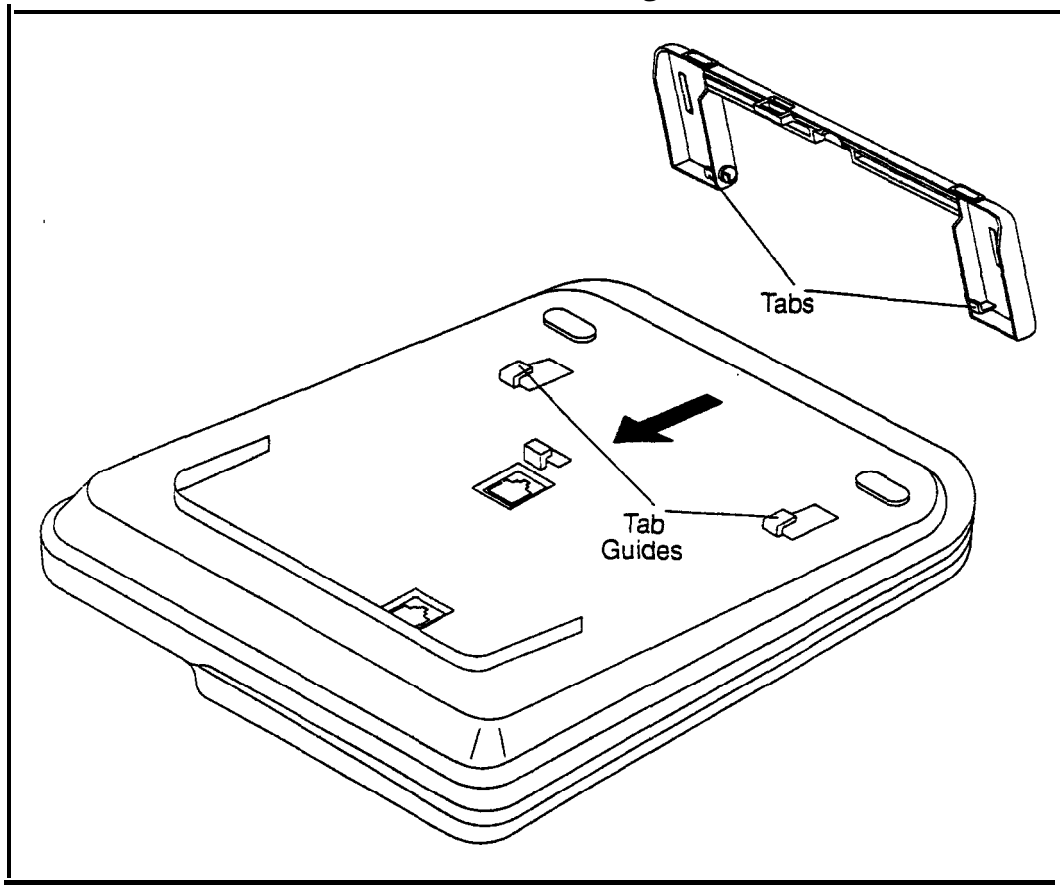
3. Remove the handset guide with a small screwdriver, turn it over, and reinsert it into the phone,

Figure 3-16. Handset guide insertion for wall-mounting, DSLT
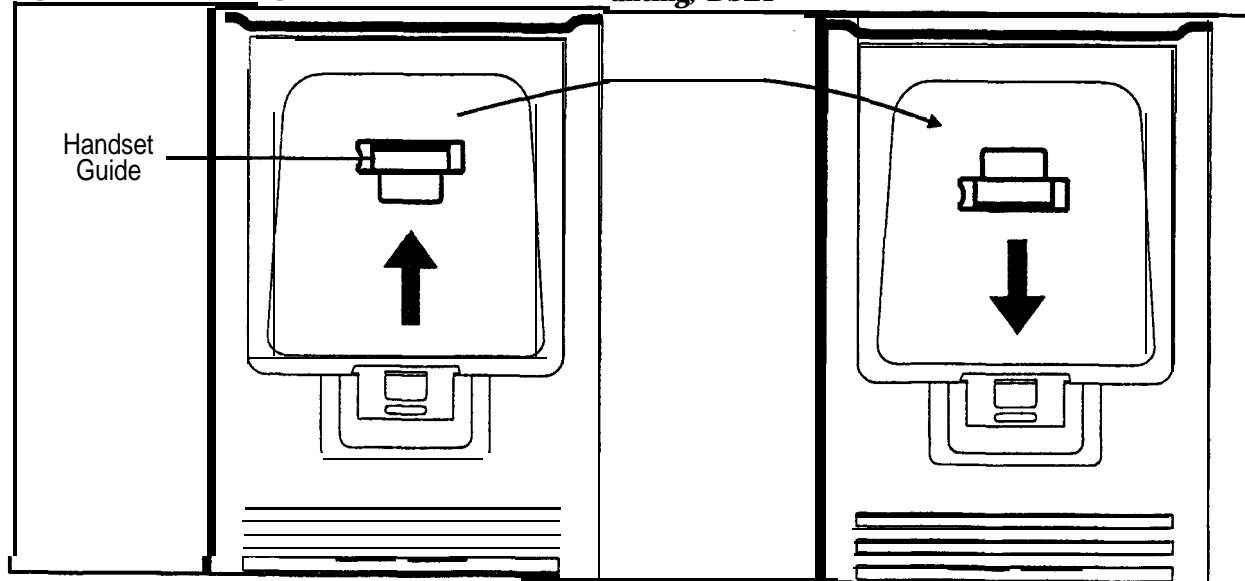
System Initialization

1. Confirm that the DBS power switch is OFF.

2. Plug the power cord into a dedicated 120V 15 amp AC wall outlet.

   Note: A surge protector should be installed on the power cord.

3. Set SW1 on the CPC card to RAMCLR (RAM Clear).

'igure 3-17. CPC memory clear switch
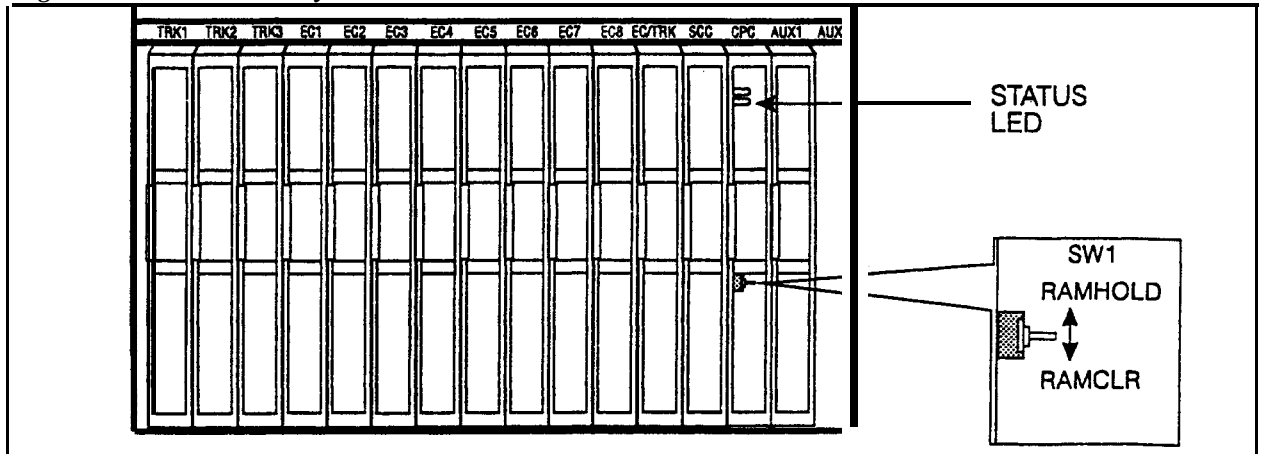
4. Turn the power switch on.

   As the system loads, the bottom LED lamp on the CPC card will flash.

5. Once the bottom LED lamp on the CPC card stops flashing, set SW 1 on the CPC to RAMHOLD.

Test Phone

Guidelines

- The test terminal (CN3) on the DBS Connector Panel can be used to connect a display phone for programming.

  The test terminal can be used for initial programming before extension cabling is completed.

- The test terminal is turned on by flipping SW1 on the Connector Panel to the "Test" position. When SW 1 is in the test position, extension ports 7 and 8 are connected through the test terminal. When SW1 is not in the test position, extension ports 7 and 8 are connected through the MDF.

  Note: Before using the test terminal on a DBS that is operational, be sure the phones connected to ports 7 and 8 can be taken out of service.

- A DSS/72 can be connected to the display phone for text entry. Port 7 must be assigned as extension 101 and the DSS/72 must be assigned as telephone type 13 for the DSS/72 to operate.

Installation

1. Connect the telephone and DSS (optional) to CN3 on the Connector Panel. (See Figure 3-18 on page 3-19.)

2. Set SW 1 to "Test."

3. When programming is completed, set SW 1 back to "ST."

'igure 3-18. Test telephone connection

Test Phone   DSS Console

Note: Port 7 must be
assigned as extension
101 and the DSS/72
assigned as telephone
type 13 for the DSS/72
to operate.

Two-Conductor
Cable (Port 7)

Two-Conductor
Cable (Port 8)

CN3

To the
DSS/72

To the
telephone

SW1

ST-TEST

ST=Ports 7 and 8
are connected through
the MDF

TEST=Ports 7 and 8
are connected through
CN3
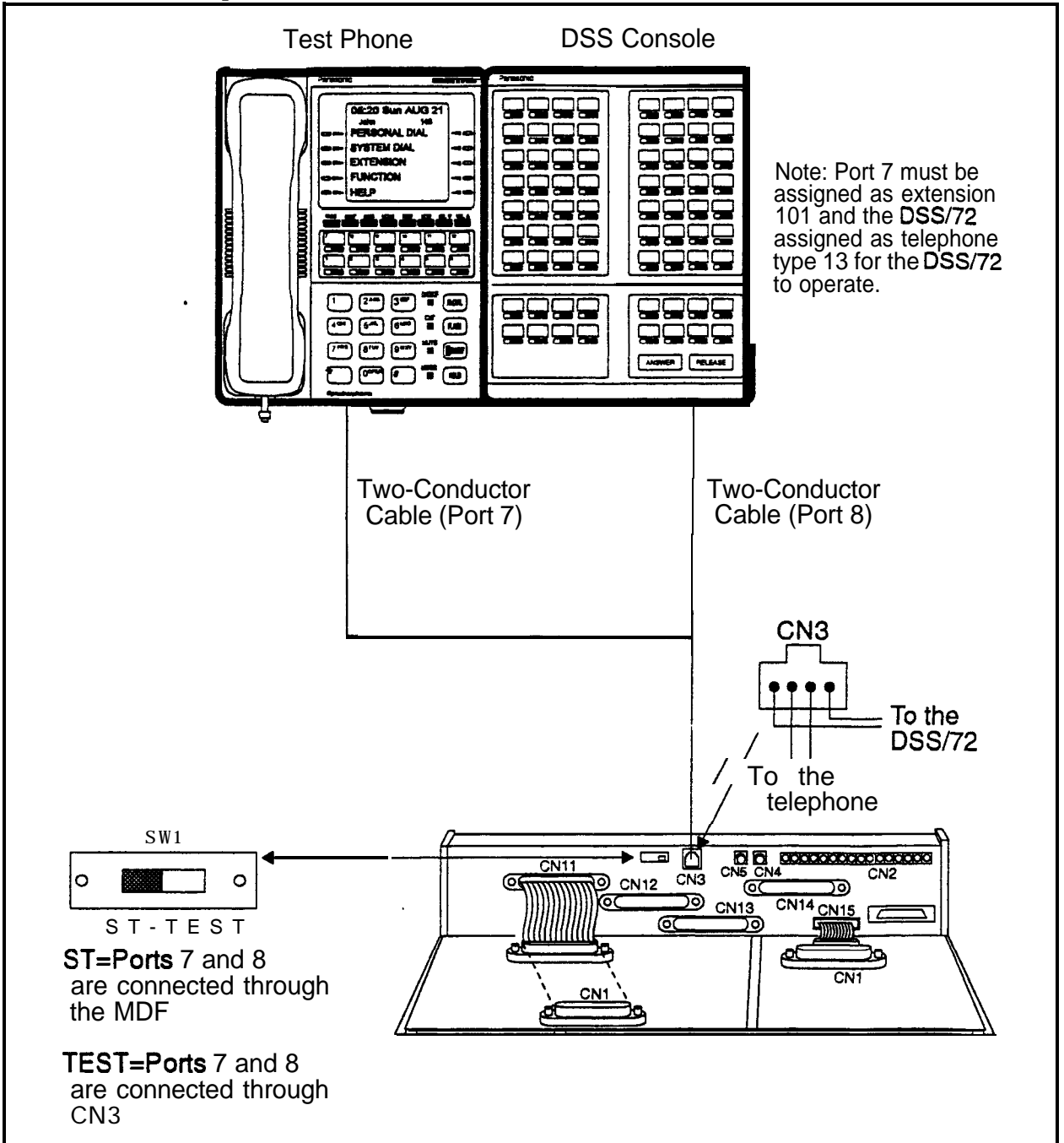
Chapter 4. Trunks and Lines

This chapter describes trunk and line installation. Some peripheral equipment also requires trunk and/or line interfaces (for example, door phones or power failure units). See Chapter 5 for instructions on connecting peripheral equipment through trunks or lines.

This chapter covers the following topics::

Trunks

Trunk Connectors

Each DBS cabinet is provided with one main trunk connector, labeled CN 1. In addition, a trunk expansion connector (VB-43120) can be added to the DBS to provide eight additional trunk connections. (The trunk expansion connector is also labeled CN1.)

Figure 4- 1 shows the maximum number of trunks that can be connected when both trunk connectors are used with a DBS 96.

Figure 4-1. DBS trunk connections (DBS 96)
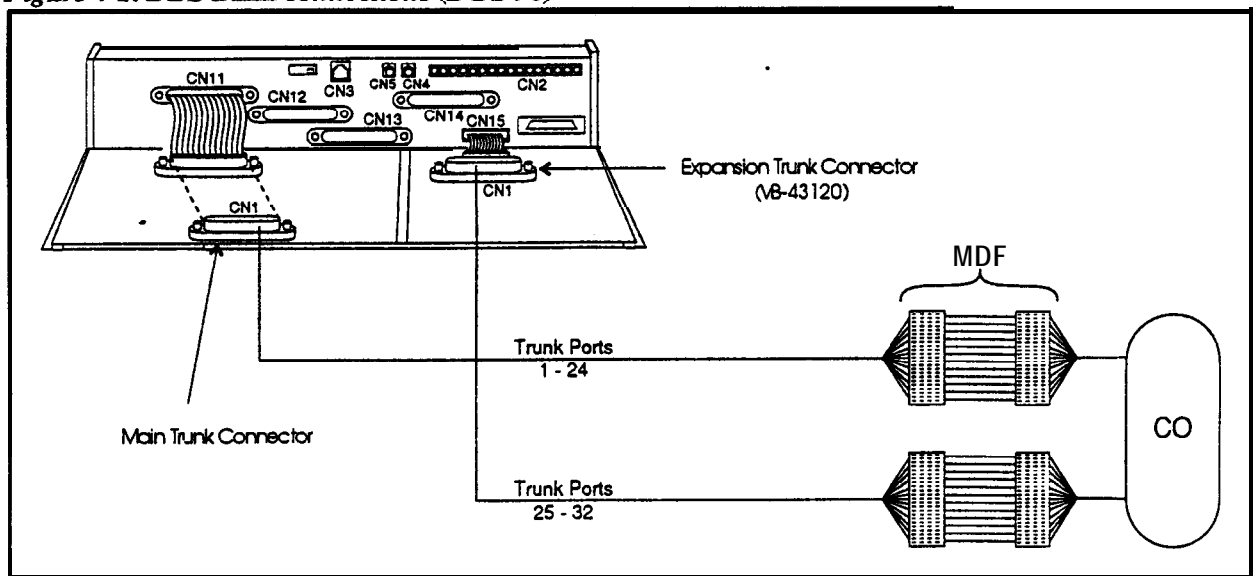
The number of trunks that can be connected through the main trunk connector depends on the type of system you have and the number of trunk cards installed. Table 4-l shows the main trunks and expansion trunks available with each system type. Chapter 6 includes trunk maximums for two-cabinet systems.

Table 4-l.   Main trunks and expansion trunks provided with each system type

Sys tern Type	Main Trunk Numbers	Expansion Trunk Numbers
DBS 40	1-8	9-16
DBS 72	1-16	17-24
DBS 96	l-24	**25-32**

Trunk Connector **Pinouts**

Table 4-2 includes pinouts and color codes for the main trunk connector. Table 4-3 shows pinouts and color codes for the trunk expansion connector.

Instructions on installing the expansion connector begin on 4-43.

Table 4-2. **Pinouts and trunk numbers for the main trunk connector.**

Trunk Slot[1]	Color Code	Pin No.	Desig.	Function
TRK1	WH-BL	26	1T	Trunk 1
(DBS 40,	BL-WH	1	1R	
DBS 72,	WH-OR	27	2T	Trunk 2
DBS 96)	OR-WH	2	2R	
	WH-GN	28	3T	Trunk 3
	GN-WH	3	3R	
	WH-BR	29	4T	Trunk 4
	BR-WH	4	4R	
	WH-SL	30	5T	Trunk 5
	SL-WH	5	5R	
	RD-BL	31	6T	Trunk 6
	BL-RD	6	6R	
	RD-OR	32	7T	Trunk 7
	OR-RD	7	7R	
	RD-GN	33	8T	Trunk 8
	GN-RD	8	8R	
TRK2	RD-BR	34	9T	Trunk 9
(DBS 72,	BR-RD	9	9R	
DBS 96)	RD-SL	35	10T	Trunk 10
	SL-RD	10	10R	
	BK-BL	36	11T	Trunk 11
	BL-BK	11	11R	
	BK-OR	37	12T	Trunk 12
	OR-BK	12	12R	
	BK-GN	38	13T	Trunk 13
	GN-BK	13	13R	
	BK-BR	39	14T	Trunk 14
	BR-BK	14	14R	
	BK-SL	40	15T	Trunk 15
	SLBK	15	15R	
	YL-BL	41	16T	Trunk 16
	BLYL	16	16R	
TRK3	YL-OR	42	17T	Trunk 17
(DBS 96 only,	OR-YL	17	17R	
	YL-GN	43	18T	Trunk 18
	GN-YL	18	18R	
	YL-BR	44	19T	Trunk 19
	BR-YL	19	19R	
	YL-SL	45	20T	Trunk 20
	SL-YL	20	20R	
	VI-BL	46	21T	Trunk 21
	BL-VI	21	21R	
	VI-OR	47	22T	Trunk 22
	OR-VI	22	22R	
	VI-GN	48	23T	Trunk 23
	GN-VI	23	23R	
	VI-BR	49	24T	Trunk 24
	BR-VI	24	24R	
	VI-SL	50	Not used	
	SL-VI	25		

1. Trunks connections for a trunk card installed in the EC/TRK slot appear on the Trunk Port Expansion connector as described on the next page.

Table 4-3. *Pinouts and trunk numbers for trunk expansion connector CN1*

Trunk Slot	Color Code	Pin No.'	Desig.	Trunk Assignments According to System Type		
				DBS 40	DBS 72	DBS 96
EC/TRK	W-H-BL BL-WH	26 1	IT 1R	Trunk 9	Trunk 17	Trunk 25
	WH-OR OR-WH	27 2	2T 2R	Trunk 10	Trunk 18	Trunk 26
	WH-GN GN-WH	28 3	3T 3R	Trunk 11	Trunk 19	Trunk 27
	WH-BR BR-WH	29 4	4T 4R	Trunk 12	Trunk 20	Trunk 28
	WH-SL SL-WH	30 5	5T 5R	Trunk 13	Trunk 21	Trunk 29
	RD-BL BL-RD	31 6	6T 6R	Trunk 14	Trunk 22	Trunk 30
	RD-OR OR-RD	32 7	7T 7R	Trunk 15	Trunk 23	Trunk 31
	RD-GN GN-RD	33 8	8T 8R	Trunk 16 ·	Trunk 24	Trunk 32

1. Only the first 8 pairs on the trunk expansion connector are used.

Loop-Start Trunks

Guidelines

- Two versions of the loop-start trunk are available: the four-port version (VB-435 10) and the eight-port version (VB-43511).

- The following procedure covers loop-start trunk installation using the main trunk connector. For instructions on using the expansion trunk connector, see "Trunk and Line Expansion" on page 4-43

- For pinouts and color codes for the main trunk connector, see Table 4-2 on page 4-5.

Installation

Installation without Caller ID

1. If installing VB-435 11A Loop Start Card:

   a. Remove the cover from the L-TRK card (VB-435 11A).

   b. Set the all option switches to ON as shown in Figure 4-2.

   c. Replace the cover on the L-TRK card (VB-43511A).

Figure 4-2. L-TRK Card Strap Jl and Switch Locations
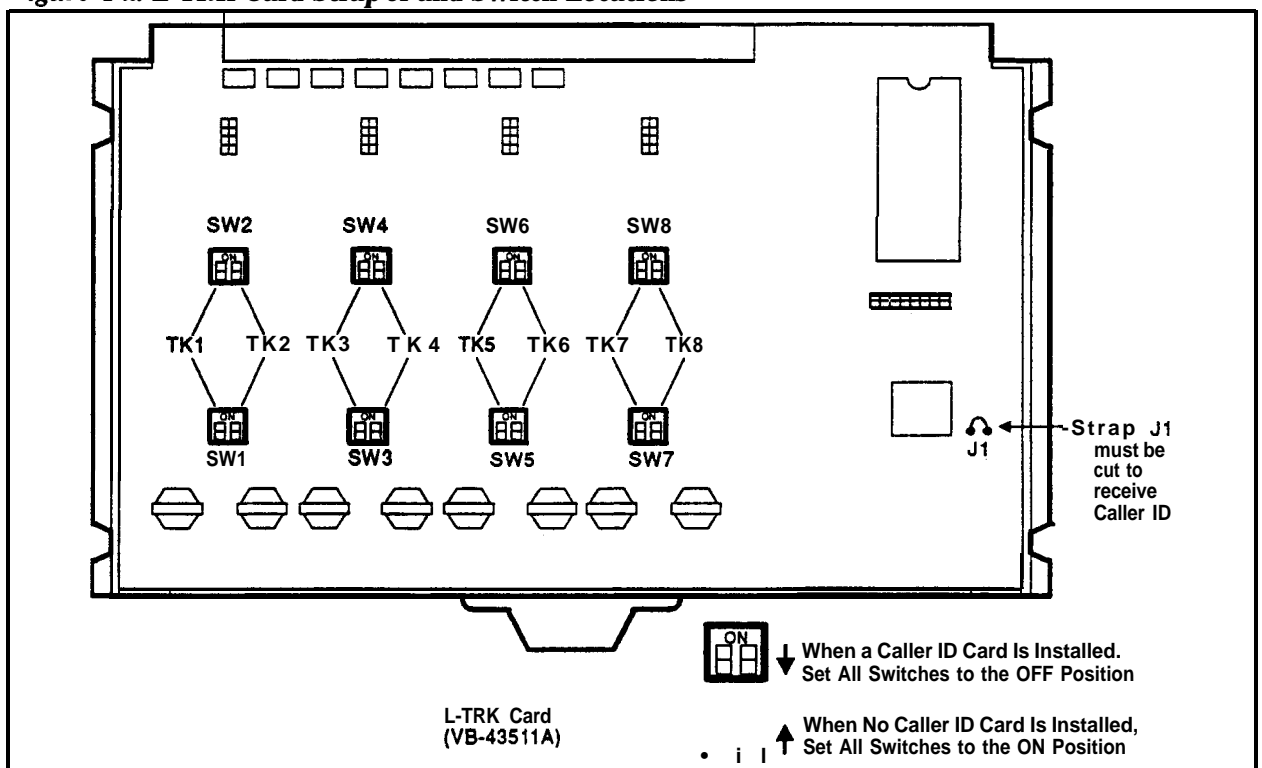
2. Install the loop-start trunk in a trunk slot.

3. Use a standard 50-pin cable to connect the trunks from the MDF to the main trunk connector CN1.

Installation with Caller ID

1. Remove the cover from the L-TRK card (VB-43511A). This cover should be set aside since it cannot be reinstalled with a Caller ID Board installed.

2. Cut strap J1 on the L-TRK card as shown in Figure 4-2.

3. Set switches SW1 through SW8 on the L-TRK card (VB-43511A) to OFF.

A▪

IMPORTANT: When caller ID is used, you must correctly set the switches to prevent possible damage to the L-TRK card.

4. Attach the Caller ID card to the L-TRK card.

Figure 4-3. Attaching Caller ID Card to the L-TRK Card
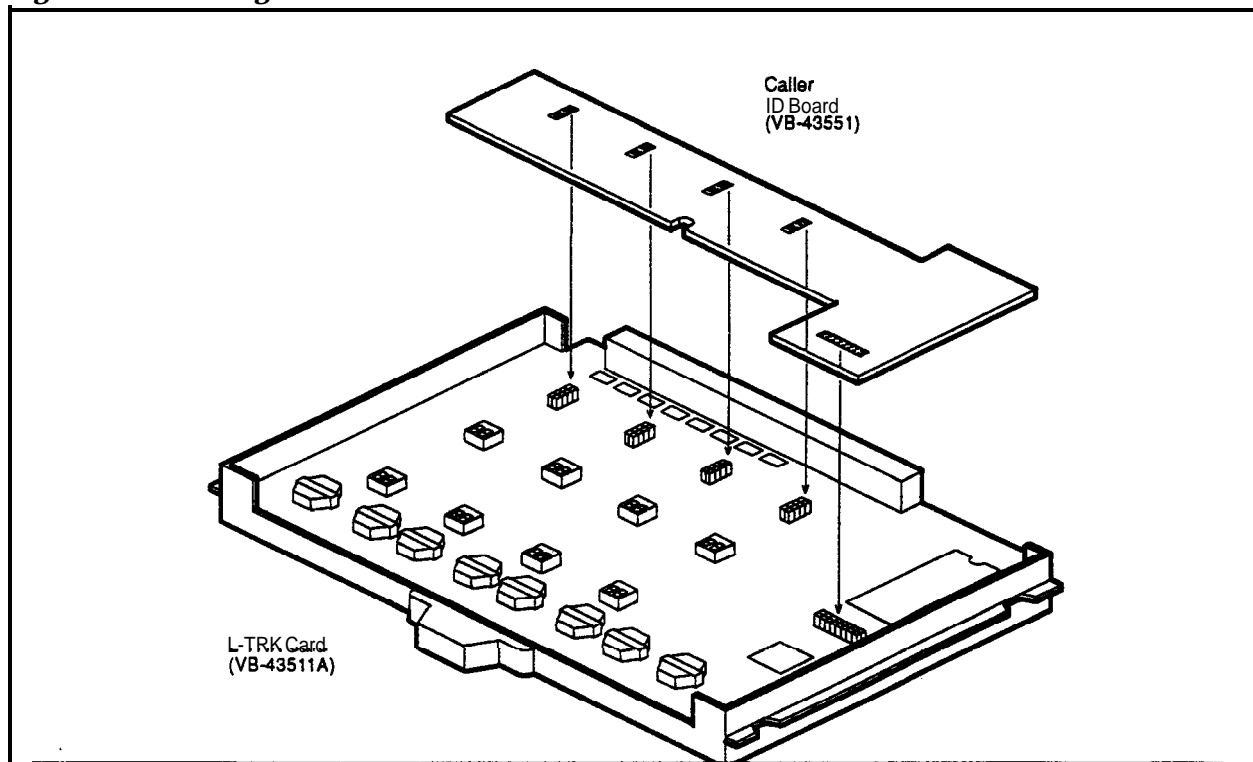
5. Install the L-TRK card in a trunk slot.

6. Use a standard 50-pin cable to connect the trunks from the MDF to the main trunk connector CN 1.

Ground Start and DID Trunks

Guidelines

- The following procedure covers ground-start (VB-43531) and DID (VB-43541) installation using the main trunk connector. For instructions on using the expansion trunk connector, see "Trunk and Line Expansion" on page 4-43.

- For pinouts and color codes for the main trunk connector, see Table 4-2 on page 4-5.

- Each circuit on the ground-start trunk card can be used as either a loop-start or ground-start trunk. By default, all circuits on the ground-start trunk are assigned as loop start.

- The ground-start trunk card requires CPC-B Version 1.0 or higher.

- The DID card requires CPC-B (Version 2.0 or higher) and SCC-B (Version 1.2 or higher).

- Both ground start and DID trunks require an external -48V floating output power supply. The following table shows -48V power consumption for one- and two-cabinet systems.

Table 4-4.   -48V current consumption for ground-start and DID trunks

System Size	Current Consumption (Output voltage = 48 ± 4 V Ripple voltage = ±500 mVp-p)
One-cabinet system	1 Amp
Two-cabinet'system	2Amps

- The following -48V floating output power supplies have been tested with DBS ground-start and DID trunks.

Table 4-5.   -48V power supplies tested with the DBS

Manufacturer	Model Number	Rating
Valcom	VP-2048B	2 Amps
Tellabs	8 1-8002	2 Amps

- The following "Installation" section includes details on installing the -48V power supply.

Installation

1. Install the G-TRK/8 or DID card in a trunk slot.

2. Connect the power supply by cabling the positive side to the SG
    connector on CN2 (Figure 4-4).

    Note: Use cables that are 18 AWG or larger to connect the power supply
    to the DBS.

Figure 4-4. -48V po wer supply installation
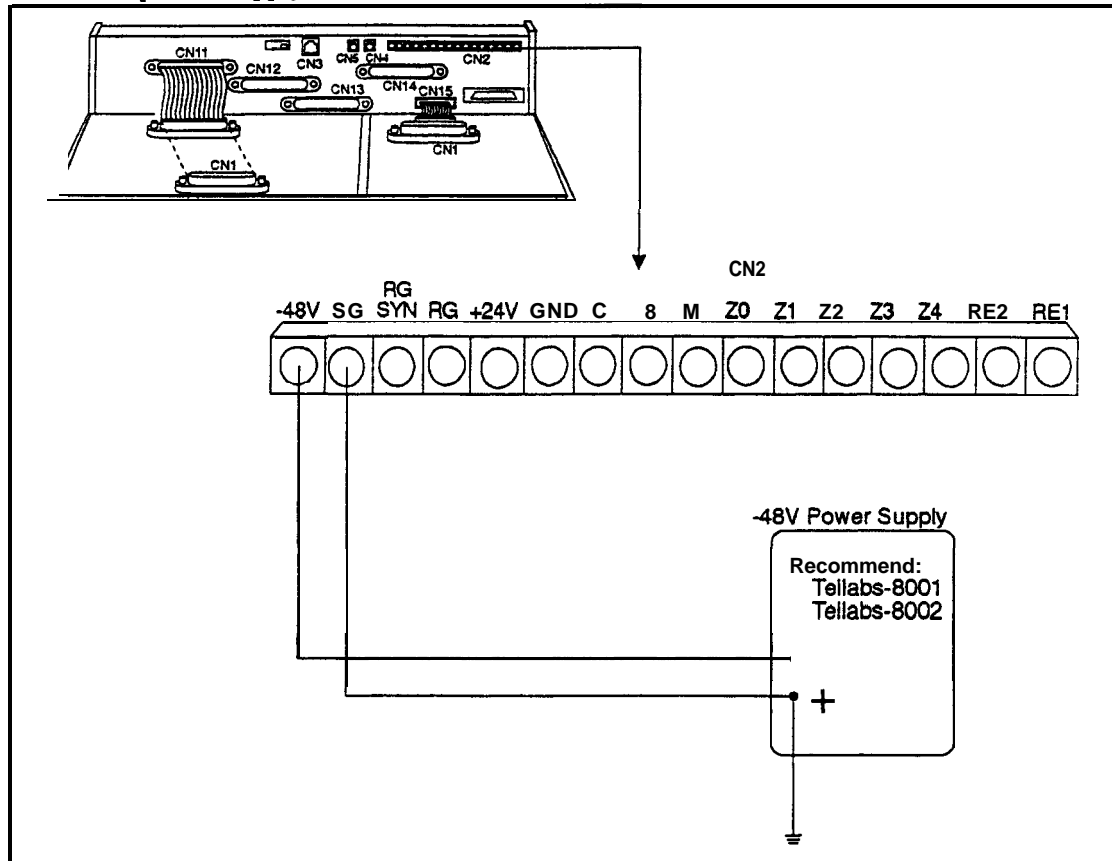
3. Ground the positive side of the -48V power supply to the building
    ground.

    Note: Resistance to ground must be 10 Ohms or less, and the ground cable
    must be 18 AWG or larger.

4. Install power-surge protectors between the wall outlet and the -48V
    power supply.

5. Use a standard 50-pin cable to connect the trunks from the MDF to the
    main trunk connector CN1.

6. Use a test set to verify the polarity of the trunk.

Connect the test set across the tip and ring of the trunk to be tested. With the test set in the "monitor" position, apply ground to the ring side of the trunk.

If you hear dial tone, the polarity of the trunk is okay, and you can switch the test set to the "talk" mode to test the voice path.

If you do not hear dial tone, ground the tip side of the trunk. If you receive dial tone when grounding the tip side, polarity is reversed.

T1 Interface

Guidelines

Read the following guidelines before beginning T1 installation. Installation instructions begin on page 4-2 1.

Hardware Requirements

- The T1 requires the following DBS hardware.

Table 4-6. T1 Hardware requirements for single-cabinet systems

CPC-B 4.0 or Higher (VB-43411)	SCC-B (VB-43421)	T1 Trunk Card (VB-4356 1)	T1 MDF Card (VB-43562)	Sync Unit (VB-43563)
1 (See Note 1.)	1 (See Notes 2 and 3.)	1	1	1
Notes:				
1. Version 1.3 or higher of the Bus Processor Unit (BPU) chip is required for T1.				
2. An MFR card is required for DID/DNIS if DTMF signaling is used. If DID/DNIS is provided through DP signaling, an MFR card is not required.				
3. SCC-B with ROM 1.3 or higher is required if the central office does not provide T1 dial tone.				

Table 4-7.   Tl Hardware requirements for double-cabinet systems

T1 Location	CPC-B V4 (V-B-43411) (See Note 1.)	SCC-B (VB-43421) (See Notes 2 and 3.)	T1 Trunk Card (VB-43561)	T1 MDF Card (VB-43562)	Sync Card (VB-43563)	T1 Cable (VB-43564)	Cable Kit (VB-43 110) (See Note 4.)
T1 in the Master	1	1	1	1	1	0	1
T1 in the Slave	1	1	1	1	1	1	1
T1 in both Master and Slave	1	1	2	2	1	1	1

Notes:

1. Version 1.3 of the Bus Processor Unit (BPU) chip is required for T1.

2. An MFR card is required for DID/DNIS if DTMF signaling is used. If DID/DNIS is provided through DP signaling, an MFR card is not required.

3. SCC-B with ROM 1.3 or later is required if the central office does not provide T1 dial tone.

4. Version 1.2 of the Cable Kit is required for T1.

- The T1 trunk card must be installed in the "EC/TRK" slot.

- The installer **must** provide a Channel Service Unit (CSU) that complies with FCC Part 15 and Part 68. The CSU is installed between the DBS and the public network. The CSU provides alarm, diagnostic, and monitoring functions, as well as network protection.

  The CSU must be compatible with the framing format (SF or ESF) that is provided by the public network.

Maximums

- One T1 card can be installed per cabinet.

- The number of Tl cards that can be installed in double-cabinet systems depends on the sizes of the connected systems. Table 4-12 on page 4-15 shows T1 maximums for double-cabinet systems.

  Note: The DBS 72 + DBS 40 combination does not support T1.

Table 4-8.   Tl slot usage for two-cabinet systems

System Size	EC/TRK Slot Usage for T1	
	Master	**Slave**
DBS 40 + DBS 40	No	Yes
DBS 72 + DBS 40	No	No
DBS 72 + DBS 72	No	Yes
DBS 96 + DBS 40	Yes	Yes
DBS 96 + DBS 72	Yes	Yes
DBS 96 + DBS 96	Yes	Yes

- ***Fractional T1*** can be used when fewer than 24 T1 trunks are needed. Fractional T1 allows you to use only a portion of the 24 channels provided on the T1 card.

- Though each T1 Interface provides 24 trunk channels, T1 trunks do not increase the overall trunk capacity of the DBS. Each T1 channel subtracts from the total number of analog trunks that can be installed.

- With CPC-B earlier than 5.00, the number of analog trunks that can be used with Fractional T1 are always decremented in quantities of 8.

  For example, if you are installing a T1 in a DBS 96 and you only want to use 12 T1 channels, the logical number of analog trunks that would be available is 20 (32 - 12 = 20).

  The number of analog trunks must be decremented in quantities of 8. the actual number of analog trunks that can be used is 16:

  (32 total trunks - 16 (two 8-trunk increments) = 16.)

  Tables.69 through 4- 11 show the possible combinations of analog and digital trunks assignments based on system size.

  The trunk numbering shown in these tables is determined by backplane trunk port assignments. Therefore, the numbering cannot be changed.

- With CPC-B 5.00 and higher and the VB-435 11A Loop Start Trunk Card, the number of analog trunks that can be used with Fractional T1 are decremented in quantities of 1.

  Note: Analog trunks are numbered beginning with " 1." T 1 trunk chan nel s are numbered beginning with the highest trunk channel used.

Trunk Assignments for Single-Cabinet Systems

- Programming is not required to associate trunk ports with slot locations. However, you must use programming to specify that a combination of T1 and analog trunks are installed, and you must also specify how many T1 channels are used.

Table 4-9. T1 and analog trunk assignments, DBS 40

Trunk Number	Fractional T1 using 16 Channels	Fractional T 1 using 8 Channels
1 ↓ 8	T1 channel 16 ↓ T1 channel 9	Analog trunk 1 ↓ Analog trunk 8
9 ↓ 16	T1 channel 8 ↓ T1 channel 1	T1 channel 8 ↓ T1 channel 1
Note: Since the DBS 40 supports a maximum of 16 trunks, all 24 channels of the T1 cannot be used.		

Table 4-10. T1 and analog trunk assignments, DBS 72

Trunk Number	24-Channel T1	Fractional T1 using 16 Channels	Fractional T1 using 8 Channels
1 ↓ 8	T1 channel 24 ↓ T1 channel 17	Analog trunk 1 ↓ Analog trunk 8	Analog trunk 1 ↓ Analog trunk 8
9 ↓ 16	T1 channel 16 ↓ T1 channel 9	T1 channel 16 ↓ T1 channel 9	Analog trunk 9 ↓ Analog trunk 16
17 ↓ 24	T1 channel 8 ↓ T1 channel 1	T1 channel 8 ↓ T1 channel 1	T1 channel 8 ↓ T1 channel 1

Table 4-11. T1 and analog trunk assignments, D BS 96

Trunk Number	24-Channel T1	Fractional T1 using 16 Channels	Fractional T1 using 8 Channels
1 ↓ 8	Analog trunk 1 ↓ Analog trunk 8	Analog trunk 1 ↓ Analog trunk 8	Analog trunk 1 ↓ Analog trunk 8
9 ↓ 16	T1 channel 24 ↓ T1 channel 17	Analog trunk 9 ↓ Analog trunk 16	Analog trunk 9 ↓ Analog trunk 16
17 ↓ 24	T1 channel 16 ↓ T1 channel 9	T1 channel 16 ↓ T1 channel 9	Analog trunk 17 ↓ Analog trunk 24
25 ↓ 32	T1 channel 8 ↓ T1 channel 1	T1 channel 8 ↓ T1 channel 1	T1 channel 8 ↓ T1 channel 1

Trunk Assignments for Double-Cabinet Systems

- When T1 is used in a double-cabinet system, the number of T1 channels that can be assigned in each cabinet depends on the master/slave designation.

  The following table shows the maximum number of T1 channels that can be assigned in twu-cabinet systems.

Tab& 4-12. Maximum Tl assignments for two-cabinet systems

System Size	Master	Slave
DBS 40 + DBS 40	8 analog trunks	16 T1 trunks
DBS 72 + DBS 72	16 analog trunks	24 T1 trunks
DBS 96 + DBS 40	24 T1 trunks 8 analog trunks	16 T1 trunks
DBS 96 + DBS 72	24 T1 trunks 8 analog trunks	24 T1 trunks
DBS 96 + DBS 96	24 T1 trunks 8 analog trunks	24 T1 trunks 8 analog trunks

- Two-cabinet systems use the same trunk numbering scheme as single-cabinet systems. Analog trunks are numbered from "1" upward; T1 trunk channels are numbered downward from the highest channel used.

Tables 4-13 through 4-17 show trunk numbering for two-cabinet systems using the maximum number of T1 channels.

Table 4-13. Tl and analog trunk assignments, DBS 40 + 40 (16-channel fractional Tl in the slave)

Trunk Number	Master Cabinet	Slave Cabinet
1 ↓ 8	Analog trunk 1 ↓ Analog trunk 8	N/A
9 ↓ 16	N/A	T1 channel 16 ↓ T1 channel 9
17 .L 24	N/A	T1 channel 8 ↓ T1 channel 1

Table 4-14. Tl and analog trunk assignments, DBS 72 + DBS 72 (24-channel T1 in the slave)

Trunk Number	Master Cabinet	Slave Cabinet
1 ↓ 8	Analog trunk 1 ↓ Analog trunk 8	N/A
9 ↓ 16	Analog trunk 9 ↓ Analog trunk 16	N/A
17 ↓ 24	N/A	T1 channel 24 ↓ T1 channel 17
33 ↓ 40	N/A	T1 channel 16 ↓ T1 channel 9
41 ↓ 48	N/A	T1 channel 8 ↓ T1 channel 1

Table 4-15. T1 and analog trunk assignments, DBS 96 + DBS 40 (24-channel T1 in the master; 16-channel Tl in the slave)

Trunk Number	Master Cabinet	Slave Cabinet
1 ↓ a	Analog trunk 1 ↓ Analog trunk 8	N/A
9 ↓ 16	T1 channel 24 ↓ T1 channel 17	N/A
17 ↓ 24	T1 channel 16 ↓ T1 channel 9	N/A
25 ↓ 32	T1 channel 8 ↓ T1 channel 1	N/A
33 ↓ 40	N/A	T1 channel 16 ↓ T1 channel 9
41 ↓ 48	N/A	T1 channel 8 ↓ T1 channel 1

Table 4-16. Tl and analog trunk assignments, DBS 96 + DBS 72 (24-channel T1 in the master; 24-channel Tl in the slave)

Trunk Number	Master Cabinet	Slave Cabinet
1 ↓ 8	Analog trunk 1 ↓ Analog trunk 8	N/A
9 ↓ 16	T1 channel 24 ↓ T1 channel 17	N/A
17 ↓ 24	T1 channel 16 ↓ Tl channel 9	N/A
25 ↓ 32	T1 channel 8 ↓ T1 channel 1	N/A
33 ↓ 40	N/A	T1 channel 24 ↓ T1 channel 17
41 ↓ 48	N/A	T1 channel 16 ↓ T1 channel 9
49 ↓ 56	N/A	T1 channel 8 ↓ T1 channel 1

Table 4-l 7. Tl and analog trunk assignments, DBS 96 + DBS 96(24-channel Tl in the master; 24-channel Tl in the slave)

Trunk Number	Master Cabinet	Slave Cabinet
↓ 9	Analog trunk 1 ↓ Analog trunk 8	N/A
↓ 16	T1 channel 24 ↓ T1 channel 17	N/A
17 ↓ 24	T1 channel 16 ↓ T1 channel 9	N/A
25 ↓ 32	T1 channel 8 ↓ T1 channel 1	N/A
33 ↓ 40	N/A	Analog trunk 1 ↓ Analog trunk 8
41 ↓ 48	N/A	T1 channel 24 ↓ T1 channel 17
49 ↓ 56	N/A	T1 channel 16 ↓ T1 channel 9
57 ↓ 64	N/A	T1 channel 8 ↓ T1 channel 1

Installation

The following procedures provide step-by-step instructions for installing the T1 Interface. The procedure that you should use depends on the type of system you have and the number of Tls you are installing.

If you are installing . . .	Use this procedure...
A T1 in a single cabinet	"Installing a T1 in a Single Cabinet" (page 4-21)
One T1 in a double cabinet, with the T1 located in the master	"Installing a T1 in a Single Cabinet" (page 4-21)
One T1 in a double cabinets, with the T1 located in the slave	"Installing a T1 in a Double Cabinet with the T1 in the Slave" (page 4-27)
Tls in both the master and slave	"Installing a T1 in a Double Cabinet with Tls in the Master and Slave" (page 4-27)

Installing a T1 in a Single Cabinet

The following instructions explain how to install a T1 in a single-cabinet system. These instructions also apply when a T1 is installed in only the master cabinet of a two cabinet system.

If only one T1 is installed in a two-cabinet system, it must be installed in the cabinet specified in Table 4-8 on page 4- 13.

Note: The Tl Interface cannot be used for systems consisting of a DBS 72 connected to a DBS 40.

1. Check connector 4 (CN4) on the Sync Unit (VB-43563). Make sure that Pins 2 and 3 are strapped. (See Figure 4-5.)

   When Pins 2 and 3 are strapped, the Sync Unit synchronizes the DBS T1 card with the signaling provided by the public network.

Figure 4-5. Connector 4 (CN4) strapping, Sync Unit
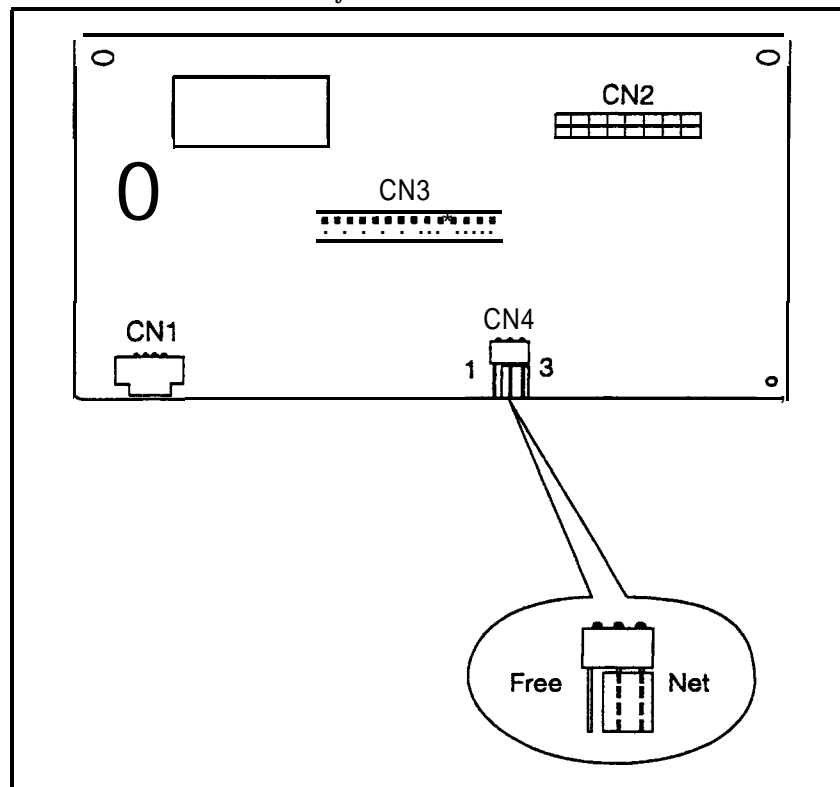
2. Attach the Sync Unit to the CPC-B card.

    Note: Before attaching the Sync Unit. insert the three spacers provided
    with the unit and remove the jumpers from CN2 of the CPC-B card.

Figure 4-6. Tl Sync Unit installation
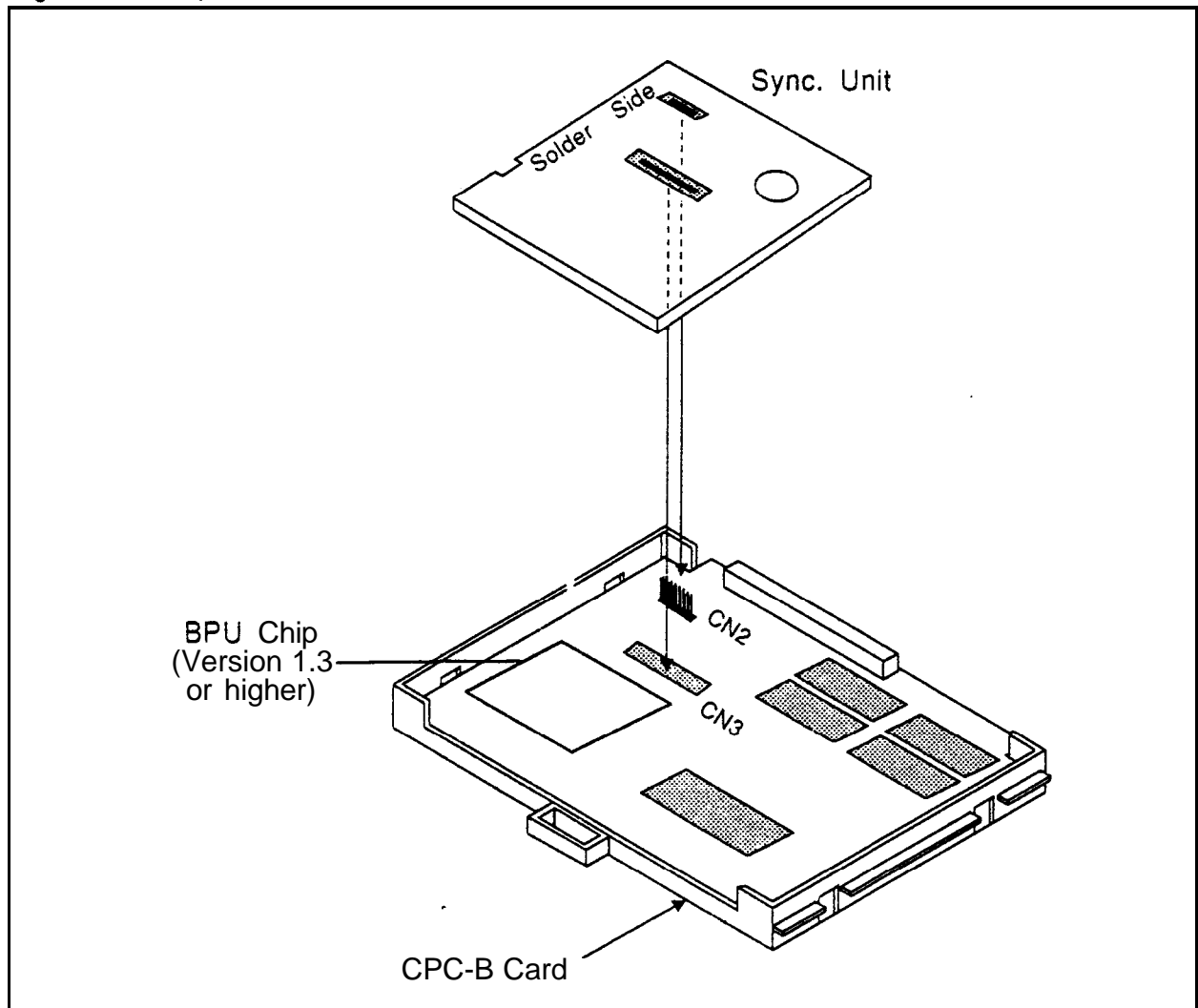
3. Install the T1 MDF (main distribution frame) card in the top of the
    cabinet as shown in Figure 4-7.

Figure 4-7. Tl MDF card installation
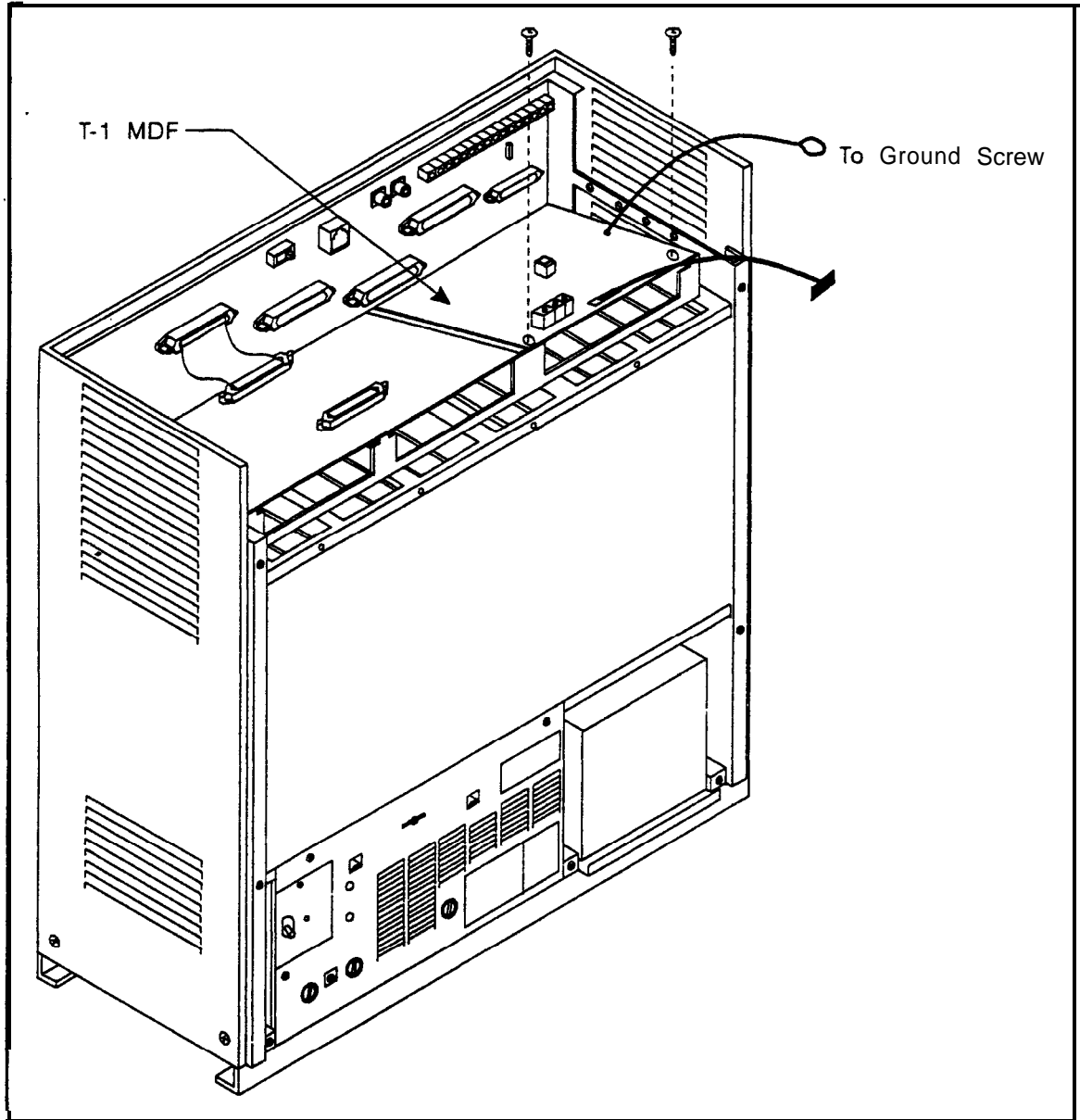
4. Set SW1 on the T1 card according to the following table.

These switch settings correspond to the distance between the DBS and the CSU. To turn a switch on, fiip it to the "up" position.

Table 4-18. Switch settings for SWZ on the T1 card

SW	Distance from the DBS to the CSU		
	0 to 150 ft.	**150-450 ft.**	**450-655 ft.**
SW1	On	Off	Off
SW2	Off	On	Off
SW3	off	Off	On
SW4	Off	On	Off
SW5	Off	Off	On
SW6	Off	On	Off
SW7	Off	Off	On
SW8	Not used	Not used	Not used

- 5. Install the T1 card in the "EC/TRK" slot

6. Connect the Sync Cable from CN1 on the Sync Unit to CN5 on the T1 card.

Figure 4-8. Sync Unit and Tl connection, sin&-cabinet installation
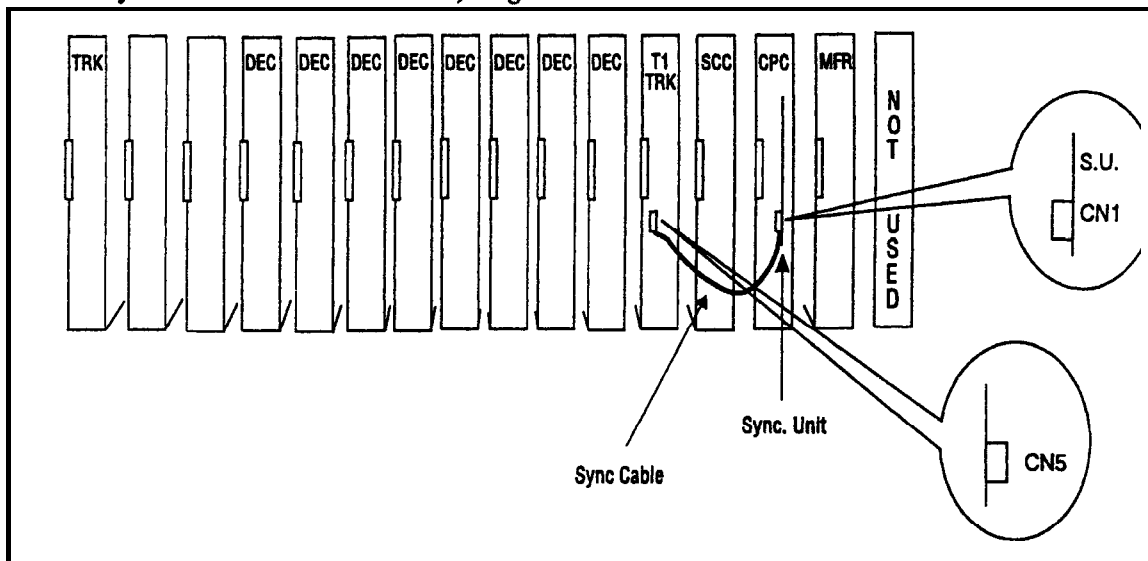
7. Connect the cable attached to CN3 on the T1 MDF card to CN3 on the T1 card (Figure 4-10).

8. Using an RJ48 cable, connect CN1 on the T1 MDF card to the CSU (Figure 4- 10). The following illustration shows CN1 pinouts.

Figure 4-9. RJ48 pinouts, CN1 connector
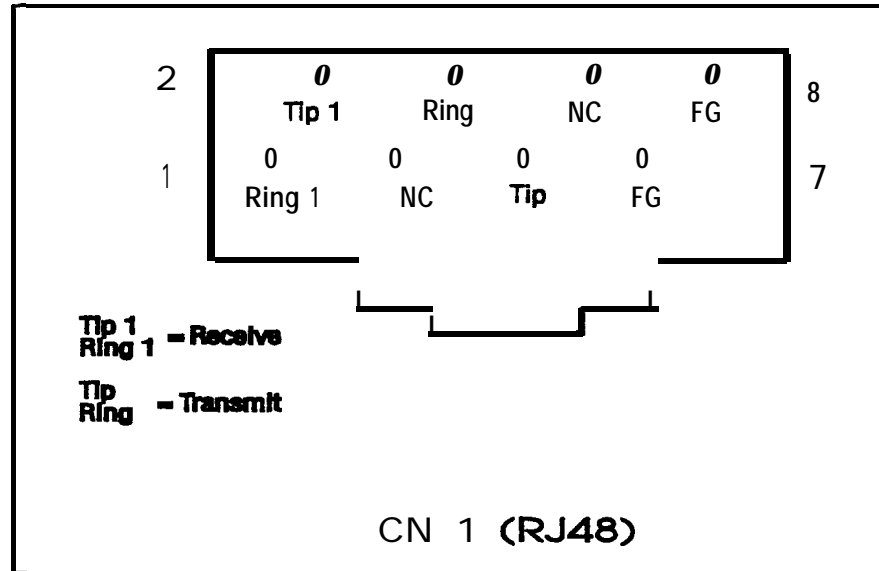
9. Connect the ground cable from the T1 MDF card to the cabinet as shown in Figure 4- 10.

Figure 4-10. Tl cabinet connections, single-cabinet installation
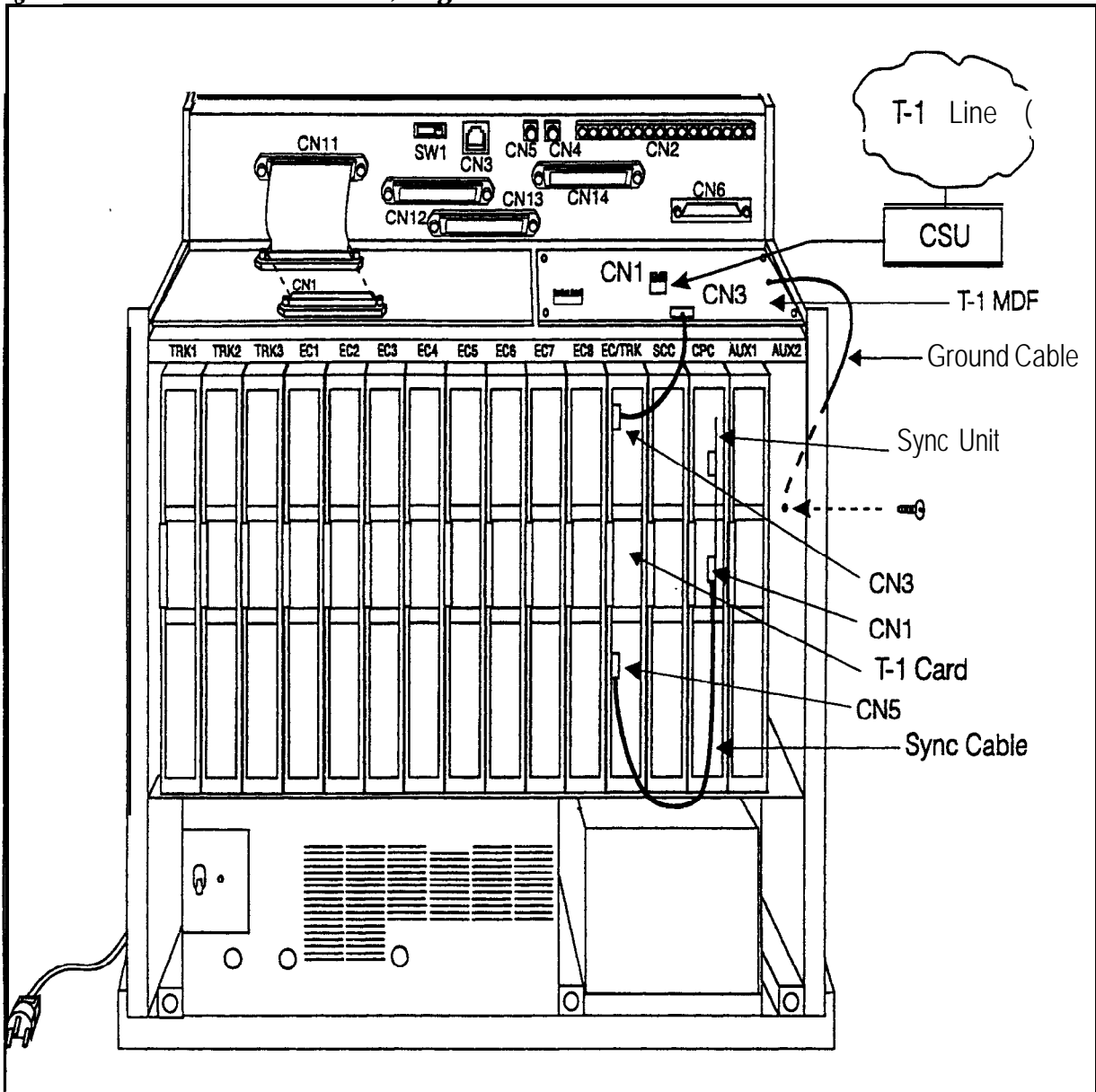
Installing T1 in a Double Cabinet with the T1 in the Slave

1. Install the Sync Unit in the master cabinet as described in Steps 1 and 2 under "Installation for a Single T1."

2. Install a T1 MDF card in the slave cabinet. (See Step 3 on page 4-23.)

3. Set Switch 1 on the T1 card. (See Step 4 on page 4-24.)

4. Install a T1 card in the "EC/TRK" slot of the slave cabinet.

5. Connect the Sync Cable from CN1 on the Sync Unit to CN5 on the T1 card (Figure 4-l 1).

   Note: Part Number VB-43564 is used for the Sync Cable when a T1 is installed only in the slave cabinet of a two-cabinet system.

6. At the slave cabinet, connect the cable attached to CN3 on the T1 MDF card to CN3 on the T1 card (Figure 4-10).

7. Using an RJ48 cable, connect CN1 of the T1 MDF card to the CSU. (See Figure 4-9 on page 4-25 for RJ48 pinouts.)

8. At the slave cabinet, connect the ground cable on the T1 MDF card as shown in Figure 4-10 on page 4-26.

Figure 4-11. Sync cable connections, *double-cabinet with a T1 in the slave*
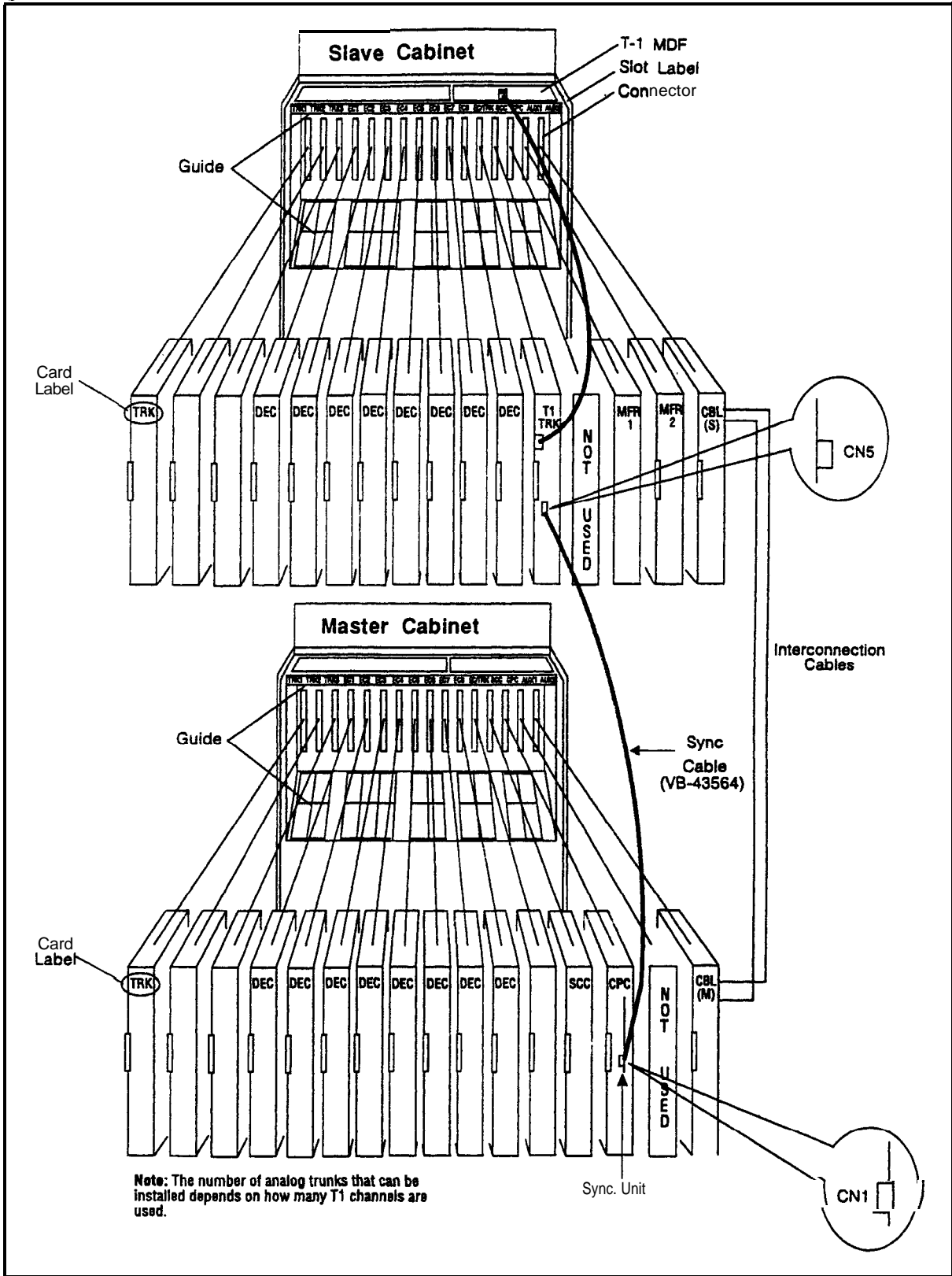
Installing T1 in a Double Cabinet with T1s in the Master and Slave

1. Install the Sync Unit in the master cabinet as described in Steps 1 and 2 under "Installation for a Single T1."

2. Install a T1 MDF card in each cabinet. (See Step 3 on page 4-23.)

3. Set Switch 1 on the T1 cards. (See Step 4 on page 4-24.)

4. Install a T1 card in each "EC/TRK" slot.

5. Connect the Clock Sync Cable from CN4 on the master-cabinet T1 to CN5 on the slave-cabinet T1, as shown in Figure 4-12.

   Note: Part Number VB-43564 is used for the Clock Sync Cable when T1s are installed in the master and slave cabinets.

6. At the master cabinet, connect the Sync Cable from CN1 on the Sync Unit to CN5 on the T1 card (Figure 4-12).

7. At each cabinet, connect the cable attached to CN3 on the T1 MDF card to CN3 on the T1 card (Figure 4-10).

8. Using an RJ48 cable, connect CN1 of each T1 MDF card to a CSU. (See Figure 4-9 on page 4-25 for RJ48 pinouts.)

9. For both cabinets, connect the ground cable from the T1 MDF card as shown in Figure 4-10 on page 4-26.

Figure 4-12. Clock sync cable and sync cable connections, double-cabinet installation
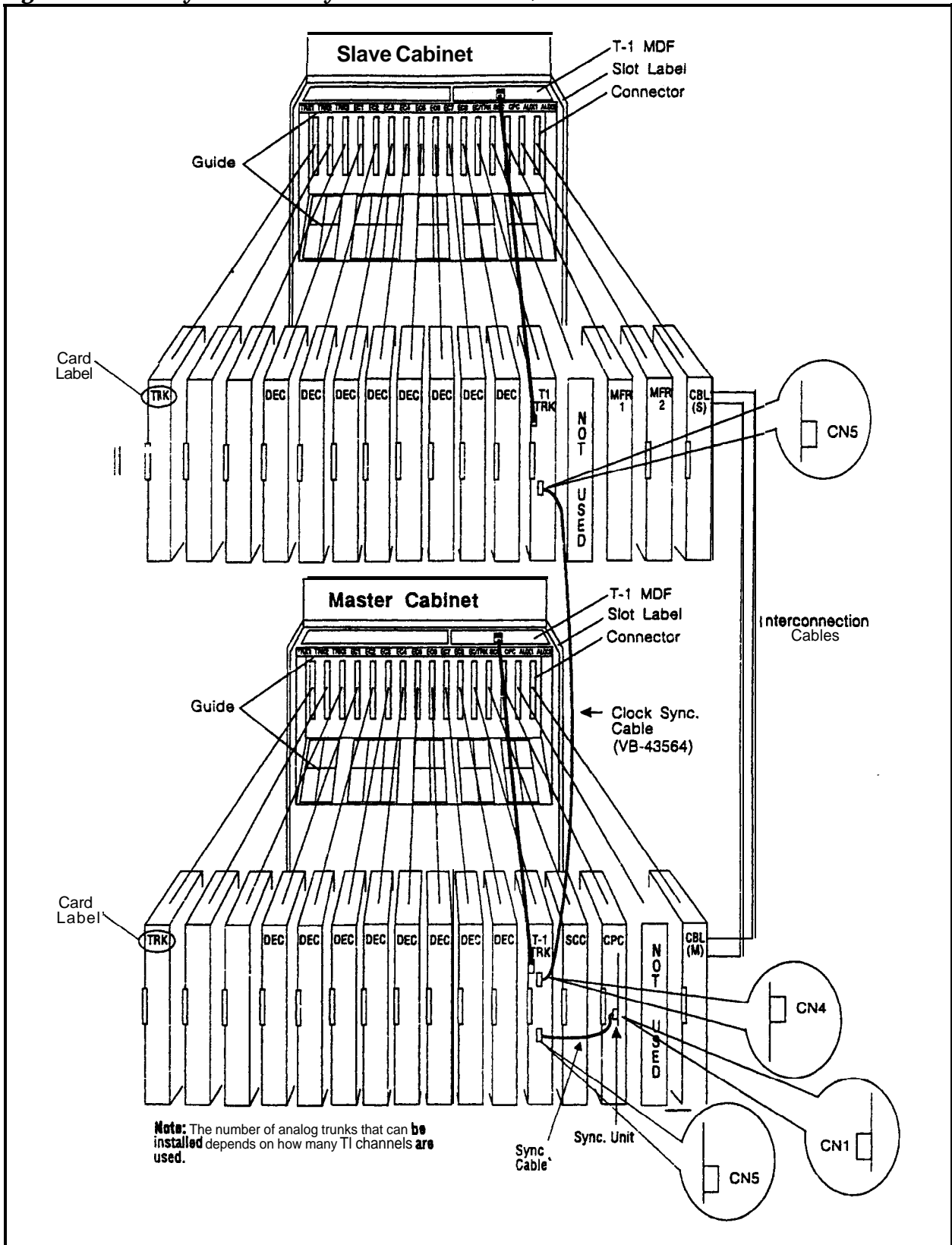
Lines

Extension Connectors

The number of extension ports that can be connected to your system depends on the type of system you have. Figure 4-13 shows the maximum number of extensions that can be connected to each system when the extension expansion connector is used.

Table 4-l summarizes the number of ports that can be used without the extension expansion connector. Chapter.6 includes extension maximums for two-cabinet systems.

Figure 4-13. DBS extension connections
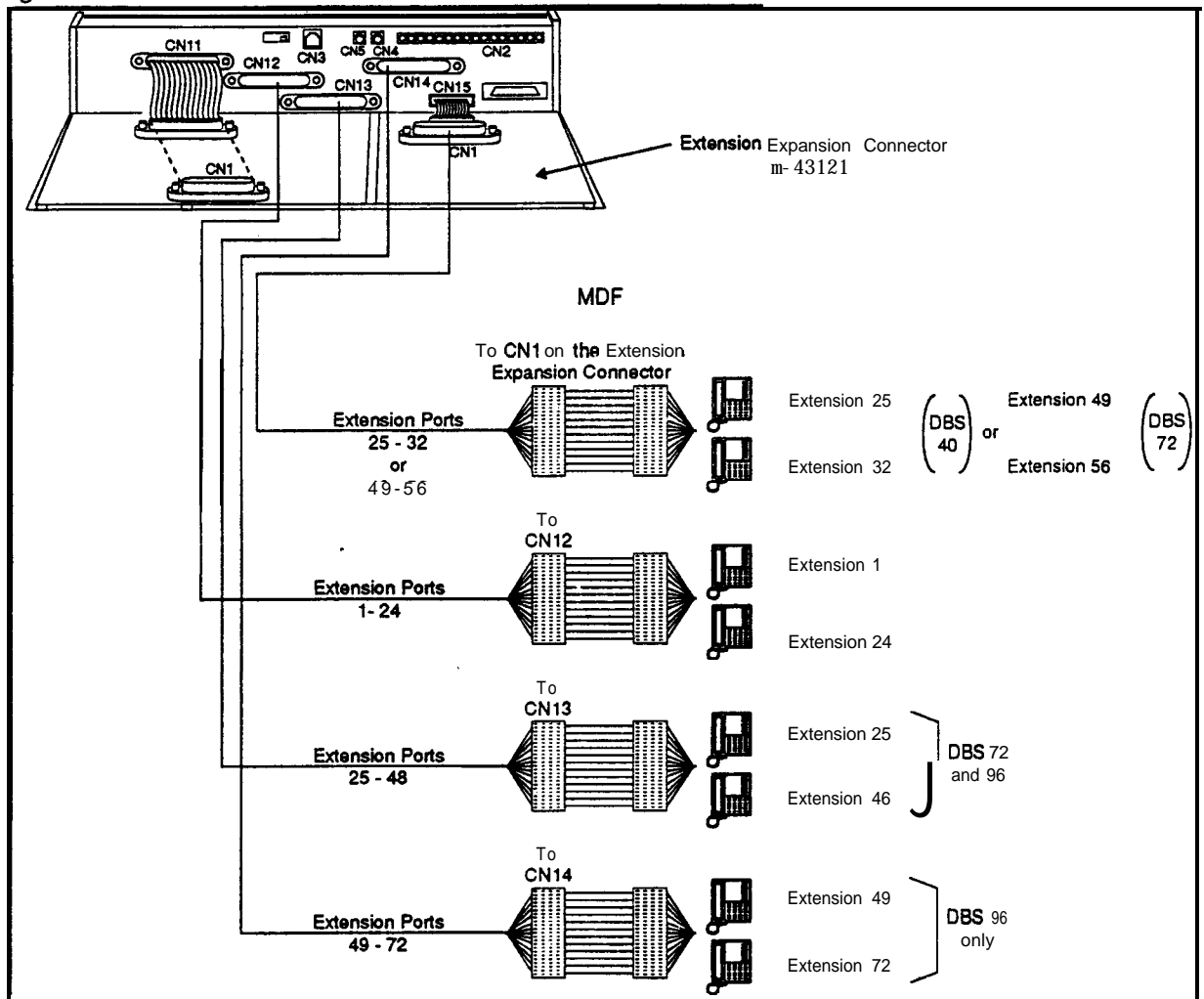
Table 4-19. Extension ports provided with each system

System Type	Extension Ports (Not including the Expansion Connector*)
DBS 40	1-24
DBS 72	1-48
DBS 96	1-72
*Note: Extensions 65 to 72 on the DBS 96 use the EC/TRK slot, but they do not require the extension expansion connector. If extensions 65 to 72 are used, the trunk expansion connector cannot be used.	

Extension Connector **Pinouts**

Tables 4-20 through 4-22 provide pinouts and color codes for extension slots.Table 4-22 on page 4-35 provides pinouts and color codes for the extension expansion connector.

Instructions on installing the expansion connector begin on 4-43.

Table 4-20. Pinouts and color codes for extension connector CN12

Extension Slot	Color Code	Pin No.	Desig.	Function
EC1	W-H-BL	26	1T	Extension Port 1
(DBSJO.	BL-WH	1	1R	
DBS 72.	WH-OR	27	2T	Extension Port 2
DBS 96)	OR-WH	2	2R	
	WH-GN	28	3T	Extension Port 3
	GN-WH	3	3R	
	WH-ER	29	4T	Extension Port 4
	BR-WH	4	4R	
	WH-SL	30	5T	Extension Port 5
	SL-WH	5	5R	
	RD-BL	31	6T	Extension Port 6
	BL-RD	6	6R	
	RD-OR	32	7T	Extension Port 7
	OR-RD	7	7R	
	RD-GN	33	8T	Extension Port 8
	GN-RD	8	8R	
EC2	RD-BR	34	9T	Extension Port 9
(DBS 40,	BR-RD	9	9R	
DBS 72,	RD-SL	35	10T	Extension Port 10
DBS 96)	SL-RD	10	10R	
	BK-BL	36	11T	Extension Port 11
	BL-BK	11	11R	
	BK-OR	37	12T	Extension Port 12
	OR-BK	12	12R	
	BK-GN	38	13T	Extension Port 13
	GN-BK	13	13R	
	BK-BR	39	14T	Extension Port 14
	BR-BK	14	14R	
	BK-SL	40	15T	Extension Port 15
	SL-BK	15	15R	
	YL-BL	41	16T	Extension Port 16
	BL-YL	16	16R	
EC3	YL-OR	42	17T	Extension Port 17
(DBS 40.	OR-YL	17	17R	
DBS 72,	YL-GN	43	18T	Extension Port 18
DBS 96)	GN-YL	18	18R	
	YL-BR	44	19T	Extension Port 19
	BR-YL	19	19R	
	YL-SL	45	20T	Extension Port 20
	SL-YL	20	20R	
	VI-BL	46	21T	Extension Port 21
	BL-VI	21	21R	
	VI-OR	47	22T	Extension Port 22
	OR-VI	22	22R	
	VI-GN	48	23T	Extension Port 23
	GN-VI	23	23R	
	VI-BR	49	24T	Extension Port 24
	BR-VI	24	24R	
	VI-SL	50	Not used	
	SL-VI	25		

Note: Only digital extensions can be used in slot **EC1.** Port 1 is reserved for Attendant 1 and requires a Display Key Phone.

Table 4-21. Pinouts and color codes for extension connector CN13

Extension Slot	Color Code	Pin No.	Desig.	Function
EC4	WH-BL	26	1T	Extension Port 25
(DBS 72,	BL-WH	1	1R	
DBS 96)	WH-OR	27	2T	Extension Port 26
	OR-WH	2	2R	
	WH-GN	28	3T	Extension Port 27
	GN-WH	3	3R	
	WH-BR	29	4T	Extension Port 28
	BR-WH	4	4R	
	WH-SL	30	5T	Extension Port 29
	SL-WH	5	5R	
	RD-BL	31	6T	Extension Port 30
	BL-RD	6	6R	
	RD-OR	32	7T	Extension Port 31
	OR-RD	7	7R	
	RD-GN	33	8T	Extension Port 32
	GN-RD	8	8R	
EC5	RD-BR	34	9T	Extension Port 33
(DBS 72,	BR-RD	9	9R	
DBS 96)	RD-SL	35	10T	Extension Port 34
	SL-RD	10	10R	
	BK-BL	36	11T	Extension Port 35
	BL-BK	11	11R	
	BK-OR	37	12T	Extension Port 36
	OR-BK	12	12R	
	BK-GN	38	13T	Extension Port 37
	GN-BK	13	13R	
	BK-BR	39	14T	Extension Port 38
	BR-BK	14	14R	
	BK-SL	40	15T	Extension Port 39
	SL-BK	15	15R	
	YL-BL	41	16T	Extension Port 40
	BL-YL	16	16R	
EC6	YL-OR	42	17T	Extension Port 41
(DBS 72,	OR-YL	17	17R	
DBS 96)	YL-GN	43	18T	Extension Port 42
	GN-YL	18	18R	
	YL-BR	44	19T	Extension Port 43
	BR-YL	19	19R	
	YL-SL	45	20T	Extension Port 44
	SL-YL	20	20R	
	VI-BL	46	21T	Extension Port 45
	BL-VI	21	21R	
	VI-OR	47	22T	Extension Port 46
	OR-VI	22	22R	
	VI-GN	48	23T	Extension Port 47
	GN-VI	23	23R	
	VI-BR	49	24T	Extension Port 48
	BR-VI	24	24R	
	VI-SL	50	Not used	
	SL-VI	25		

Table 4-22. Pinouts and color codes for extension connector CN14

Extension Slot	Color Code	Pin No.	Desig.	Function
EC7 (DBS 96 Only)	WH-BL BL-WH	26 1	1T 1R	Extension Port 49
	WH-OR OR-WH	27 2	2T 2R	Extension Port 50
	WH-GN GN-WH	28 3	3T 3R	Extension Port 51
	WH-BR BR-WH	29 4	4T 4R	Extension Port 52
	WH-SL SL-WH	30 5	5T 5R	Extension Port 53
	RD-BL BL-RD	31 6	6T 6R	Extension Port 54
	RD-OR OR-RD	32 7	7T 7R	Extension Port 55
	RD-GN GN-RD	33 8	8T 8R	Extension Port 56
EC8 (DBS 96 Only)	RD-BR BR-RD	34 9	9T 9R	Extension Port 57
	RD-SL SL-RD	3s 10	10T 10R	Extension Port 58
	BK-BL BLBK	36 11	11T 11R	Extension Port 59
	BK-OR OR-BK	37 12	12T 12R	Extension Port 60
	BKGN GN-BK	38 13	13T 13R	Extension Port 61
	BK-BR BR-BK	39 14	14T 14R	Extension Port 62
	BK-SL SL-BK	40 15	15T 15R	Extension Port 63
	YLBL BL-YL	41 16	16T 16R	Extension Port 64
EC/TRK (DBS 96only)	YL-OR OR-YL	42 17	17T 17R	Extension Pon 65
	YL-GN GN-YL	43 18	18T 18R	Extension Port 66
	YLBR BR-YL	44 19	19T 19R	Extension Port 67
	YL-SL SL-YL	45 20	20T 20R	Extension Port 68
	VI-BL BLVI	46 21	21T 21R	Extension Port 69
	VI-OR OR-VI	47 22	22T 22R	Extension Port 70
	VIGN GN-VI	48 23	23T 23R	Extension Port 71
	VI-BR BR-VI	49 24	24T 24R	Extension Port 72
	VI-SL SL-VI	50 25	Not used	

Note: The EC/TRK slot is wired to CN14 only in the DBS 96. In the DBS 40 and 72, a card placed in the EC/TRK slot must be wired to the expansion connector.

Table 4-23. Pinouts and color codes for extension expansion connectorCN1

Extension Slot	Color Code	Pin No.	Desig.	Extension Port Assignments According to System Type		
				DBS 40	DBS 72	DBS%
EC/TRK	WH-BL BL-WH	26 1	1T 1R	Extension Port 25	Extension Port 49	No Extension Expansion Card Required (uses CN14 instead)
	WH-OR OR-WH	27 2	2T 2R	Extension Port 26	Extension Port 50	
	WH-GN GN-WH	28 3	3T 3R	Extension Port 27	Extension Port 51	
	WH-BR BR-WH	29 4	4T 4R	Extension Port 28	Extension Port 52	
	WH-SL SLWH	30 5	5T 5R	Extension Port 29	Extension Port 53	
	RD-BL BL-RD	31 6	6T 6R	Extension Port 30	Extension Port 54	
	RD-OR OR-RD	32 7	7T 7R	Extension Port 31	Extension Port 55	
	RD-GN GN-RD	33 8	8T 8R	Extension Port 32	Extension Port 56	

Analog Extensions

Note: Normally analog extensions are supported using the AEC (VB-4362 1). Alternatively, a Single Line Telephone Adaptor (SLTA, VB-43709) may be used to support analog DTMF (2500 set) extensions. The SLTA converts up to 4 digital ports to analog ports. See "Single Line Telephone Adaptor" on page 5-34 for more information.

Guidelines

- An MFR card (VB-43431) is required when the AEC is used. The MFR card, which provides DTMF signals, includes eight circuits that are shared among the analog extensions.

- The AEC also requires the SLT ringer.box (VB-2089P).

Installation

1. Install the AEC cards in extension slots.

2. Install the MFR card in AUX1 or AUX2. If installing in a two-cabinet system, see Chapter 6 for specific information for installing MFR card(s).

3. Install the SLT Ringer Box as shown in Figure 4-14. Be sure to note the differences between the DBS 40 Connector Panel and the Connector Panel on the DBS 72 and 96.

Figure 4-14. SLT ringer box installation

Ringer box installation with the DBS 72 and DBS 96

CN2

| -48V | SG | RG SYN | RG | +24V | GND | C | B | M | Z0 | Z1 | Z2 | Z3 | Z4 | RE2 | RE1 |

+24V GND RG (BRN) RG SYN (RED)

SLT Ringer Box
(VB-2089P)

Ringer box installation with the DBS 40

CN2

| SG | -48V | RG SYN | RG | GND | +24V | M | C | B | Z0 | Z1 | Z2 | Z3 | Z4 | RE2 | RE1 |

+24V GND RG (BRN) RG SYN (RED)

SLT Ringer Box
(VB-2089P)
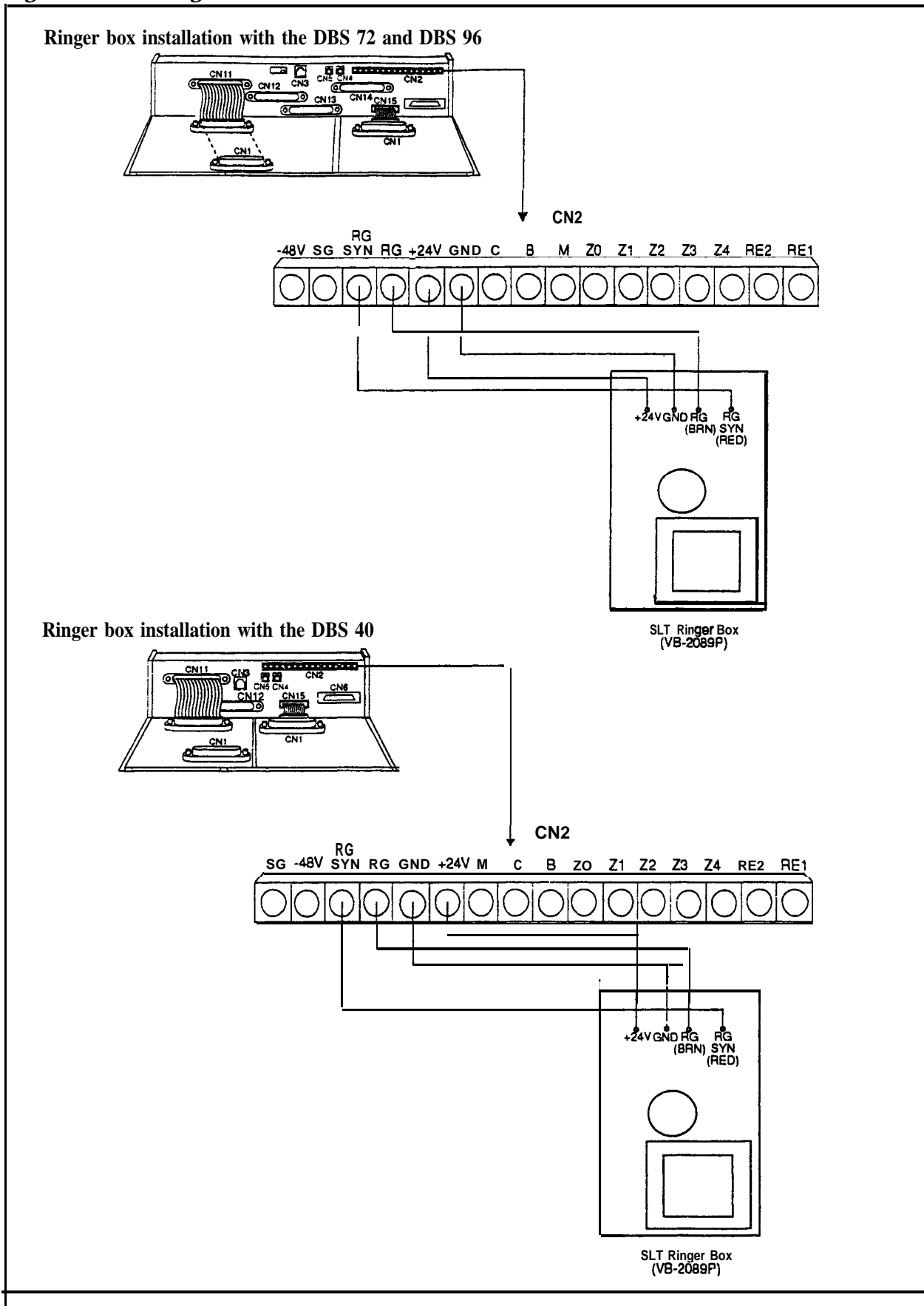
4. Use a standard 50-pin cable to connect the extensions from the MDF to the appropriate extension connector. (Refer to Tables 4-20 through 4-22 for extension pinouts.)

5. If you are installing a DBS 40 system, attach the EMI filter to the amphenol cable as shown in Figure 4-15.

Figure 4-15. EMI filter installation (DBS 40 only)
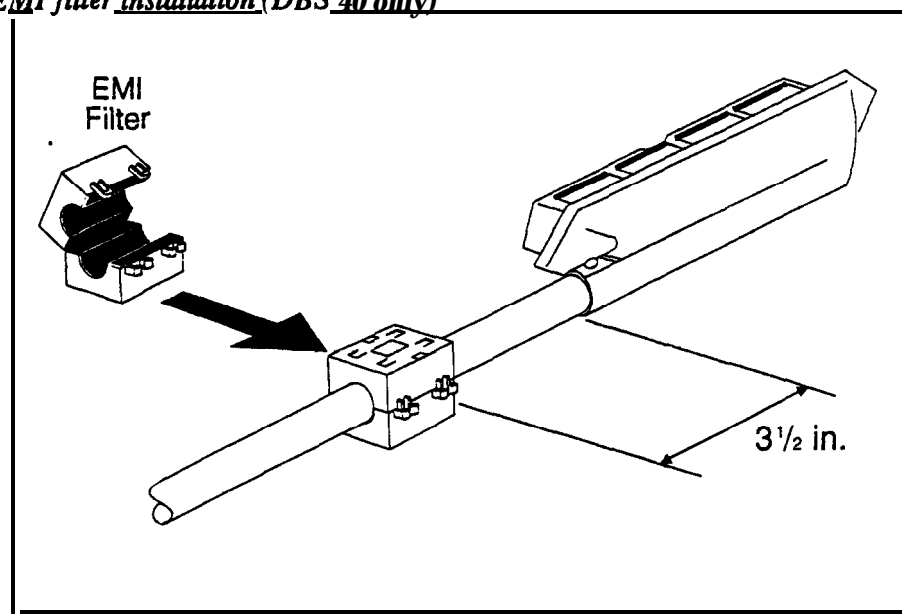
Digital Extensions

The following instructions explain how to connect digital extensions. These instructions apply for key phones and Digital Single-Line Telephones (DSLTs). Special instructions are provided for installing the DSS/72 and EM24 terminals, which connect to digital phones.

1. Install the DEC cards in extension slots.

2. Use a standard 50-pin cable to connect the extensions from the MDF to 'the appropriate extension connector, as shown in Figure 4-13 on page 4-3 1. (Refer to Tables 4-20 through 4-22 for extension pinouts.)

3. If you are installing a DBS 40, attach the EM1 filter to the amphenol cable, as shown in Figure 4-15.

DSS/72

Guidelines

*   The DSS/72 (VB-43320) is a 72-key console that can be attached to the attendant phone. It provides direct station selection and busy lamp fields for internal lines. The DSS/72 can also be used for text assignment.

*   When the attendant feature package (VB-43330) is installed (CPC-B Version 2.0 to 4.0 only), the DSS/72 can be used as an Attendant Console. The Attendant Console provides station monitoring and call transfer by name for large systems, even if a large display phone is not used. For a detailed description of the differences between the standard DSS/72 and a DSS/72 configured as an Attendant Console, *see Feature Operation, Section* 700. For instructions on using the Attendant Console, see *the Attendant Console User Guide, Section 760.*

*   Up to two DSS/72s or one Attendant Console can be assigned to attendant phones 1 and 2.   Attendant phones 3 and 4 can each have one Attendant Console assigned, but neither can have a DSS/72.

*   If more than one DSS/72 is assigned to an attendant phone, only one of the DSS/72s can be cabled from the same wall jack as the attendant phone. Additional DSS/72s must be cabled from separate wall jacks.

*   The DSS/72 comes with a mounting bracket, screws, and a two-conductor cable for attaching the DSS to the key phone.

Installation

1. Attach the DSS/72 to the key phone using the mounting plate and the four screws.

2. Connect the DSS to the key phone using the two-conductor cable.

3. Connect the DSS to the wall jack using a four-conductor cable.

4. Connect the four wires from the key phone and DSS to the MDF.

Figure 4-16. DSS/72 connection using one cable with two pairs.
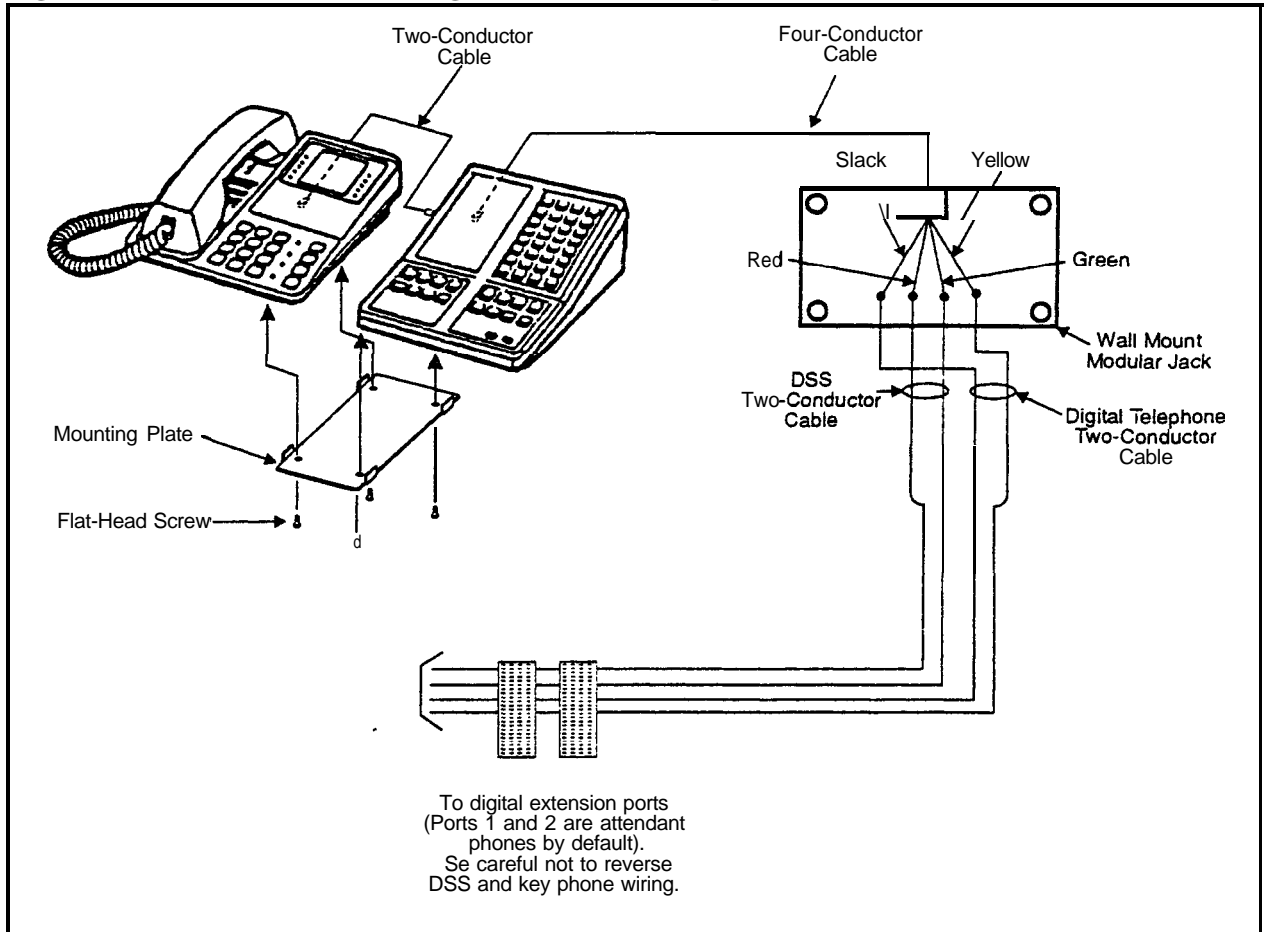
EM/24

Guidelines

- The EM/24 (VB-43310) provides 24 flexible function (FF) keys. It can be attached to any key phone.

- The EM/24 comes with a mounting bracket, screws, and a two-conductor cable for attaching it to a key phone.

Installation

1. Attach the EM/24 to the key phone using the mounting plate and the four screws, as shown in Figure 4-17.

2. Connect the EM/24 to the key phone using the two-conductor cable.

3. Connect the EM/24 to the wall jack using a four-conductor cable.

4. Connect the four wires from the key phone and EM/24 to the MDF connector.

Figure 4-17. EM/24 connection using one cable with two pairs
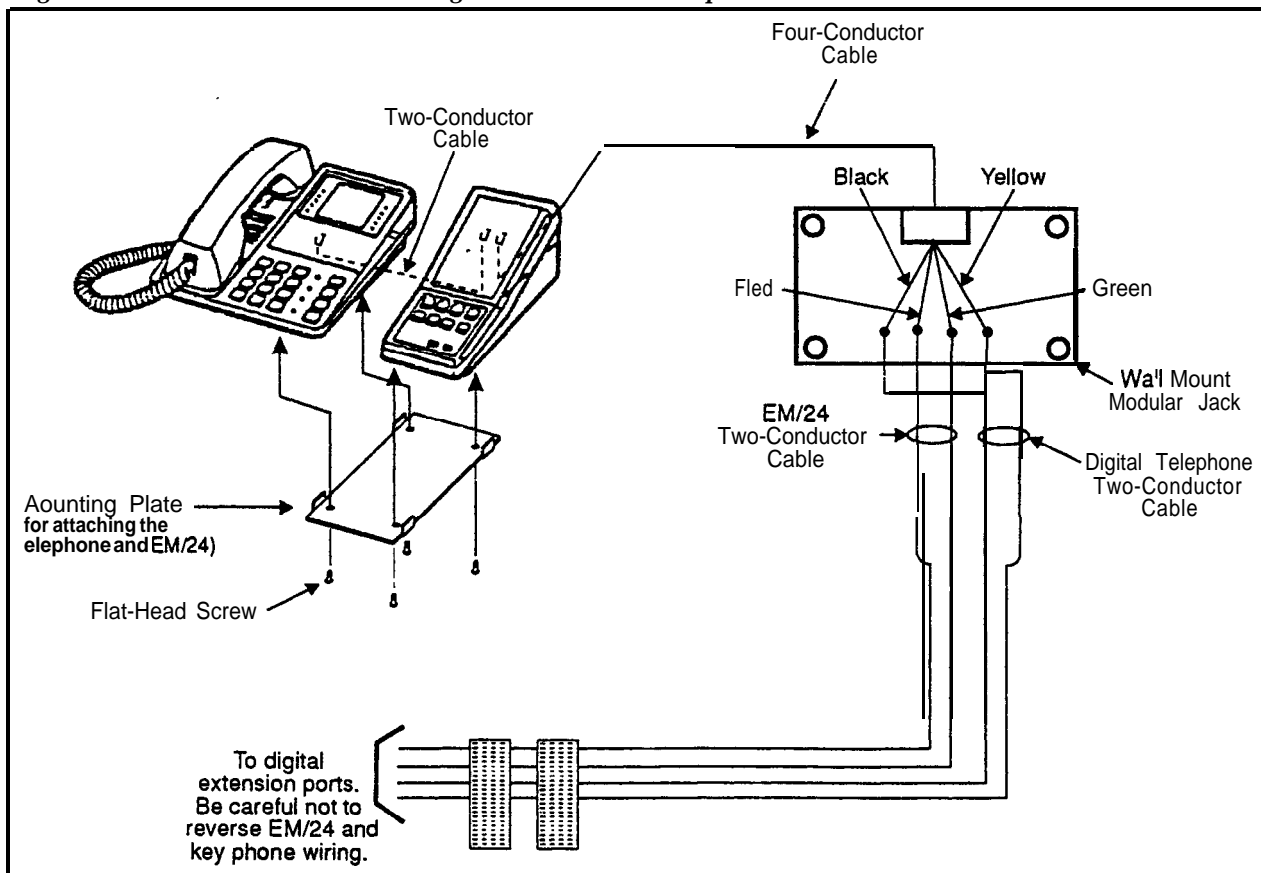
Trunk and Line Expansion

Guidelines

- The EC/TRK slot can be used for a trunk or extension card.

- Different expansion connectors are used for trunks and extensions:

Expansion connector	Part No.
Trunk expansion connector	VB-43 120
Extension expansion connector	VB-43121

Note: With the DBS 96, the expansion connector is not required to use the EC/TRK slot for an extension card. The DBS 96 uses connector CN14 to accommodate an extension card in the EC/TRK slot. Table 4-22 on page 4-35 shows the pinouts from the EC/TRK slot to CN14.

Installation

1. Install a trunk or extension card in the slot marked EC/TRK.

2. Connect the appropriate expansion connector to the main cabinet with two screws, as shown in Figure 4-18.

3. Connect the ground cable from the FG terminal of the expansion connector to a screw already in use on the right side of the main cabinet.

4. Connect CN2 of the expansion connector to CN15 on the mother board.

5. Prepare a cable with a 50-pin connector on one end and wiring for the MDF on the other end.

6. Cross-connect the cable to the trunks or extensions through the MDF. See Table 4-3 "Pinouts and trunk numbers for trunk expansion connector CN1" on page 4-6 or Table 4-23 "Pinouts and color codes for extension expansion connector CN1" on page 4-36.

7. Connect the 50-pin connector to CN1 on the expansion connector.

Figure 4-18. Trunk or extension expansion
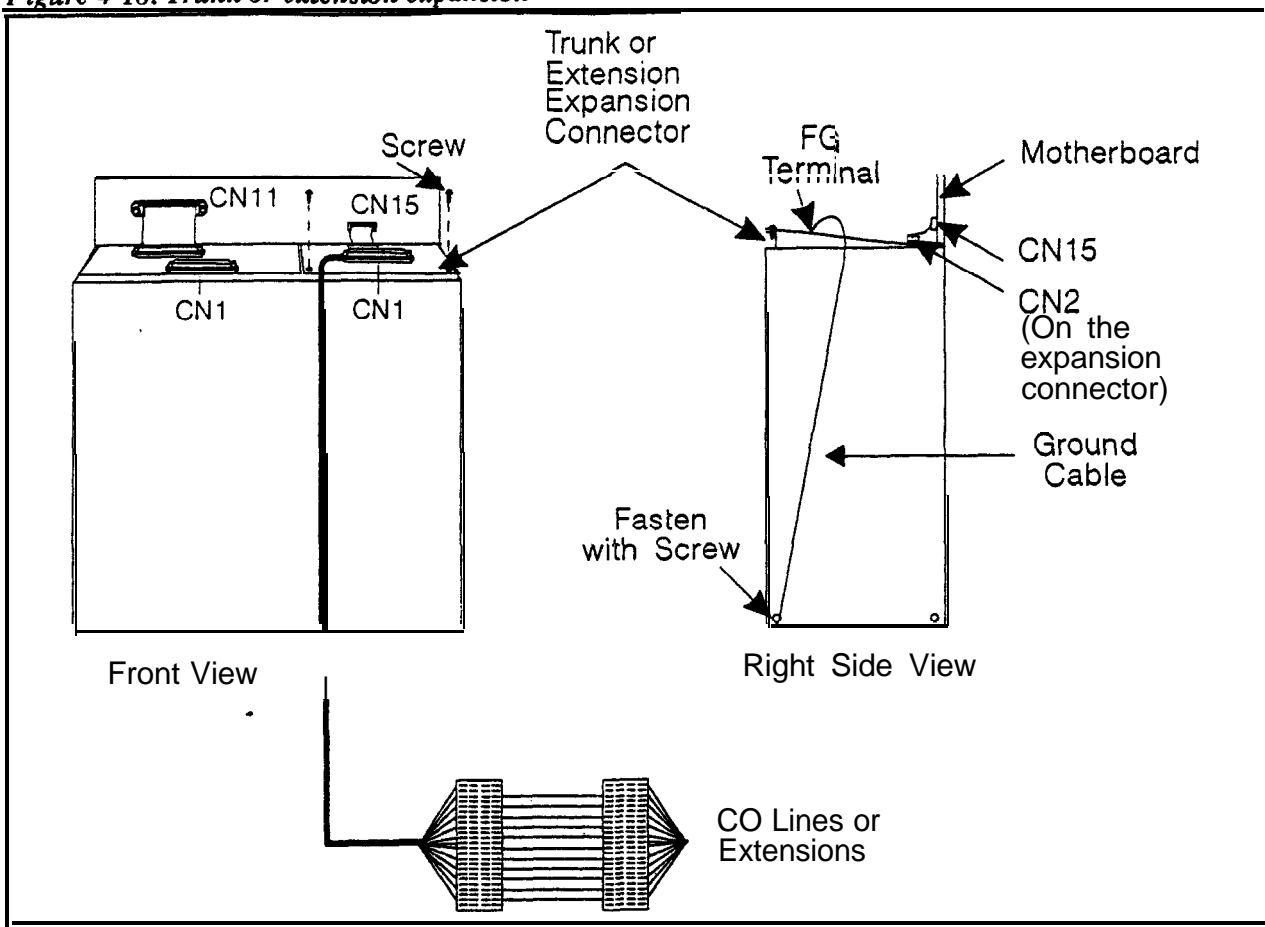
See Table 4-3 on page 4-6 for pinout and trunk number information for the **trunk** expansion connector.

Chapter 5. Peripheral Equipment

This chapter describes peripheral equipment installation. Some peripheral equipment requires trunk and/or line interfaces (for example. door phones or power failure units). For information on trunk and line connections, see Chapter 4.

This chapter covers the following topics:

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Local Terminal or SMDR Device

Guidelines

- Connector 6 (CN6) on the Connector Panel provides an RS-232C interface for connection of a local programming terminal or an SMDR device such as a printer or call accounting machine.

- The following table contains RS-232C designations.

Table 5-l.   RS-232C pin designations used for CN6

Pin	Signal Name	Description
1	N/A	Not used.
2	TD	Transmit Data
3	RD	Receive Data
4	CTS	Clear to Send
5	RTS	Request to Send
6	DSR	Data Set Ready
7	SG	Signal Ground
8	CD	Carrier Detect
20	DTR	Data Terminal Ready

- For instructions on connecting a remote PCAS PC, see the *PCAS User's Guide.*

- For instructions on connecting the remote DBS Manager, see the *DBS Manager User Guide.*

Installation

1. Connect one end of the RS-232C cable to CN6 on the Connector Panel.

    Figure 5-l shows cable pinouts for 25-pin and 9-pin RS-232C devices. These connections have been used successfully with many PCs and SMDR devices; however, consult the documentation of the PC or SMDR device before fabricating a cable.

2. Connect the other end of the RS-232C cable to the local programming terminal or SMDR device.

Figure 5-1. RS-232C connection

Main Cabinet (CN6) RS-232C			Prog. Term. or SMDR Printer RS-232C		
Signal Name	Pin No. and Connection				Signal Name
	DB-25		DB-9	DB-25	
TD	2		2	3	RD
RD	3		3	2	TD
CTS	4		1	8	CD
RTS	5				
DSR	6		4	20	DTR
SG	7		5	7	SG
CD	8		7	4	RTS
			8	5	CTS
DTR	20		6	6	DSR
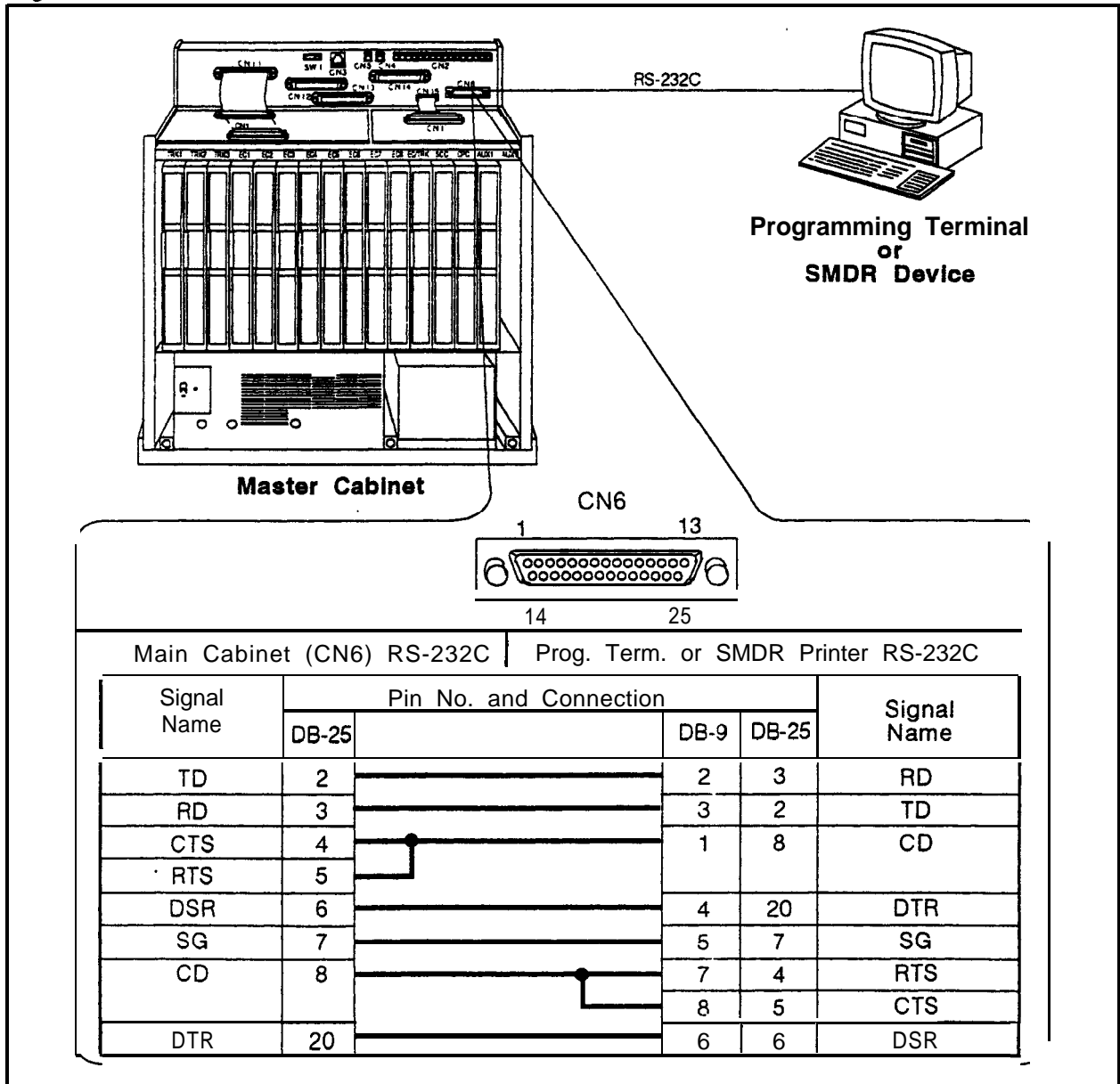
Figure 5-2. SMDR Format for CPC-AII and CPC-B Version 3.1 or higher

```
                1         2         3         4         5         6         7
     0123456789012345678901234567890123456789012345678901234567890123456789012345 67

     1   2      3        4       5             6                        7          8    9
     T MM/DD HH:MM:SS HH:MM.SS  NNN  DDDDDDDDDDDDDDDDDDDDDDDDDDDDD  AAAAAAAAAA VVVVV NN
```

1=Call type
  S=Inbound DISA
  s=Outbound DISA
  I=Incoming
  O-Outgoing
  T=Transfer (See Note 1.)
  N=DNIS
  D=DID

2=Date
  MM=month
  DD=day

3=Call start time
  HH=hours
  MM=minutes
  SS=seconds

4=Call duration
  HH=hours
  MM=minutes
  SS=seconds

5=Extension number
  10-69, 100-699=extensions
  CO number=DISA

6=Dialed digits or Caller ID
  DD=digits 0-9 or symbols * or #
  (See Note 2.)

7=Account code
  A=0-9999999999

8=Verified account code or walking
  COS code
  V0000-V9999=verified account codes
  W0000-W9999=walking COS codes

9=Trunk Number
  NN=number (01-64)

Notes :
1. Transferred calls include direct and **group** call pickups **and** conference calls.
   If a station call *is transferred to an* outside number, an **SMDR** record is
   also created for the station that is transferred.
2. The • symbol appears as a greater-than sign (>) on the SMDR printout; the # symbol
   appears as **a** less-than sign (<). **Centrex** and PBX codes, as well as LCR **access** codes, do
   not appear **as** dialed digits. If the Caller ID Feature is installed and enabled,
   *Private" appears with calls that have restricted Caller ID display and "Out of Area"
   with long distance calls that do not provide Caller ID information.

Remote Administration Interface (RAI)

Guidelines

- The RAT is a modem card that installs on the SCC card. The card is used to remotely administer the system through a trunk line.

- Two versions of the RAI card are available. Both versions use 1 Stop bit, 8 data bits, and no parity. The RAI-A card has a fixed baud rate of 300. The RAI-B card supports both 300 and 1200 baud operation. The following table shows the transmission rate of each card along with the SCC version compatibility.

Table 5-2. RAI compatibility

RAI Version/Part No.	Transmission Parameters	SCC Compatibility
RAI-A (VB-43706)	300 bps, 1 stop bit, 8 data bits, no parity	SCC-A or SCC-B
RAI-B (VB-43707)	300 bps/1200 bps, 1 stop bit, 8 data bits, no parity	SCC-B only

Installation

- Remove the upper cover of the SCC card.

  Jumper 1 (J1) on the RAI-B controls the transmission rate. When closed, the transmission rate is switchable from 300 bps to 1200 bps through system programming. When open, the rate is fixed at 300 bps.

- Connect the RAI card to the connector on the SCC card.

  The RAI-A connects to CN3. RAI-B connects to CN2 and CN3.

- Replace the upper cover of the SCC.

  Note: To adjust the output level of the RAI, set switch 4 as shown in Figure *5-3.*

Figure 5-3. RAI connection
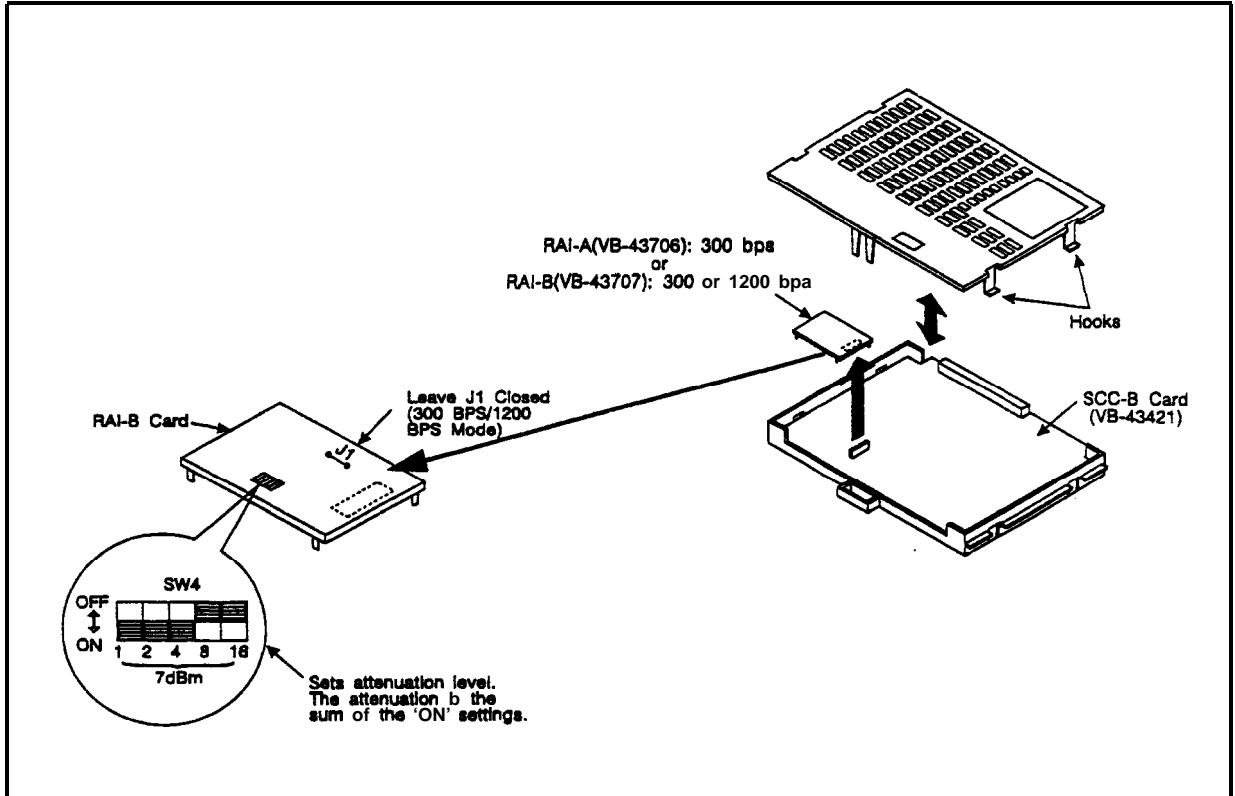
Background Music/Music-On-Hold

Guidelines

- A single music source can be used for both background music (BGM) and music-on-hold (MOH), or separate music sources can be used for each feature.

- If a single music source is used for both MOH and BGM, the music source connects to CN5 on the Connector Panel. If separate sources are used, the MOH source connects to CN5, and the BGM source connects to the BGM connector on the SCC card.

- If an FM radio is connected to the BGM connector on the SCC, install it at least 16.5 ft. (5m) away from the main cabinet. If it is too close, the receiver may not function properly.

- The maximum input impedance of both terminals is 10k ohms. The maximum signal level is -10 dB.

- Beginning with CPC-AII and CPC-B Version 7.0, an internal hold tone may be selected in programming. If selected, the internal hold tone will always be used even if a sound source is connected to MOH connector CN5.

Installation

1. If you are using a single source for both BGM and MOH, connect the source to CN5 on the Connector Panel. If using separate sources, connect the MOH source to CN5 and the BGM source to the BGM connector on the SCC card.

2. Strap the CN5 block (SCC-A) or the CN4 block (SCC-B) according to the number of music sources used.

To route the music from . . .	Do this . . .
A single source	Short pin 3 to 2.
Separate sources	Short pin 1 to 2.

Note: To change the volume levels of the music sources, adjust the variable resistors on the SCC card.

Table 5-3. SCC variable resistors

Variable Resistor	Purpose
SCC-A	
VR1	Adjusts CO ringing tone volume.
VR5	Adjust MOH and BGM volume.
SCC-B	
VR1	Adjusts MOH volume.
vR2	Adjust BGM volume.
VR6	Adjusts CO ringing tone volume.

Figure 5-4. Installation of music-on-hold and background music
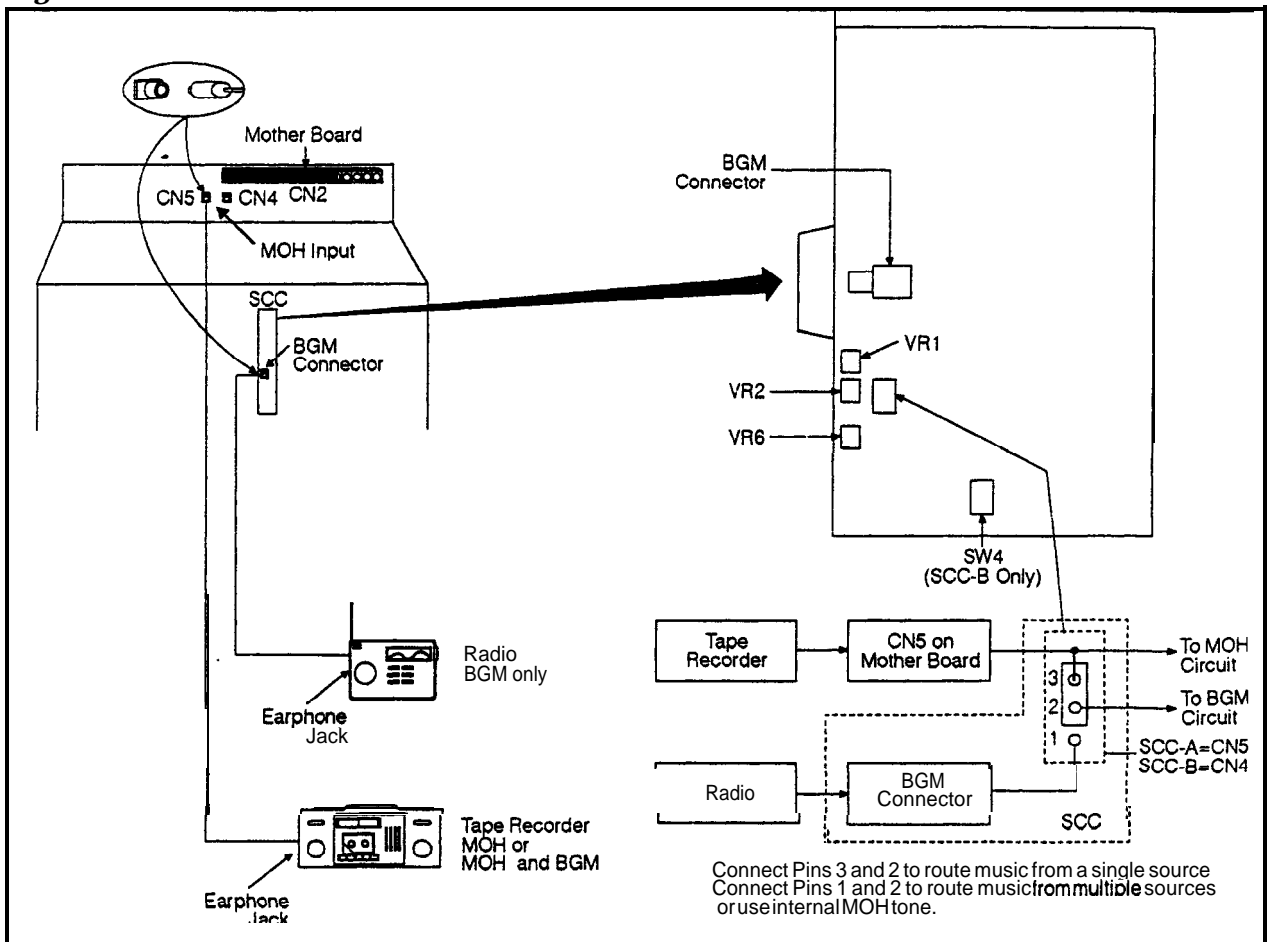
Off-Premises Adaptor (OPX)

Guidelines

- Analog phones can be connected as off-premise stations through a direct line to the DBS or through the central office, depending on how far the stations are from 'the OPX Adaptor.

  Table 5-4 shows how far the OPX stations can be from the adaptor without going through a CO.

Table 5-4.   Maximum distances for direct connection to OPX stations

Wiring gauge	Max. distance (in feet) between the OPX Adaptor and the OPX station
AWG 22	27877
AWG 24	17532
AWG 26	11025

- One OPX Adaptor (VB-43702) is required for each OPX station.

- The ringing output of the OPX Adaptor is 225 Vp-p (peak-to-peak) at 20 Hz.

- When OPX stations are connected through the central office, an external ringer supply may be required. If required, the ringing supply is connected to the OPX Adaptor.

- Order an OL13C circuits for OPX stations connected through a CO.

- The following tools are required to install the OPX Adaptor:

  - Phillips screwdriver

  - Needle-nose pliers

  - Diagonal shears.

Installation

The following procedures describe direct OPX connection and OPX connection through a CO. Order an OL13C circuit for an OPX through a CO. Refer to Figure 5-6 on page 5-13 when installing the OPX.

Installing an OPX Station Without Going Through a Central Office

1. Remove the cover from the OPX Adaptor.

2. Remove the cable punch-out plate (Figure 5-12) to make an opening for the cables coming into the OPX Adaptor.

   To remove the plate, cut the grooves on either side with diagonal shears. Then bend the plate back and forth with needle-nose pliers to remove it.

Figure 5-5. Cable punch-out plade, OPX Adaptor
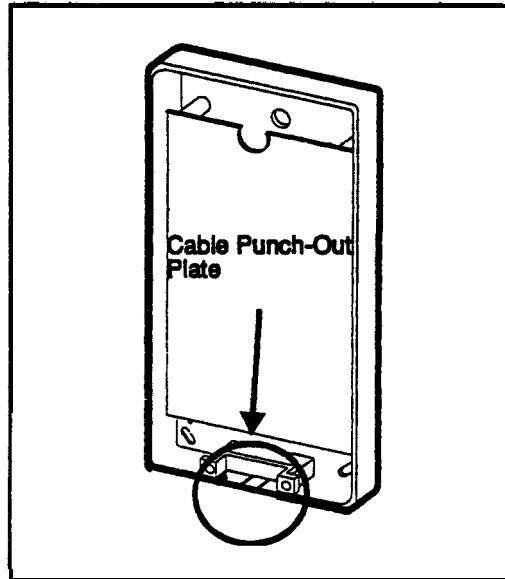
3. Mount the OPX Adaptor to the wall.

   Note: Table 5-5 shows how far the Adaptor can be located from the DBS.

Table 5-5. Maximum distances for OPX Adaptor installation

Wiring gauge	Max. distance (in feet) between the DBS and OPX Adaptor
AWG 22	309
AWG 24	194
AWG 26	122

4. Connect the "R" and "T" leads to a digital extension port on the DBS.

5. Connect the "GND" lead on the OPX Adaptor to the DBS Frame Ground screw.

6. Connect the "TR" and "'IT" leads to the OPX station.

7. Install the cover on the OPX Adaptor.

8. Turn the system off and back on, or unplug the cable connected to the digital extension and then plug it back in.

Installing an OPX Station Through a Central Office

1. Perform Steps 1 through 5 of "Installing. an OPX Station Without Going Through a Central Office" on page 5- 11.

2. Connect the "TR" and "TT" leads to the central office.

    Note: If the central office requests a ground on the tip side of the OPX, strap Pins 1 to 2 on CN3.

3. If the ringing level at the OPX station is not sufficient, connect a ringing supply to the "E-RG+" and "E-RG-" terminals on the OPX Adaptor.

    Note: Signals to the external ringer should not exceed 300 Vp-p.

4. If a ringing supply is used, cut Straps J1 and J2 on the OPX Adaptor.

5. Install the cover on the OPX Adaptor.

6. Power the system down then back up, or unplug the cable connected to the digital extension, then plug it back in.

Figure 5-6. OPX installation

To a DBS
digital line
port

R
T

IC4

IC5

(Terminals
for external
ringing source)

E-RG+
E-RG-

J2 J1

TR
TT
GND

To the DBS
Frame Ground
screw

To off-premise
SLT or
demarcation
block

1 CN3 3

Off-Premise
Extension Adaptor
(VB-43702)
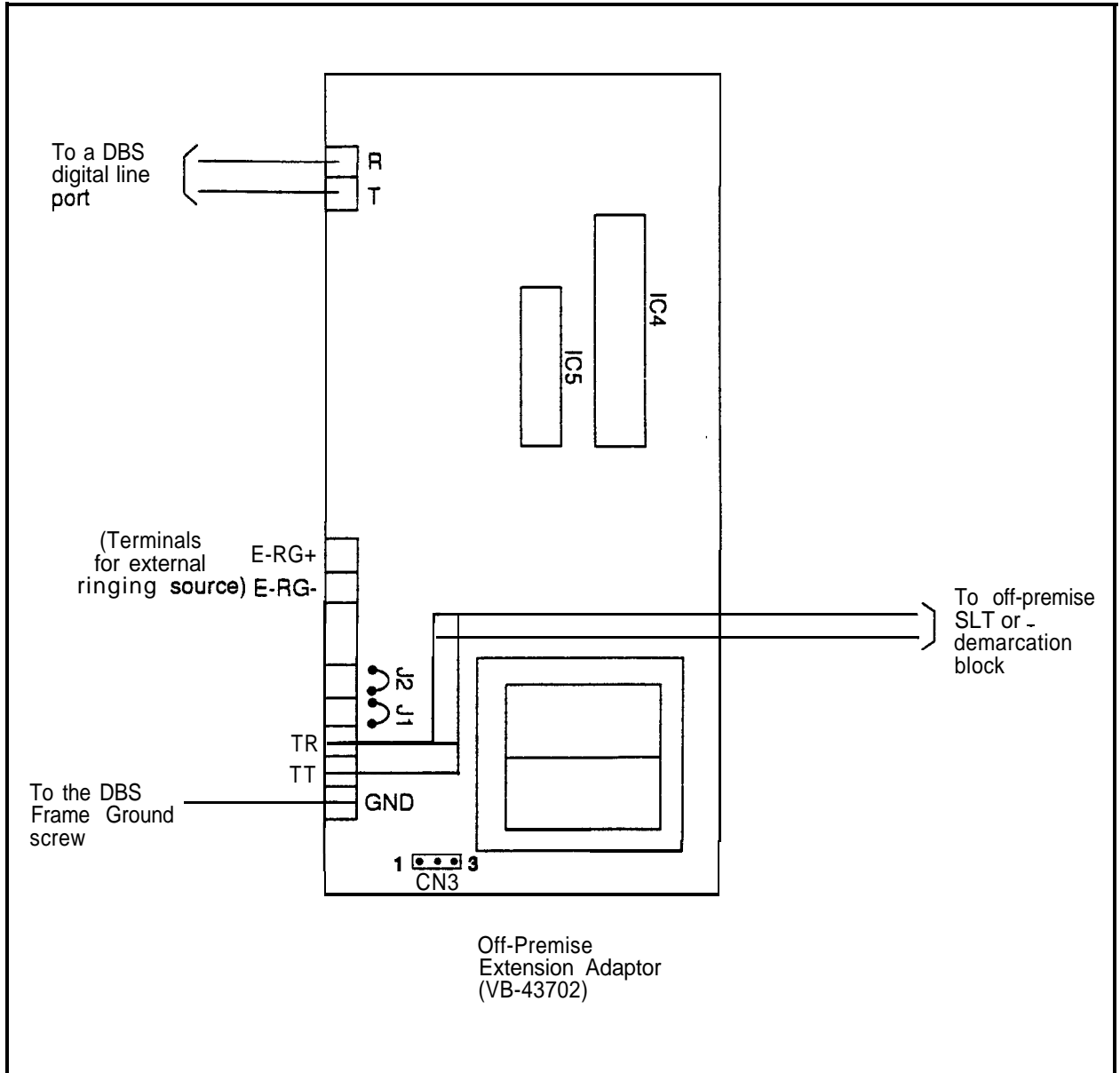
Paging

The DBS allows extensions to be grouped into paging groups numbered 00-07. When you issue a page (by dialing #00-#07), you specify a paging group, so that your announcement is heard over the key telephones and Digital Single Line Telephones that are members of that group. Paging groups often include people whose work is related.

External zone paging allows you to connect up to five speaker groups to the DBS. Each speaker group is assigned to one of five paging zones (00-04). Zone 00 corresponds to group 00. When you page group 00, your page is heard over the All-Page Speaker(s) as well as all other external zones. Zones 0 1-04 correspond to groups 0 1-04. For example, when you page group 02, the page is heard on the external speaker(s) assigned to zone 02. Paging groups 05-07 have no external paging zones.

If zone paging is not required, general paging relay terminals C (common), B (break) and M (make) are also provided. The relay terminals activate any time there is a page to an external page group. These are used when paging and UNA use the same paging amplifier system. (See notes for more information.)

Guidelines

- The paging amplifier, zone relays, and speakers are not provided with the DBS. They must be purchased separately.

- The maximum current for each zone paging terminal on the Connector Panel (Z0-Z4) is 50 mA; the resistance of the relay used for each zone paging terminal must be 2600 to 2800 Ohms.

- The contact rating for the UNA/General Paging "C" and "M" terminals is 30V DC, 1 amp (maximum).

- Connector 4 (CN4) on the Connector Panel is used to connect the paging amplifier. The output impedance of CN4 is 600 Ohms; the loss/gain setting is 0 dB.

External Page Zone Installation

1. Connect the paging amplifier to CN4 on the DBS Connector Panel. (See Figure 5-7 on page 5- 15.)

2. Connect the paging speakers to the amplifier and relays.

3. Connect the zone relays to the amplifier.

4. Connect the zone relays to the +24V and zone paging terminals (20-24)
    on the Connector Panel.

'igure 5-7. External zone paging installation

Note: This is a simplified example
to show how the connections
operate. A more elaborate paging
system may be installed to balance
volume levels, etc.
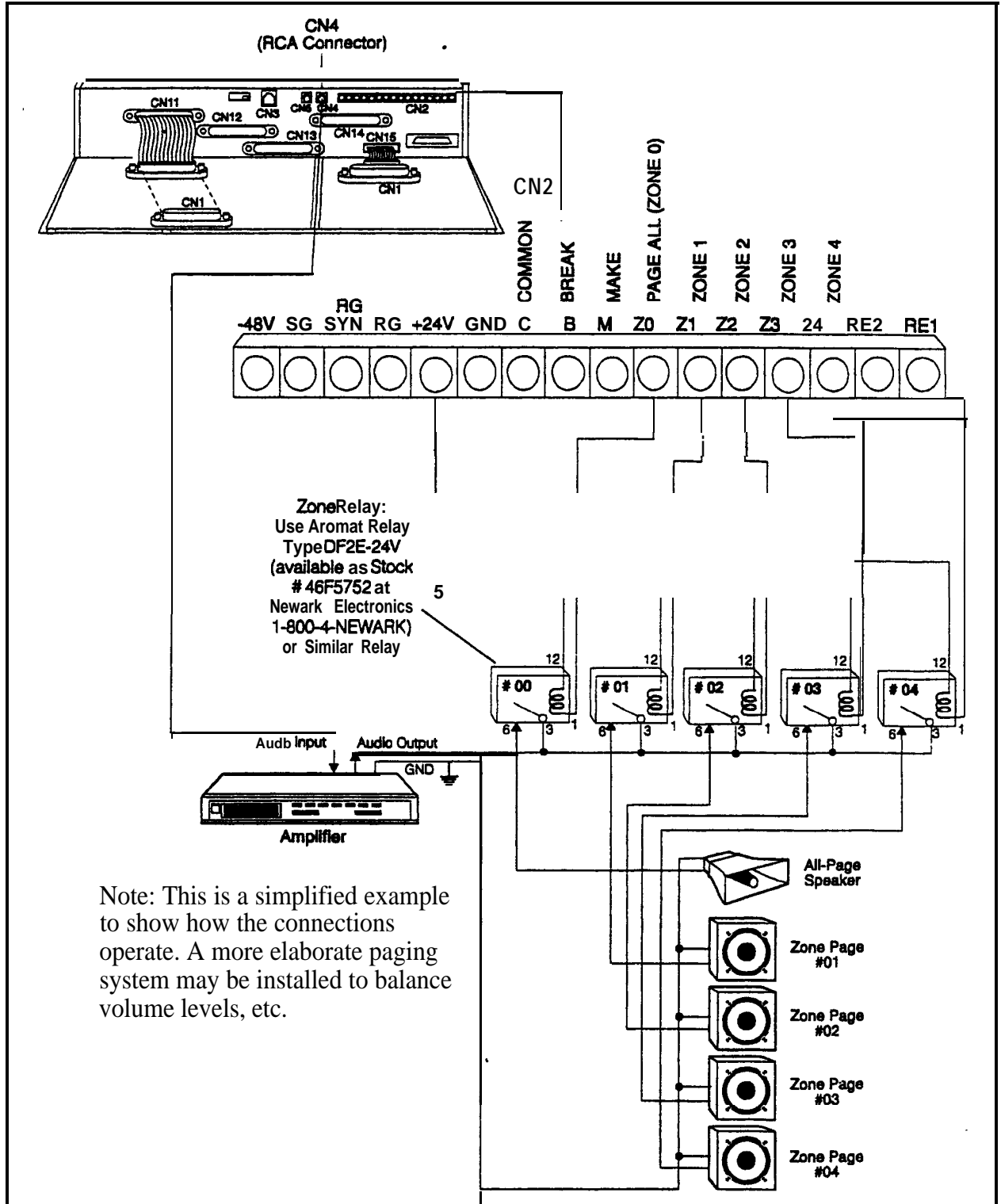
External General Page/UNA Installation

Use this procedure to connect a general page system, connect UNA over a page system or connect a combined page/UNA system.

1. Connect CN4 on the DBS Connector Panel to the audio input of the paging amplifier. (See Figure 5-8.)

2. Connect the audio output of the amplifier through the C and M relay terminals to the speaker(s) as shown in Figure 5-8.

Figure 5-8. External general page/UNA installation
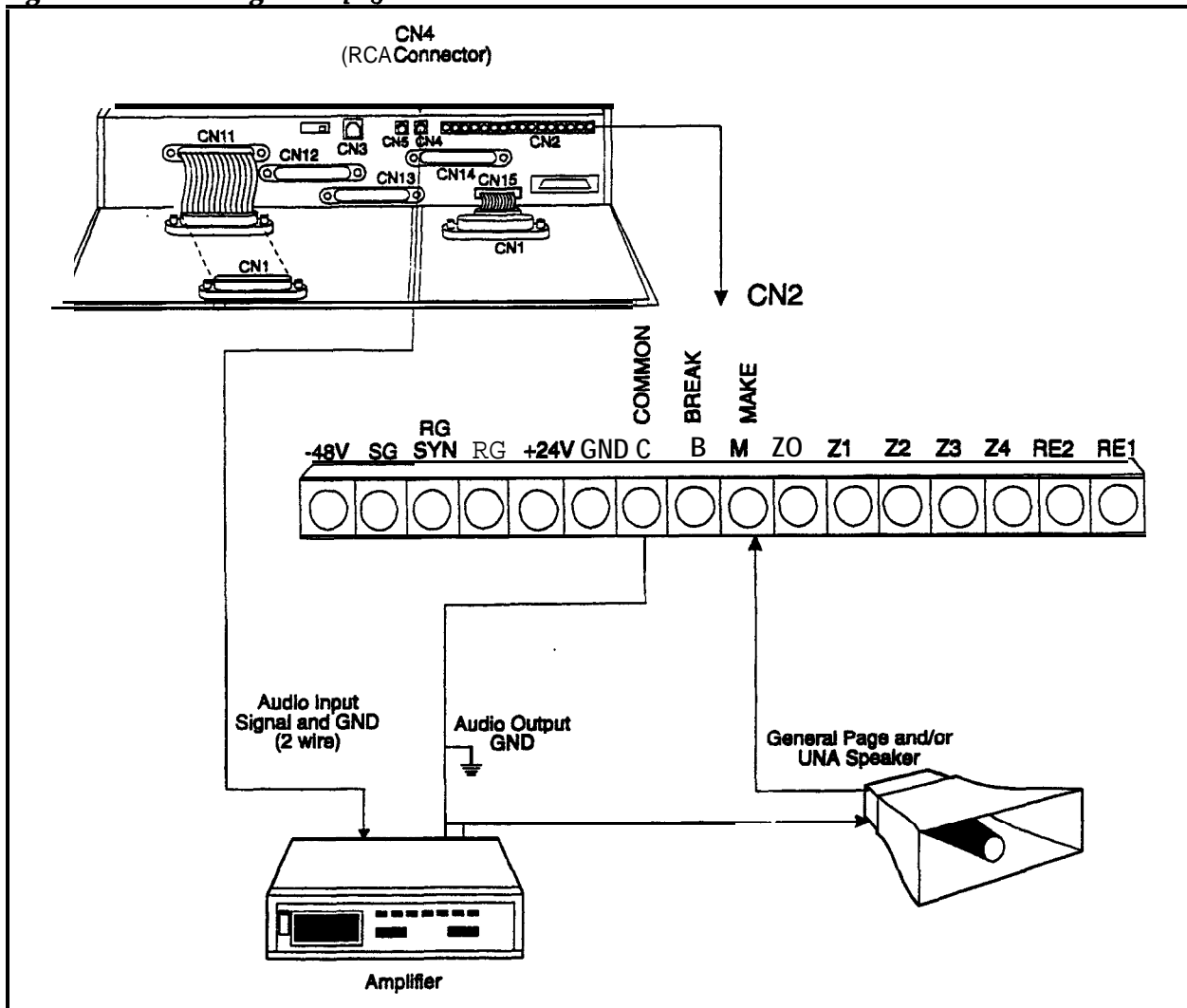
Notes:

- Instead of the described combined Paging/UNA configuration, most often Universal Night Answer notification is provided by an external ringer device. (See "External Ringer (UNA Device)" on page 5-17 for more information on UNA external ringer device installation.)

- If UNA operates over the paging system, the Audio Output of CN4 provides the Audio Ringback sound to be heard over the paging system when a trunk rings UNA.

- If UNA operates over the paging system, the UNA ringing will always takes precedence over paging. When a page is interrupted in progress, the pager must hang up and wait until after UNA ringing ends to reinstate the page.

- If UNA rings over the paging system, set the Ring Patterns for UNA Terminals (M, C, & B) to continuous ring burst (FF12# 4#1# 1#). This sets the contacts to remain continuously activated during the UN.4 ring broadcast.

External Ringer (UNA Device)

Guidelines

- An external ringer device can be used to alert users when Universal Night Answer (IJNA) calls come in.

- The external ringer device is not provided with the DBS. It must be purchased separately.

- UNA calls can also be set to ring over an external paging system. See "Paging" on page 5-14 for more information. This alternate connection is preferred when both paging and UNA are required.

- The contact rating for the "C" and "M" terminals is 30V DC, 1 amp (maximum).

Installation

1. Connect the external ringer to the "C" and "M" terminals on the Connector Panel. (See Figure 5-9 on page 5-18.)

    Note: When the Ring Patterns for UNA Terminals (M, C, & B) programming command (FF1 2# 4# 1# (0 or 1)# is set to 0, connecting the ringer to the "C" and "M" terminals provides a "1 second on/3 seconds off" ringing pattern and connecting to "C" and "B" terminals provides a "1 second off/3 seconds on" ringing pattern.

2. Connect the external ringer to its DC power source.

Figure 5-9. External ringer (UNA device) installation
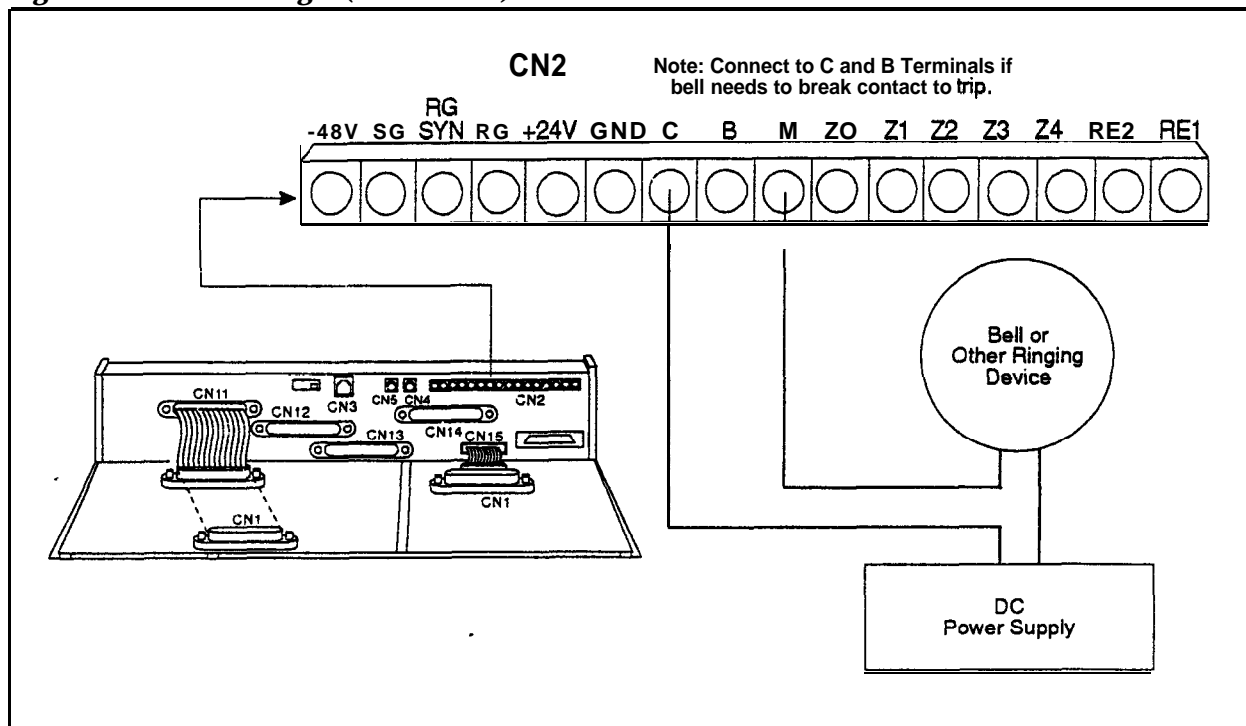
Notes:

*   Most often, Univeral Night Answer notification is provided by an external ringer device. Universal Night Answer (UNA) can alternatively be set to ring over the paging system. See "Paging" on page 5-14 for more information.

*   If UNA operates over a external ringer device, it is not recommend that external paging also be used. Since contacts C, B and M activate for both UNA calls and external pages, the external ringer device would turn ON for all pages.

Power Failure Unit

Guidelines

- Up to four SLTs can be connected to the Power Failure Unit (VA-43703). If a power failure occurs, the SLTs will automatically receive dial tone directly from the central office. DBS features and restrictions do not apply when the SLTs are receiving dial tone from the CO.

- If a call is in progress through the Power Failure Unit (PFU) when the power is restored, the call will be disconnected.

- The following tools are required to install the PFU:

    - Phillips screwdriver

    - Needle-nose pliers

    - Diagonal shears.

Installation

1. Remove the cover from the Power Failure Unit (PFU).

2. Remove the cable punch-out plate (Figure 5-12) to make an opening for the cables coming into the PFU.

   To remove the plate, cut the grooves on either side with diagonal shears. Then bend the plate back and forth with needle-nose pliers to remove it.

Figure S-10. Cable punch-out plate 'ower Failure Unit
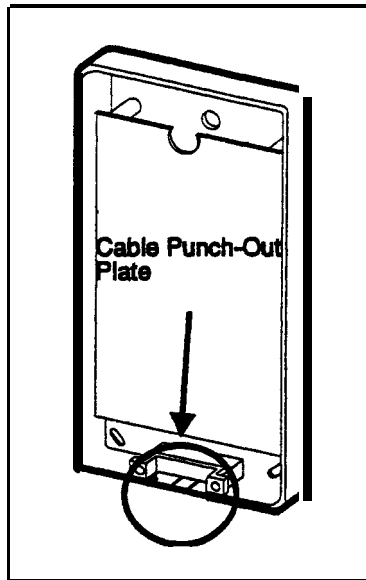
3. Mount the PFU on the wall using the three screws provided with the unit. (See Figure 5-11.)

4. Connect the trunks from the central office to the PFU.

5. Connect the SLTs to the AEC extension ports on the PFU.

6. Connect the trunks from the DBS to the PFU.

7. Connect the AEC ports from the DBS to the PFU.

   When a power failure occurs, AEC "A" is switched to Trunk "A," AEC "B" is switched to Trunk "B," and so on.

8. Connect the +24V and GND terminals from CN2 on the DBS Connector Panel to the PFU.

9. Install the cover on the PFU.

Figure 5-11. Power Failure Unit (PFU) installation

From the Main Cabinet
- AEC Extension Port No. A
- AEC Extension Port No. B
- AEC Extension Port No. C
- AEC Extension Port NO. 0

To the Main Cabinet
- TRK Port No. A
- TRK Port No. B
- TRK Port No. C
- TRK Port No. D

CN5

⁵/₁₆ in.

AEC Extension Port No. A
AEC Extension Port No. B
AEC Extension Port No. C   To SLT
AEC Extension Port No. D

Trunk Line A
Trunk Line B   To the Central Office
Trunk Line C
Trunk Line D

To +24V and GND on CN2 of the Main Cabinet (no polarization)

Power Failure Unit (VA-43703)

Voice Announce Unit (VAU)

Guidelines

- Operating temperatures for the Voice Announce Unit (VB-43708) should be between 35 and 105° F.

- Maximum loop resistance for the VAU is 10 Ohms.

- The VAU contains a rechargeable lead-acid battery. Recharging circuity for the battery is included on the VAU.

- The ports used for the VAU must have all-FF key assignments cleared before voice messages and abbreviated dial numbers are programmed.

- The following tools are required to install the VAU:

    - Phillips screwdriver

    - Needle-nose pliers

    - Diagonal shears.

installation

1. Remove the cover from the Voice Announce Unit.

2. Set SW 1 and SW2 according to the following tables. (Default settings are italicized.)

    See Figure 5-14 for the location of the switch blocks.

Table 5-6. Switch settings for SW1, VAU

Switch Block 1 (SW1)	
Switch	**Function**
1	**ON=Enable blind transfer**
	OFF=Disable blind transfer
	(VAU chip 1.1 or later is required for blind transfer.)
2	ON=Small DBS
	OFF=DBS and DBS 824
3	ON=Two messages up to 16 seconds each
	OFF=One message up to 32 seconds

Table 5-7.   Switch settings for delay answer timing, VAU

Switch Block 2 (SW2) Delay Answer Timer (Switches l-3)								
Switch	**Timer (in seconds)**							
	4	8	12	16	20	24	28	No Answer (VAU 1.1 or below) or Immediate Answer (VAU 1.2 or above)
1	OFF	OFF	OFF	**OFF**	**ON**	**ON**	**ON**	**ON**
2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Table 5-8.   Switch settings for DTMF detection timing, VAU

DTMF Detection Timer		
VAU Version	**Switch block and switch**	**Function**
1.1 or above	SW2, pin 4	ON=80 ms OFF=40 ms
1.0 or below	SW1, pin 1 and SW2, pin 4	Where X/X=SW 1 setting/SW2 setting: ON/ON=40 OFF/ON=60 ON/OFF=80 OFF/OFF= 100

Table 5-9.   Switch settings for wait timing between dialed digits, VAU

Switch Block 2 (SW2) Wait Time Between Dialed Digits (Switches 5-6)				
Switch	**Time (in seconds)**			
	2	6	10	14
5	OFF	OFF	ON	ON
6	OFF	ON	**OFF**	**ON**

Table S-IO. Switch settings for abbreviated dialing digit length, VAU

Switch Block 2 (SW2) Abbreviated Dialing Digit Length (Switches 7-8)			
Switch	**Number of Digits**		
	1 Digit	**2** Digits	**3 Digits**
7	OFF	OFF	ON
8	OFF	ON	**OFF**

3.   Remove the cable punch-out plate (Figure 5-12) to make an opening for the cable coming into the VAU.

     To remove the plate, cut the grooves on either side with diagonal shears. Then bend the plate back and forth with needle-nose pliers to remove it.

Figure 5-12. Cable punch-out plate, Voice Announce Unit
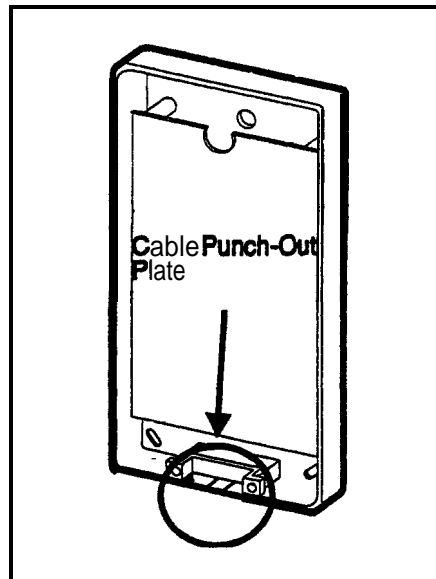
4.   Mount the VAU on the wall using the three screws provided with the unit. (See Figure 5- 14.)

5.   Connect the extension cable from the DBS to CN1 on the VAU.

     Note: The two inside pins on CN1 are port 1. The two pins on either side are port 2, as shown in Figure 5-13.

Figure S-13. Extension cord connection to the VAV
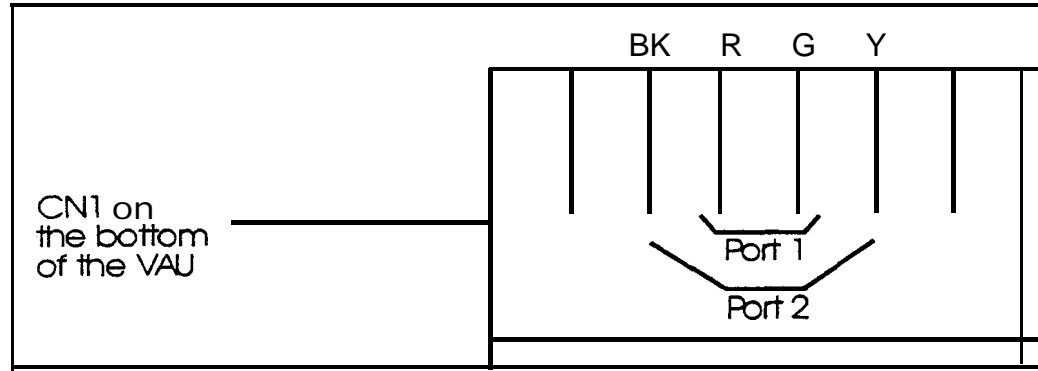
6. Install the cover on the VAU.

Figure 5-14. Voice Announce Unit (VAU) installation

Recording and Playing Messages

You can record the VAU messages from either an extension or a trunk.

Notes: You must use a DTMF telephone to record and play VAU messages. To change existing messages, record over them.

To record and play messages, complete the following steps.

1. Do one of the following:

If . . .	Then. . .
You are recording or playing from an extension	Take your phone off hook.
	Dial the VAU extension number. (If the intercom is set for Voice, dial 1 to change from Voice to Tone.)
You are recording or playing from a trunk	Dial the phone number of the VAU, or call in and have the operator transfer you to the VAU extension.

2. After the VAU answers, do one of the following:

If . . .	Then . . .
You want to record the first message	Dial * 98 1
	Wait for a beep. After the beep, record the message.
You want to record the second message	Dial * 98 2
	Wait for a beep. After the beep, record the message.
You want to play the first message	**Dial*971**
	The VAU plays the message.
You want to play the second message	**Dial*972**
	The VAU plays the message.

Notes: You can enter the *97 codes again to replay messages without ending your call. You can only record one message at a time. To record another message, you must end your call and redial the VAU.

3. When the operation is complete. put the phone on hook.

Note: For more inforrnation on the VAU and its operation, see Section 770, "Voice Announce Unit User Guide."

Door Box Adaptor (Trunk Port)

Guidelines

There are two types of door phone adaptors available for the DBS. The first type (VB-43701) utilizes a trunk connection to connect to the door box and is described below. The second type (VB-437 11) utilizes a digital port extension to connect to the door box and door opener. See"Door Box Adaptor (Extension Port)" on page 5-31 for more information.

Each Door Box Adaptor (VB-43701) can be used to connect one door sensor and up to two Door Boxes (VA-43705) equipped with door openers. Door openers and door sensors are not sold by Panasonic; they can be purchased separately from an electronics dealer.

Door Sensors

- A door sensor is similar to an alarm; different types of sensors detect different things, such as a door opening, moisture, heat, etc. When the sensor is tripped, a trunk rings on a dedicated key. You can reset the "alarm" by answering the key.

- To set up a sensor, assign a trunk to ring at a phone, and then assign that trunk to an FF key.

- Each sensor uses one trunk port.

Door Boxes with Door Openers

- Door-Boxes and door openers work together. The Door Box allows visitors to announce their presence from outside the office. The door opener enables a user to unlock the door using a telephone.

- To set up the Door Box and opener, assign a trunk to ring at a phone and then assign that trunk to an FF key.

- When a visitor is announced from the Door Box, the user presses the ringing FF key to answer the call. Then, to open the door, the user dials 3.

- The door opener can be set to open the door for 15 seconds, 30 seconds, or one minute.

- Up to two Door Boxes with openers can be connected to a Door Box Adaptor.

- Each Door Box and opener use one trunk port.

Requirements

- Trunks used for Door Boxes and openers must be set up as dial pulse trunks.

- Equipment combinations used with the Door Box Adaptor require the number of trunks in the following table:

Ifyouuse...	The adaptor uses
1 sensor and 1 Door Box/opener	2 trunks
1 sensor and 2 Door Boxes/open-ers	2 trunks
1 sensor	1 trunk
1 Door Box/opener	1trunk

- The following tools are required to install the Door Box Adaptor:

    - Phillips screwdriver

    - Needle-nose pliers

    - Diagonal shears.

Installation

1. Remove the cover from the Door Box Adaptor.

2. Set the switches in the Door Box Adaptor as shown in Figure 5-16.

3. Remove the cable punch-out plate Figure 5-12 in order to make an opening for the cables coming into the Door Box Adaptor.

   To remove the plate, cut the grooves on either side with diagonal shears. Then bend the plate back and forth with needle-nose pliers to remove it.

Figure S-15. Cable punch-out plate   )oor Box Adaptor
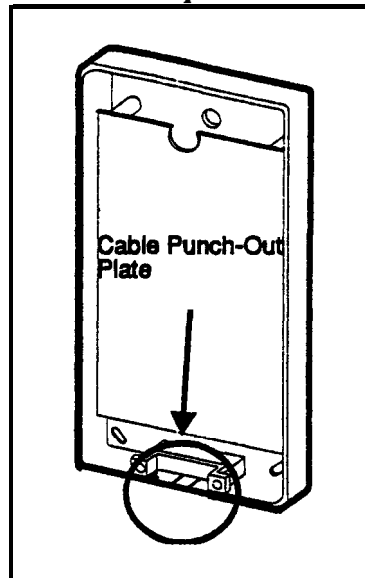
4. Mount the Door Box Adaptor on the wall using the three screws provided with the unit.

5. Connect the trunk line(s) to the Door Box Adaptor, as shown in Figure 5-16.

    The "COD' connector is used for the Door Box and opener. The "CO.S" connector is used for the sensor.

6. Connect the Door Box, door opener, and sensor to the Door Box Adaptor.

Figure 5-16. Installation of the door box, door opener, and door sensor

	Sensor Type	ON	Detect-Close
1		OFF	Detect-Open
2	Sensor Detection Tone	ON	Sounds During Detect
		OFF	Sounds Until Reset

Door Box Call Time	Dip SW		
	3	4	5
15 Sec	ON		
		OFF	OFF
30 Sec		ON	
	OFF		Off
60 Sec			ON
	OFF	OFF	

Door Opener Operation Time	Dip SW		
	6	,	8
1 Sec	ON		
		OFF	OFF
3 Sec		ON	
	OFF		OFF
5 Sec			ON
	OFF	Off	

Door Box Aaaptor W-43701)

Contact Ratings for Opener 1 and 2:

120V AC: 0.3 amps
30V DC: 1 amp

Door Opener Contact Short Occurs During Trip of Relay

GND CO,D CO,S
+24V

Opener 2   DPH 2
Sensor Opener 1   DPH 1

CN2

MDF

CN1

GND +24V

+24V GND

DBS 40

DBS 72/DBS 96

Sensor   Door Opener 1   Door Box 1

Door Box **Adaptor** (Extension Port)

Note: There are two types of door phone adaptors available for the DBS. The first type (VB-43701) utilizes a trunk connection to connect to the door box. See "Door Box Adaptor (Trunk Port)" on page 5-27 for more information. The second type (VB-43711) utilizes a digital port extension to connect to the door box and door opener and is described below.

Guidelines

- The Door Box Adaptor (VB-43711) requires a door opener. In addition, a Door Box (door phone) (VA-43705) is normally used with the Door Box Adaptor. The door opener is not sold by Panasonic; it can be purchased separately from an electronics dealer.

- Each Door Box and opener use one extension port.

Installation

1. Remove the cover from the Door Box Adaptor.

2. Remove the cable punch-out plate (Figure 5-17) in order to make an opening for the cables coming into the Door Box Adaptor. To remove the plate, cut the grooves on either side with diagonal cutters. Then bend the plate back and forth with needle-nose pliers to remove it.

Figure 5-1 7. Cable punch-out plate)oor Box Adaptor
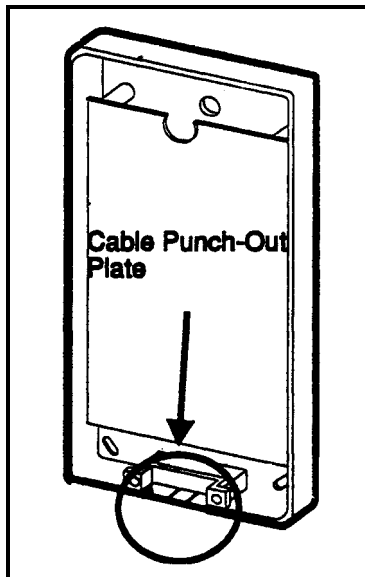
3. Mount the Door Box Adaptor on the wall using the three screws provided with the unit.

Figure 5-18. Installation of the door box, door opener

To Ext. Port

To Door Box
and Door Opener

5/16 in.

Door Box Adaptor
(VB-42711)

Contact Ratings for
Opener

120V AC: 0.3 amps
30V DC: 1 amp
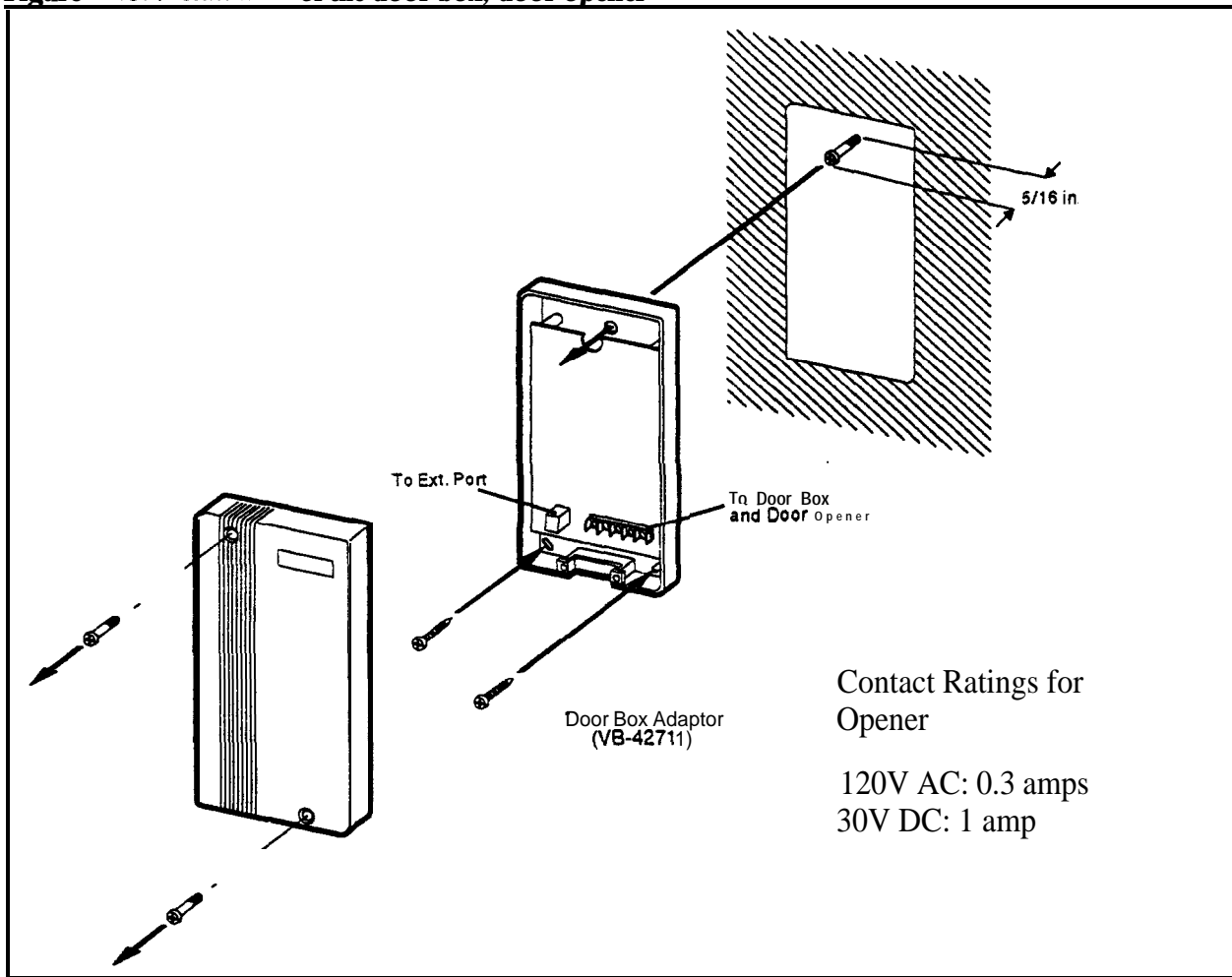
4. Connect the extension line to the Door Box Adaptor, as shown in Figure
    5-19.

Figure j-19. Connections to the Door Box Adaptor
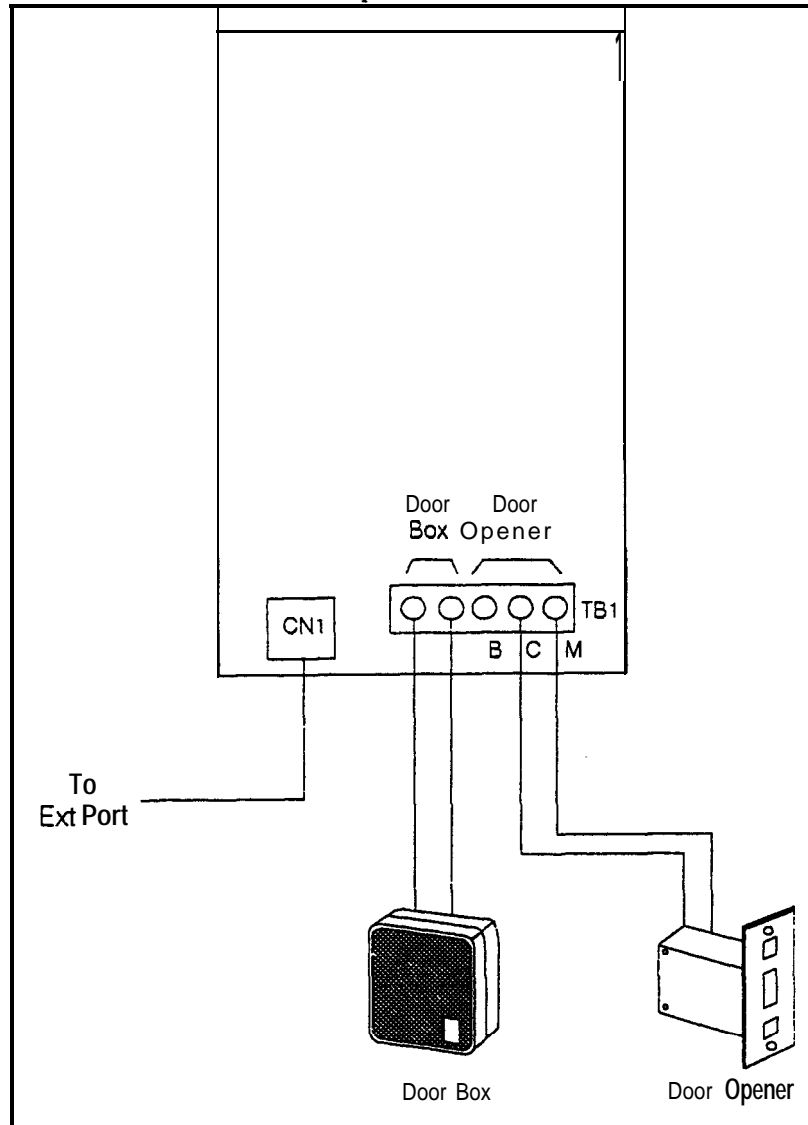
5. Connect the Door Box and door opener to the Door Box Adaptor.

Single Line Telephone Adaptor

Guidelines

- The Single Line Telephone Adaptor (SLTA. VB-43709) provides an alternative way of connecting analog DTMF telephones (2500 sets). One SLTA supports up to 4 Single Line Telephones.

- Each SLT extension requires a digital extension port connection to the SLTA.

Installation

1. Remove the cover from the SLTA.

2. Remove the cable punch-out plate (Figure 5-20) to make an opening for the cables coming into the SLTA.

   To remove the plate, cut the grooves on either side with diagonal cutters. Then bend the plate back and forth with needle-nose pliers to remove it.

Figure S-20. Cable punck-out plate, SLTA
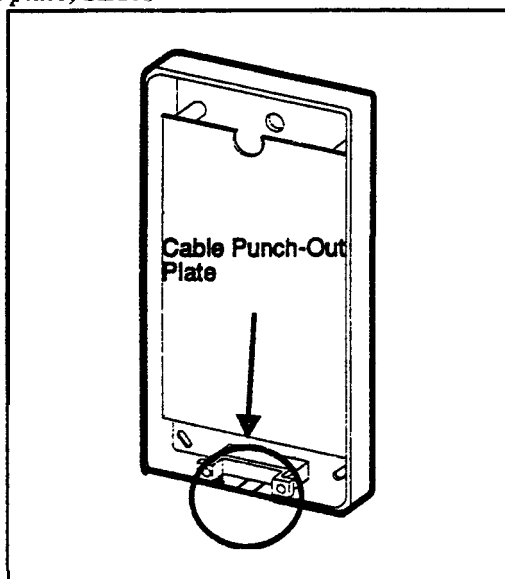
3. Mount the SLTA to the wall (see Figure 5-21).

   Note: Table 5-11 shows the maximum distance the SLTA can be located from the DBS.

Table S-11. Maximum distances for SLTA installation

Wiring gauge	Max. distance (in feet) between the DBS and SLTA	Max. distance (in feet) between the SLTA and the SLT
AWG 22	300' or 10 Ω	3000' or 100 Ω
AWG 24	190' or 10 Ω	1900' or 100 Ω
AWG 26	120' or 10 Ω	1200' or 100 Ω

4. **If** the DBS is powered up, turn off the power.

5. Connect the GND and **+24V** leads on the SLTA to the DBS connector panel. **Be sure the wires do not touch each other or touch the metal frame housing.**

6. Turn on the DBS power.

7. Connect the "T" and "R" leads to the digital extension ports on the DBS as per Figure 5-21. One digital extension port is required for each SLT.

8. Connect the SLT "T" and **"R"** leads to the **SLTs.**

9. Install the cover on the SLTA.

Figure S-21. SLTA installation

SLTA
(W-43709)
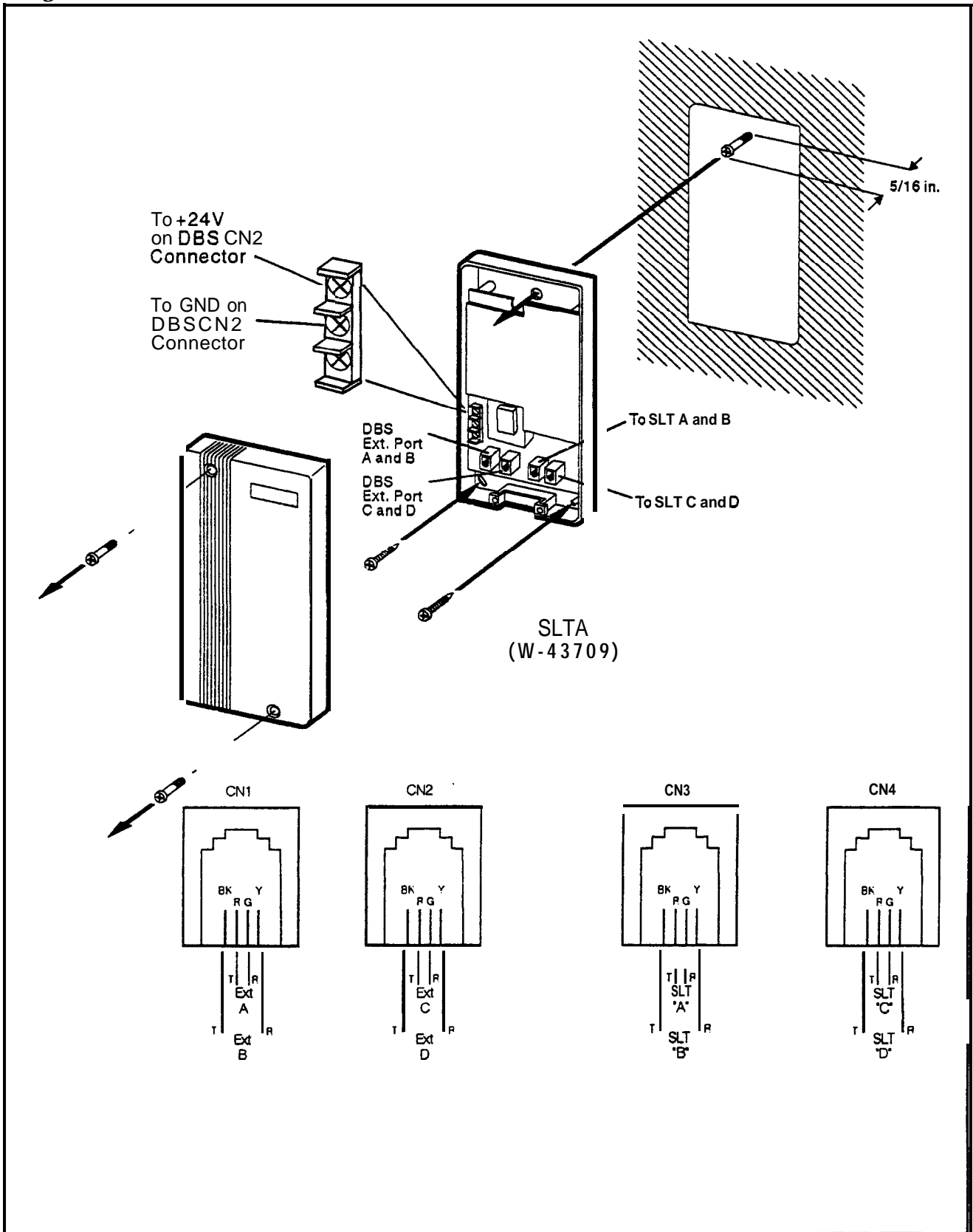
Chapter 6. Double-Cabinet Systems

Two DBS cabinets can be connected in order to increase capacity. This chapter includes connection procedures, as well as capacities for two-cabinet systems.

See Chapter 4 for instructions on installing Tls in two-cabinet systems.

This chapter covers the following topics:

Topic	Page
Guidelines	6-3
Installation	6-10

Guidelines

- Two DBS cabinets can be connected to increase line size. The maximum line size consists of two DBS 96 cabinets, which provide 192 ports.

- CPC-B and SCC-B are required for two-cabinet systems.

- If ground start or DID trunks are used in both cabinets, separate -48V supplies must be supplied for each cabinet. If AECs are used in both cabinets, separate SLT ringer boxes must be supplied for each cabinet.

- The following table shows the acceptable combinations of system types

Table 6-I.   Trunk and extension port maximums for double-cabinet systems

System Combinations		Trunk	Extension	Expansion Ports
Master	Slave	Ports	Ports	(Trunk lines or extensions)
DBS 40	DBS 40	16	48	8 (See Note 1.)
DBS 72	DBS 40	24	72	0 (See Note 2.)
DBS 72	DBS 72	32	96	8 (See Note 1.)
DBS 96	DBS 40	32	88	16
DBS 96	DBS 72	40	112	16
DBS96	DBS96	48	128	16
Notes:				
1. The slave cabinet must be used for expansion ports.				
2. When a DBS72 and DBS40 are connected, expansion ports cannot be used.				

- Figures 6-l through 6-6 shows slot usage for two-cabinet combinations.

Figure 6-1. Slot usage fortwo-cabinet systems. DRS 40 + DRS 40

DBS 40 (Slave)

TRK1	EC1	EC2	EC3	EC/TRK	SCC	CPC	AUX1	AUX2
TRK 9-16	EXT 25-32	EXT 33-40	EXT 41-48	TRK 17-24* or EXT 49-56	N/A	MFR#	MFR#	CBL-S

DBS 40 (Master)

TRK1	EC1	EC2	EC3	EC/TRK	SCC	CPC	AUX1	AUX2
TRK 1-8	EXT 1-8	EXT 9-16	EXT 17-24	N/A	SCC-B	CPC-B	MFR# or API	CBL-M

Notes:

*See "T1 Interface" on page 4-11 for EC/TRK port numbers for T1.

#A maximum of two MFR cards can be installed in a two-cabinet system. With Cable Kit Version 1.1, one MFR is installed in the Master AUX1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. (When two MFR cards are used, Strap S3 on the second card must be cut..)

Figure 6-2. Slot usage for two-cabinet systems, DBS 72 + DBS 40

DBS 40 (Slave)

TRK1	EC1	EC2	EC3	EC/TRK	SCC	CPC	AUX1	AUX2
TRK 17-24	EXT 49-56	EXT 57-64	EXT 65-72	N/A	N/A	MF*	MF*	CBL-S

DBS 72 (Master)

TRK1	TRK2	EC1	EC2	EC3	EC4	EC5	EC6	EC/TRK	SCC	CPC	AUX1	AUX2
TRK 1-8	TRK 9-16	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33-40	EXT 41-48	N/A	SCC-B	CPC-B	MFR* or API	CBL-M

Notes:

*A maximum of two MFR cards can be installed in a two-cabinet system. With Cable Kit Version 1.1, one MFR is installed in the Master AUX1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. (When two MFR cards are used, Strap S3 on the second card must be cut)

Figure 6-3. *Slotusage for two-cabinet svstems. DBS 72 + DBS 72*

DBS 72 (Slave)

TRK 1	TRK 2	EC1	EC2	EC3	EC4	EC5	EC6	EC/ TRK	SCC	CPC	AUX 1	AUX 2
TRK 1-24	TRK 33-40	EXT 49-56	EXT 57-64	EXT 65-72	EXT 73-80	EXT 81-88	EXT 89-96	TRK 41-48* or EXT 97-104	N/A	MFR#	MFR#	CBL-S

DBS 72 (Master)

TRK 1	TRK 2	EC1	EC2	EC3	EC4	EC5	EC6	EC/ TRK	SCC	CPC	AUX 1	AUX 2
TRK 1-8	TRK 9-16	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33-40	EXT 41-48	N/A	SCC-B	CPC-B	MFR# or API	CBL-M

Notes:

*See "T1 Interface" on page 4-11 for EC/TRK port numbers for T1.

Beginning with CPC-B Version 4, the EC/TRK slot in the slave DBS 72 can be used for trunks or lines. Prior to CPC-B Version 4, this slot could only be used for lines.

#A maximum of two MFR cards can be installed in a two-cabinet system. With Cable Kit Version 1.1, one MFR is installed in the Master AUX1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. (When two MFR cards are used, Strap S3 on the second card must be cut.)

igure 6-4. Slot usage for two-cabinet systems, DBS 96 + DBS 40

DBS 40 (Slave)

TRK 1	EC1	EC2	EC3	EC/TRK	SCC	CPC	AUX 1	AUX 2
TRK 33-40	EXT 73-80	EXT 81-88	EXT 89-96	TRK 41-48* or EXT 97-104	N/A	MFR#	MFR#	CBL-S

DBS 96 (Master)

TRK 1	TRK 2	TRK 3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/TRK	SCC	CPC	AUX 1	AUX 2
TRK 1-8	TRK 9-16	TRK 17-24	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33-40	EXT 41-48	EXT 49-56	EXT 57-64	TRK 25-32* or EXT 65-72	SCC-B	CPC-B	MFR# or API	CBL-M

Notes:

*See "T1 Interface" on page 4-1 1 for EC/TRK port numbers for T1.

#A maximum of two MFR cards can be installed in a two-cabinet system. With Cable Kit Version 1.1, one MFR is installed in the Master AUX1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. (When two MFR cards are used, Strap S3 on the second card must be cut.)

Figure 6-5. Slot usage for two-cabinet systems, DBS 96 + DBS 72

DBS 72 (Slave)

TRK 1	TRK 2	EC1	EC2	EC3	EC4	EC5	EC6	EC/ TRK	SCC	CPC	AUX 1	AUX 2
TRK 33-40	TRK 41-48	EXT 73-80	EXT 81-88	EXT 89-96	EXT 97-104	EXT 105-112	EXT 113-120	TRK 49-56* or EXT 121-128	N/A	MFR#	MFR#	CBL-S

DBS 96 (Master)

TRK 1	TRK 2	TRK 3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/ TRK	SCC	CPC	AUX 1	AUX 2
TRK 1-8	TRK 9-16	TRK 17-24	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33-40	EXT 41-48	EXT 49-56	EXT 57-64	TRK 25-32* or EXT 65-72	SCC-B	CPC-B	MFR# or API	CBL-M

Notes:

*See "T1 Interface" on page 4-1 1 for EC/TRK port numbers for T1.

#A maximum of two MFR cards can be installed in a two-cabinet system. With Cable Kit Version 1.1, one MFR is installed in the Master AUX1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. (When two MFR cards are used, Strap S3 on the second card must be cut.)

Figure 6-6. Slot usage for *two-cabinet systems, DBS 96 to DBS 96*

DBS 96 (Slave)															
TRK 1	TRK 2	TRK 3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/ TRK		SCC	CPC	AUX 1	AUX 2
TRK 33-40	TRK 41-48	TRK 49-56	EXT 73-80	EXT 81-88	EXT 89-96	EXT 97-104	EXT 105-112	EXT 113-120	EXT 121-128	EXT 129-136	TRK 57-64* or EXT 137-144	N/A	MFR#	MFR# or API	CBL-S

DBS 96 (Master)															
TRK 1	TRK 2	TRK 3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/ TRK		SCC	CPC	AUX 1	AUX 2
TRK 1-8	TRK 9-16	TRK 17-24	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33-40	EXT 41-48	EXT 49-56	EXT 57-64	TRK 25-32* or EXT 65-72	SCC-B	CPC-B	MFR# or API	CBL-M

Notes:

*See "T1 Interface" on page 4-11 for **EC/TRK** port numbers for **T1**.

#A maximum of two MFR cards can be installed in a two-cabinet system. With Cable Kit Version 1.1, one MFR is installed in the Master AUX 1, and one MFR is installed in the Slave AUX1. With Cable Kit Version 1.2, both MFR cards are installed in the slave cabinet--one in the CPC slot and one in AUX1. '(When two MFR cards are used, Strap S3 on the second card must be cut.)

Installation

1. Install the trunk and extension cards according to the layouts shown in the Figures 6-1 through 6-6.

    Note: The port numbers for each slot are fixed.

2. If you are using two MFR cards, cut Strap S3 on the second card.

Figure 6-7. Strap 3, MFR card
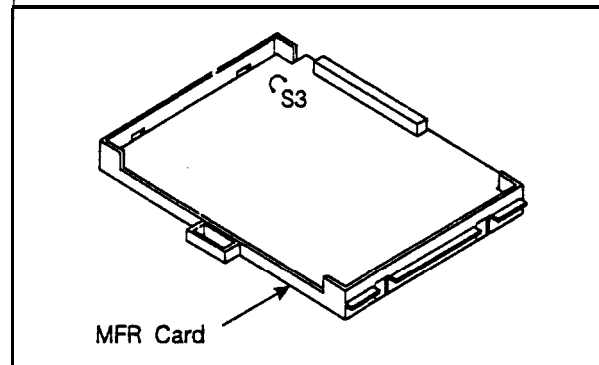
3. Using the cables provided, connect the CBL-M card in the master cabinet to the CBL-S card installed in the slave cabinet.

    Note: The EM1 filter must be installed as close to the cabinet as possible, as shown in Figure 6-8 on page 6-1 1.

Figure 6-8. Double-cabinet installation
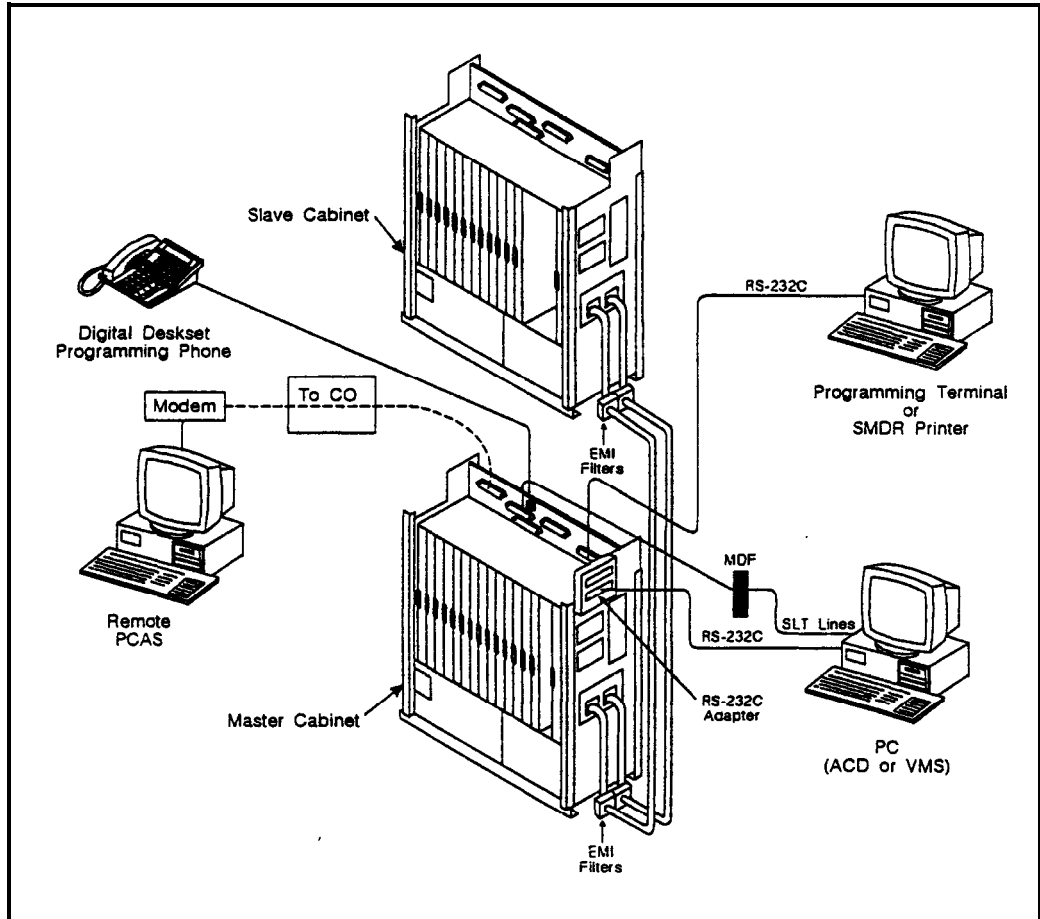
4. Connect two 24V power supply cords from the CBL-S card to the 24V
    and GND terminals on CN2 of the Connector Panel of the slave cabinet.

Figure 6-9. CBL-S to Connector Panel connection, slave cabinet
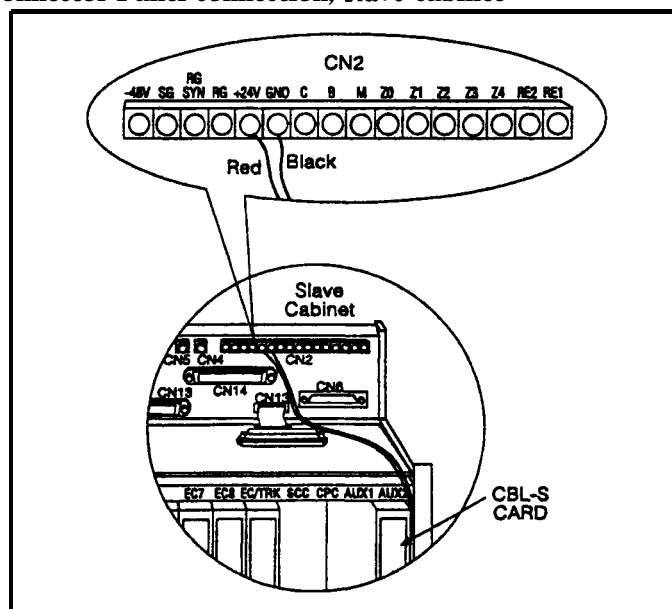
5. Set SW1 on the CBL-M card according to the following table.

Table 6-2. CBL-M switch settings

System Corn binations		Switch Settings							
Master	Slave	1	2	3	4	5	6	7	8
DBS40	DBS40	ON	ON	ON	ON	ON	ON	OFF	ON
DBS72	DBS40	ON	OFF	ON	ON	ON	ON	OFF	OFF
DBS72	DBS72	ON	OFF	ON	OFF	ON	OFF	ON	OFF
DBS96	DBS40	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
DBS96	DBS72	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
DBS96	DBS96	OFF	ON	OFF	ON	ON	OFF	OFF	OFF

Chapter 7. Specifications

This chapter contains frequently referenced DBS specifications.

Note: All maximums may not be attainable simultaneously. Also, attainment of some maximums depends on levels of feature usage and optional hardware requirements.

Though every effort has been made to ensure the accuracy of these specifications, Panasonic does **not** warrant them in regard to merchantability or fitness for a particular purpose. Specifications are subject to change without notice.

This chapter covers the following topics::

DBS Manual - Issued 8/1/95

Electrical Characteristics

Table 7-l. Input power

Equipment	Power Requirements
All DBS cabinets	120V AC ± 10 % 60 Hz
DBS key phones	3 watts maximum (powered from the DBS)

Table 7-2. Power consumption and heat generation

System status	DBS 40	DBS 72	DBS 96	DBS 40 + DBS 40	DBS 72 + DBS 40	DBS 72 + DBS 72	DBS 96 + DBS 40	DBS 96 + DBS 72	DBS 96 + DBS 96
Power Consumption (in Watts)									
With no traffic	170	250	320	340	420	500	490	570	640
with max. traffic	216	324	444	432	540	648	660	768	888
Heat Generation (Btu per hour)									
With no traffic	580	853	1092	1160	1433	1706	1672	1945	2184
With max. traffic	737	1106	1515	1474	1843	2212	2253	2621	3031

Table 7-3. Battery backup capacity

System	Battery Pack	Capacity (with maximum traffic)
DBS 40	VB-43130	40 minutes
DBS 7 2	VB-43130	40 minutes
DBS 9 6	VB-43130	30 minutes

Environmental Requirements

Table 7-4. Temperature and humidity requirements

Environmental Conditions	Requirements
Temperature	32 to 104° F (0 to 40° C)
/Relative Humidity	30 to 90%

Table 7-5. Dimensions and weight, sing&-cabinet systems and phones

Physical Characteristics	DBS 40	DBS 72	DBS 96
Dimensions (H x W x D in inches)			
Cabinet	21 x 15 x 9.35	21 x 19.5 x 9.4	21 x 19.5 x 9.4
VB-43225	4 1/8 x 7 3/8 x 9		
Other key phones	3 3/4 x 7 3/8 x 9		
DSLT	3 1/8 x 7 3/8 x 9 1/8		
DSS/72	3 1/2x7 1/2x9		
EM/24	3 3/13 x 3 1/8 x 8 3/8		
Weight (Ibs)			
Cabinet	53	65	68
VB-43225	2.3		
Other key phones	2.2		
DSLT	1.6		
DSS/72	1.6		
EM/24	.9		

Table 7-6. Dimensions for two-cabinet systems

Cabinet Installation	DBS 40 + DBS 40	All Other Combinations
Cabinets installed one above the other (10 in. between)	52 x 15 x 9.35	52 x 19.5 x 9.4

Resource Maximums

Table 7-7.   Trunk and line capacities

System Resources	DBS 40	DBS 72	DBS 96	DBS 40 + DBS 40	DBS 72 + DBS 40	DBS 72 + DBS 72	DBS 96 + DBS 40	DBS 96 + DBS 72	DBS 96 + DBS 96
Trunk ports	8	16	24	16	24	32	32	40	48
Extension ports	24	48	64	48	72	96	88	112	128
Expansion ports	8	8	8	8	0	8*	16	16	16
Trunk/Extension speech path switching	nonblocking								

Notes:

*Beginning with CPC-B Version 4, the **EC/TRK** slot in the slave DBS 72 can be used for trunks or lines. Prior to CPC-B Version 4, this slot could only be used for lines. CPC-AII also allows this.

Table 7-8. Feature-related capacities

Resource	Maximums
Attendants	
No. of attendants with CPC-A	2
No. of attendants with CPC-B and CPC-AII (Version 2.0 or later)	4
No. of attendants that can be assigned DSS/72s	2 (ATTs 1 and 2 only)
No. of attendants that can be assigned Attendant Consoles CPC-A and CPC-AII CPC-B (Version 2.0 to 4.0 only)	 0 4 (1 per attendant)
Cal I back requests	
No. of requests that can be received by a single station	4
Call coverage	
No. of groups	16
No. of stations in a group	8
Call forwarding	
No. of simultaneous call forwarding registrations	No. of stations in the system

Resource	Maximums
Conference circuits	
SCC-A	3 four-party circuits
SCC-B with CPC-B	8 four-party circuits
SCC-B with CPC-A and CPC-AII	3 four-party circuits
DISA	
No. of incoming authorization codes	1
No.of outgoing authrorization codes	2
No.of digits in each authorization code	4
Hunting	
No. of groups	8
No. of stations in a group	8
Least cost routing	
No. of routing tables	1 Area Code table
	1 Office Code table
	4 Special Area Code tables
	4 Special Office Code tables
No. of entries in each routing table	1000
No. of digit addition tables	8
No. of digits that can be added	16
No. of digit deletion tables	8
No. of digits that can be deleted	16
No. of time priority tables	15
No. of LCR trunk groups	8
Toll Restrictions	
No. of Toll Restriction types	8
No. of 7-digit restrictions	50
No. of area. code restriction tables	4
No. of entries in each area code restriction table	1000 (4000 total)
No. of office code restriction tables	4
No. of entries in each office code restriction table	1000 (4000 total)
Paging	
No. of groups	8
No. of stations in a group	No. of stations in the system

Resource	Maximums
Paging (continued)	
No. of external paging zones	5
No. of stations in external paging zone 00	No. of stations in the system
No. of stations in external paging zones 0 1-04	No. of stations in corresponding paging group 01-04
Speed dial	
No. of personal speed dial numbers	10 per extension
No. of system speed dial numbers	90 (00 ~ 89) or 200 (000-199) with CPC-A II and CPC-B Version 7.0
No. of digits per speed dial number (personal and system)	16
Trunk Queuing	
No. of trunk queuing registrations	1 per station

Table 7-9.   Hardware maximums for single-cabinet systems

Part No.	Description	Quantity		
		DBS 40	**DBS 72**	**DBS 96**
Phones				
VB-43210	16-key standard telephone with handsfree answerback	32	56	72
VB-43220	22-key standard telephone with handsfree answerback			
VB-4322 1	22-key speakerphone			
V-B -43223	22-key speakerphone with LCD display			
VB-43225	22-key speakerphone with large LCD display			
MS-43230	34-key telephone with handsfree answerback			
VB-43231	34-key speakerphone			
VB-43233	34-key speakerphone with LCD display			

Part No.	Description	Quantity		
		DBS 40	**DBS 72**	**DBS 96**
Phone Options				
VB-43310	24-key expansion module (EM24)	16	28	36
VB -43320	72-key DSS/BLF module (DSS/72)	CPC-A and CPC-AII: 4 CPC-B: 8 (up to 4 can be assigned as DSS/72s; up to 4 can be assigned as Attendant Consoles)		
VB-43884	7 ft. handset cord			
VB-43885	15 ft. handset cord	32	56	72
VB-43886	25 ft. handset cord			
VB-43890	K-type handset			
Printed Circuit Cards				
VB-43110	Cable kit for 2-system connection	N/A	N/A	N/A
VB-43410	Call processor card (CPC-A)			
VB-43411	Call processor card (CPC-B)	1	1	1
VB-43412	Call processor card (CPC-AII)			
VB-43420	Service circuit card (SCC-A)	1	1	1
VB-4342 1	Service circuit card (SCC-B)			
VB -4343 1	DTMF signal receiver for 8 SLT lines (MFR/8)	1	1	1
VB-43510	4-port loop-start trunk card (L-TRK/4)			
VB-43511	8-port loop-start trunk card (L-TRK/8)	2	3	4
VB-43541	Direct-inward-dialing trunk card (DID)			
VB-4353 1	8-port ground-start trunk card (G-TRK/8)			
VB-4356 1	T1 Interface	1	1	1
VB-43562	T1 MDF card	1	1	1
VB-43563	T1 Sync Unit	1	1	1
VB-436 11	8-port digital extension card (DEC)	4	7	9
VB-4362 1	8-port analog extension card (AEC)	3	4	4

Part No.	Description	Quantitp		
		j D B S 4 0	DBS 72	DBS 96
Expansion Connectors				
VB-43120	Trunk expansion connector	1	1	1
VB-43121	Extension expansion connector			
Doorbox Equipment (Trunk)				
VB-4370 1	Door box adaptor	8*	12"	16*
VB -43705	Door box	16*	24*	32*
Doorbox Equipment (Extension)				
VB -437 11	Extension-Based Door box adaptor	4	4	4
VB-43705	Door box	4	4	4
Optional Equipment				
VB-43706	Remote Administration Interface (RAI-A)	1	1	1
V-B -43707	Remote Administration Interface (RAI-B)			
VB-43551	8-circuit Caller ID daughter board	1 per VB-43511A XEC	1 per VB-43511A AEC	i per VB-.43511x AEC
VB -43 130	Built-in system backup batteries	1	1	1
VB-43709	Single Line Telephone Adaptor	8 I	14 I	18 I
VB-2089P	SLT ringer box	1	1	1
VA-43703	4-line power failure unit	6	8	8
VB -43702	Off-premise extension adaptor	8	8	8
VB-43940	Application processor interface (API)	1	1	1
VB-4399 1	PCAS software	1		
VB-43993	DBS Manager software			
* Note: These maximums are based on overall trunk capacities and do not allow for trunks used for outside lines.				

Table 7-10. Hardware maximums for do&e-cabinet systems

Part No.	Description	Quantity					
		DBS 40 + DBS 40	DBS 72 + DBS 40	DBS 72 + DBS 72	DBS 96 + DBS 40	DBS 96 + DBS 72	DBS 96 + DBS 96
Phones							
VB-43210	16-key keyphone w/ handsfree answerback	56	72	104	104	128	144
VB-43220	22-key keyphone w/ handsfree answerback						
VB-4322 1	22-key speakerphone						
VB-43223	22-key speakerphone w/LCD display						
VB-43225	22-key speakerphone w/ large LCD display						
VB-43230	34-key keyphone w/ handsfree answerback						
VB-4323 1	34-key kcyphone						
VB-43233	34-key keyphone w/ LCD display						
Phone Options							
VB -433 10	24-key expansion module (EM24)	32	44	56	52	64	72
VB-43320	72-key DSS/BLF module (DSS/72)	CPC-A and CPC-AII: 4 CPC-B (Version 2.0 to 4.0 only): 8 (up to 4 can be assigned as DSS/72s; up to 4 can be assigned as Attendant Consoles)					
VB-43884	7 ft. handset cord	56	72	104	104	128	144
VB-43885	15 ft. handset cord						
VB-43886	25 ft. handset cord						
VB-43890	K-type handset						

Part No.	Description	Quantity					
		DBS 40 + DBS 40	DBS 72 + DBS 40	DBS 72 + DBS 72	DBS 96 + DBS 40	DBS 96 + DBS 72	DBS 96 DBS 96
Printed Circuit Cards							
VB-43110	Cable kit for 2-cab. systems	1	1	1	1	1	1
VB-43410	Call processor card (CPC-A)	1	1	1	1	1	1
VB-43411	Call processor card (CPC-B)						
VB-43412	Call processor card (CPC-AII)						
m-43420	Service circuit card (SCC-A)	1	1	1	1	1	1
VB-43421	Service circuit card (SCC-B)						
VB-43431	DTMF signal receiver for 8 SLT lines (MFR/8)	2	2	2	2	2	2
VB-43510	4-port loop-start trunk card (L-TRK/4)	3	3	5	6	7	8
VB-43511	8-port loop-start trunk card (L-TRK/8)						
VB-43541	8-port Direct-inward-dialing trunk card (DID)						
VB-43531	8-port ground-start trunk card (G-TRK/8)						
VB-43561	T1 Interface	1	0	1	2	2	2
VB-43562	T1 MDF Card	1	0	1	2	2	2
VB-43563	T1 Sync Card	1	0	1	1	1	1
VB-43611	8-port digital extension card (DEC)	7	9	13	13	16	18
VB-43621	8-port analog'extension card (AEC)	6	7	8	7	8	8
JB-43551	8-port Caller ID Daughter Board (used with Loop Start Trunk Card VB-43511A)	1 per VB-43511A	1 per VB-43511A	per VB-43511A	1 per VB-43511A	1 per VB-43511A	1 per VB-43511A

Part No.	Description	Quantity					
		DBS 40 + DBS 40	DBS 72 + DBS 40	DBS 72 + DBS 72	DBS 96 + DBS 40	DBS 96 + DBS 72	DBS 96 + DBS 96
Expansion Connectors							
VB-43120	Trunk exp. connector	2	2	2	2	2	2
VB-43121	Ext. exp. connector					1*	0"
Doorbox Equipment (Trunk Port)							
VB-43701	Door box adaptor	12#	12#	20#	24#	28#	32#
VB-43705	Door box	24#	24#	40#	48#	56#	64#
Doorbox Equipment (Extension Port)							
VB-437 11	Doorbox adaptor	4	4	4	4	4	4
VB-43705	Doorbox	4	4	4	4	4	4
Optional Equipment							
VB-43706	Remote Administration Interface (R-41-A)	1'	1	1	1	1	1
VB-43707	Remote Administration Interface (RAI-B)						
VB-43130	Built-in system backup batteries	2	2	2	2	2	2
ml-43709	SLT Adaptor	16	22	28	26	32	36
VB-2089P	SLT ringer box	2	2	2	2	2	2
VA-43703	4-line power fail unit	12	14	16	14	16	16
VB-43702	Off-premise ext adaptor	16	16	16	16	16	16
VB-43940	Application processor interface (API)	1	1	1	1	1	1
VB-43991	PCAS software	1					
VB-43993	DBS Manager software						

Notes:

*An expansion connector is not required to use an extension card in the EC/TRK slot of a DBS 96. The DBS 96 uses connector CN14 to accommodate an extension card in the EC/TRK slot.

These maximums are based on overall trunk capacities and do not allow for trunks used for outside lines.

Cabling Specifications

Table 7-11. Maximum cabling distances

Loop Type and Resistance	Resistance	Cable Gauge (AWG)	Maximum Cabling Length in Feet (Distance from the DBS)
Key phone, EM/24	40 Ohms	22	1239
		24	779
		26	490
DSS172	20 Ohms	22	619
		24	388
		26	244
SLT	100 Ohms	22	3097
		24	1948
		26	1225
OPX (Loop between the DBS and the OPX Adaptor)	10 Ohms	22	309
		24	194
		26	122
OPX (Loop between the OPX Adaptor and a pushbutton SLT)	900 Ohms (excluding end impedance)	22	27877
		24	17532
		26	11025
Doorphone (Loop between the DBS and the Doorphone Adaptor)	10 Ohms	22	309
		24	194
		26	122
Doorphone (Loop between the Doorphone Adaptor and the Door-phone)	40 Ohms	22	1239
		24	779
		26	490
Voice Announce Unit	10 Ohms	22	309
		24	194
		26	122

Communication Parameters

Table 7-12. Voice path from KTELs to DBS

Channel	Speed
Overall communications path	256 kbps
D-channel data	16 kbps
B-channel data	64 kbps

Table 7-13. Data communications ports

Port	Parameters	
SMDR	Interface	RS232-C
	Baud rate	300, 1200, 4800 or 9600 kbps
	Parity	Even, odd, or none
	Stop bit length	1, 1.5, or 2
	Data bit length	5, 6, 7, or 8
Maintenance (RAI card)	Baud rate	300 (RAI-A) or 300 or 1200 (RAI-B)
	Stop bit length	1
	Data bit length	8
	Parity	None

Signaling Characteristics

Table 7-14. Signaling to CO

Item	Specification
Dial pulse	8 to 11 pulses per second (PPS)
Break ratio	58 to 64%
Minimum pause	0.7 to 1.0 seconds
Trunk start	Loop or ground start

Table 7-15. Signaling levels

Item	Level	Distortion
Trunk input (DISA)	-40 dBm (minimum)	Less than 10%
Output from DBS (at MDF)	High level: -8 dBm (minimum) Low level: -10 dBm (minimum)	
Analog station input (Dial status)	-35 dBm (minimum)	Less than 10%
Analog station output (Talk Path originated from a key phone to an SLT)	High level: -8 dBm+/-0.5 dBm Low level: -6 dBm+/-0.5 dBm	Less than 5%

Table 7-16. Transmission specifications

Item	Specification
Impedance	600 Ohms
Overload level	600 Ohms
Insertion Loss	
CO trunk to analog station	0 dB
Analog station to CO trunk	0 dB
CO trunk to digital station	0 dB
Digital station to CO trunk	0 dB
Digital station to digital station	6dB
Digital station to analog station	6 dB
Analog station to digital station	6dB
Analog station to analog station	6dB

Tone Characteristics

Table 7-17. Tone Plan

Tone Name	Frequency	Timing (seconds)
CO Call Tones		
CO incoming call	550/400 Hz at 16 Hz	Programmable
Hold recall	550/400 Hz at 16 Hz	0.5 on/3.5 off
Transfer recall	550/400 Hz at 16 Hz	0.5 on/3.5 off
Trunk queuing	550/400 Hz at 16 Hz	0.5 on/O.5 off/0.5 on/2.5 off
CO offhook signal	550 Hz	1 on/7 off
Internal Tones (Key Phones)		
Dial tone	400 Hz	Continuous
CO incoming call	550 Hz	1 on/3 off (Prior to CPC-B 3.1) Programmable (CPC-AII and CPC-B 3.1 or higher)
Callback	400 Hz	1 on/3 off
Busy	400 Hz	0.5 on/0.5 off
Busy override	400 Hz	0.25 on/O.25 off/O.25 on
Splash	550 Hz	0.5 on
Error	400 Hz	0.5 on/O.5 off
Reminder call	550 Hz	4 on/1 off/4 on/1 off/4 on 1 off/4 on/silence
Call waiting	550 Hz	0.25 on/O.25 off/O.25 on/7.25 off
Key press	1 kHz	Duration of the key press
Internal Tones (SLTs)		
CO/Station ringing Hold recall Callback	20 Hz	1 on/3 off
Transfer (Prior to CPC-B 2.11)	20 Hz	0.5 on/3.5 off
Transfer (CPC-AII and CPC-B 2.11 or higher)	20 Hz	Programmable

Tone Name	Frequency	Timing (seconds)
Dial tone	400 Hz	Continuous
Ringing	400 Hz	1 on/3 off
Busy	400 Hz	0.5 on/O.5 off
Voice mail ringing	550/400 Hz at 16 Hz	2 on/2 off

Table 7-18. DTMF frequencies

Digit	Frequency (Hz)
1	697 + 1209
2	697 + 1336
3	697 + 1477
4	770 + 1209
5	770 + 1336
6	770 + 1477
7	852 + 1209
8	852 + 1336
9	852 + 1477
*	941 + 1209
0	941 + 1336
#	941 + 1477

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Panasonic®

DBS
Digital Business System

Section 320

DBS 824 to DBS Interconnection Supplement
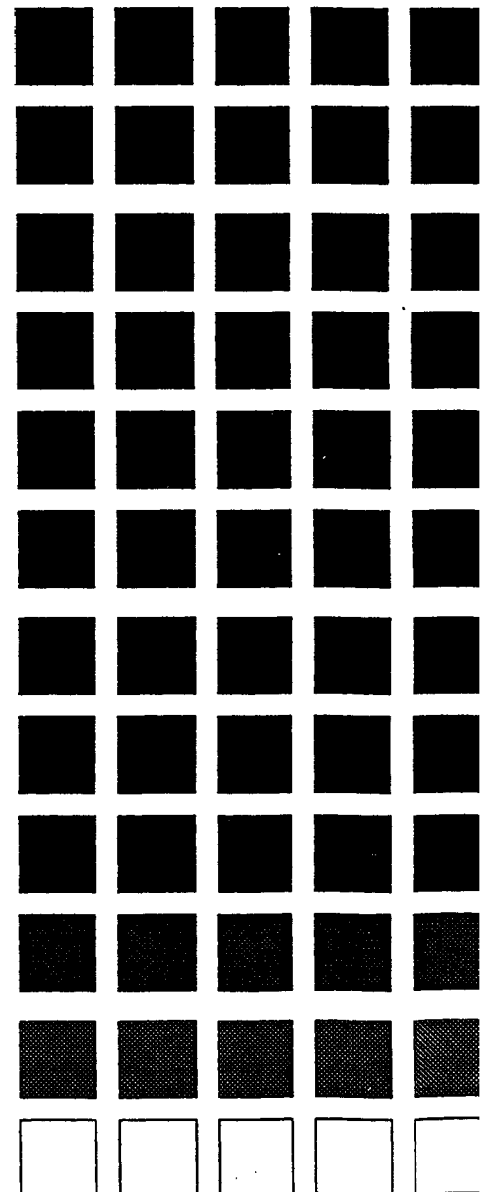
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Table of Contents

Introduction

A DBS 824 cabinet can be connected to a DBS 40, 72 or 96 cabinet in order to increase capacity. This document includes connection procedures, as well as capacities for these two-cabinet systems.

This chapter covers the following topics:

Topic	Page
Guidelines	1
Installation	6

Guidelines

- The DBS is always the master and the DBS 824 is always the slave.

- The DBS requires the CPC-B version 6.1 or later and the SCC-B.

- Since the CPC-B card is the controlling card, follow the programming instructions in the DBS Section 400 and the operating instructions in DBS Section 700.

- Since both DBS and DBS 824 items are used, refer to the installation instructions in both the DBS Section 300 and the DBS 824 Section 300.

- If an MFR card is used, it must be installed in the DBS 824 CPC slot. The MFRU card cannot be used.

- T1 can only be used with the DBS 96 in a DBS 96 to DBS 824 Dual Cabinet System. No other combination supports T1.

- The SMDR, Bus Monitor, etc. are provided from the DBS cabinet.

- The DBS 824 cabinet only supports loop start trunks.

- The DBS 824 cabinet does not support AECs. An SLT-A or OPX adaptor must be used to connect analog devices.

- Figures 1 through 3 shows slot usage for two-cabinet combinations.

- Table 2 on page 3 shows possible two cabinet configurations and maximums.

- The DBS 824 may have most options connected including Caller ID, OPX, VAU. Exceptions or considerations include the following:

Table 1.   ***DBS 824 Dual Cabinet Feature Considerations***

Feature	CPC-B 6.1	CPC-B 7.0	Notes:
Auto Repeat Dial	N/A	N/A	
Auto Redial	N/A	Available	
Personal Speed Dials	10 PSDs/ Extension	10 PSDs/ Extension	
System Speed Dials	90 SSDs	200 SSDs	
2-Port OPL	N/A	N/A	
2-Port MFR	N/A	N/A	
Night 2 Mode	N/A	Available	
SMDR/Bus Monitor	See Note.	See Note.	Uses DBS CN6 SMDR/Bus Monitor instead of DBS 824 Connector.
External Ringer Audio Separation	N/A	N/A	Uses DBS EPA Connector for both External Ringer and Paging
Internal Hold Tone	N/A	Available	
Full Call Forwarding Outside	N/A	Available	CPC 6.1 supports call forwarding an internal call outside (723)
Battery Alarm	N/A	N/A	
Extension Port Based Door Phone Adaptor	N/A	Available	
4-Port Single Line Telephone Adaptor	N/A	Available	

N/A = Not Available

Table 2.   ***Trunk and extension port maximums for double-cabinet systems***

System Combinations		Trunk	Extension	Expansion Ports
Master	Slave	Ports	Ports	(Trunk lines or extensions)
DBS 40	DBS 824	16	48	0 (See Note 1.)
DBS 72	DBS 824	24	72	0 (See Note 1.)
DBS 96	DBS 824	32	88	8 (See Note 2.)
Notes:				
1. When a DBS 40 or DBS 72 is connected to a DBS 824, the expansion ports cannot be used.				
2. The DBS 96 cabinet must be used for expansion ports.				

Figure 1.   ***Slot usage for two-cabinet systems, DBS 40 + DBS 824***

DBS 824 (Slave)

Built-In TRK Ports 9-12
Built-In EXT Ports 25-32

208		2 0 8		CPC	AUX
TRK 13-14	EXT 33-40	TRK 15-16	EXT 41-48	MFR	CBL-S

DBS 40 (Master)

TRK1	EC1	EC2	EC3	EC/TRK	SCC	CPC	AUX1	AUX2
TRK 1-8	EXT 1-8	EXT 9-16	EXT 17-24	N/A	SCC-B	CPC-B	API	CBL-M
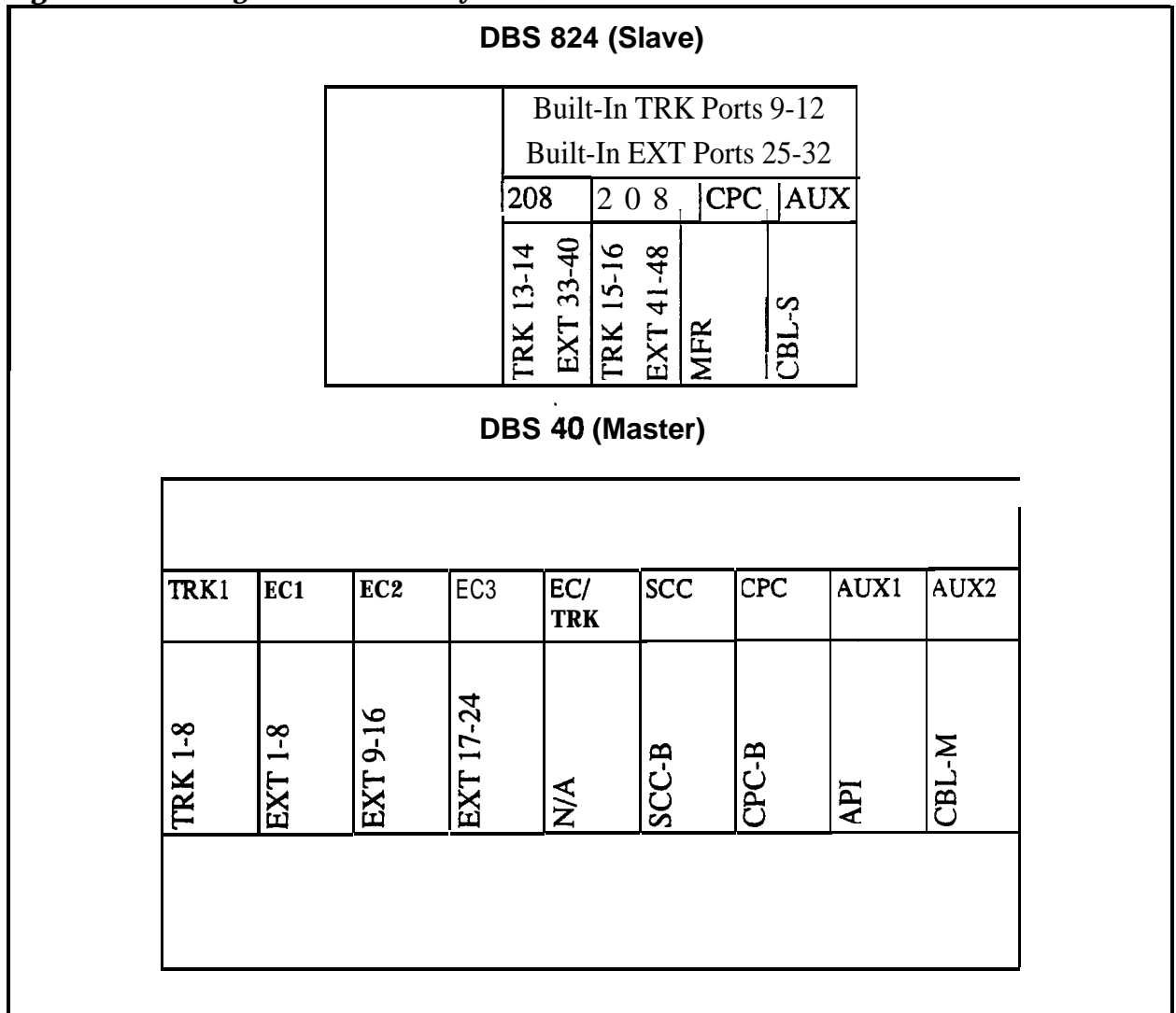
Figure 2.   Slot usage for two-cabinet systems, DBS 72 + DBS 824

DBS 824 (Slave)

	Built-In TRK Ports 17-20			
	Built-In EXT Ports 49-56			
	208	208	CPC	AUX
	TRK 21-22 / EXT 57-64	TRK 23-24 / EXT 65-72	MFR	CBL-S

DBS 72 (Master)

TRK 1	TRK 2	TRK 3	EC1	EC2	EC3	EC4	EC5	EC6	EC:	EC8	EC/ TRK	SCC	CPC	AUX 1	AUX 2
TRK 1-8	TRK 9-16	N/A	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33-40	EXT 41-48	N/A	N/A	N/A	SCC-B	CPC-B	API	CBL-M

Figure 3.   Slot usage for two-cabinet systems, DBS 96 + DBS 824

DBS 824 (Slave)

	Built-In TRK Ports 33-36			
	Built-In EXT Ports 73-80			
	208	208	CPC	AUX
	TRK 37-38 EXT 81-88	TRK 39-40 EXT 89-96	MFR	CBL-S

DBS 96 (Master)

TRK 1	TRK 2	TRK 3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/ TRK	SCC	CPC	AUX 1	AUX 2
TRK 1-8	TRK 9-16	TRK 17-24	EXT 1-8	EXT 9-16	EXT 17-24	EXT 25-32	EXT 33 40	EXT 41-48	EXT 49 56	EXT 57 64	TRK 25-32 or EXT 65-72	SCC-B	CPC-B	API	CBL-M

Notes:

*See "T1 Interface" in Chapter 4 of the DBS Installation Manual Section 300 for EC/TRK port numbers for a T1 installed in the DBS 96.

Installation

1. Set SW1 on the CBL-M card according to the following table.

Table 3.   CBL-M switch settings

System Combinations		Switch Settings 1							
Master	Slave	1	2	3	4	5	6	7	8
DBS 40	DBS 824	ON	ON	ON	ON	ON	ON	OFF	ON
DBS 72	DBS 824	ON	OFF	ON	ON	ON	ON	OFF	OFF
DBS 96	DBS 824	OFF	ON	OFF	ON	ON	OFF	OFF	OFF

2. Install the circuit cards according to the layouts shown in the Figures 1 through 3.

Note: The port numbers for each slot are fixed.

3. Using the cables provided, connect the CBL-M card in the master cabinet to the CBL-S card installed in' the slave cabinet. The cables should be connected with the green ground cables located at the CBL-M card.

   Note: The EMI filter must be installed as close to the cabinet as possible, as shown in Figure 4 on page 7.

4. Connect the green ground lead on each of the DBS cables to a side frame screw on the DBS cabinet.

Figure 4.   DBS to DBS 824 cabinet installation
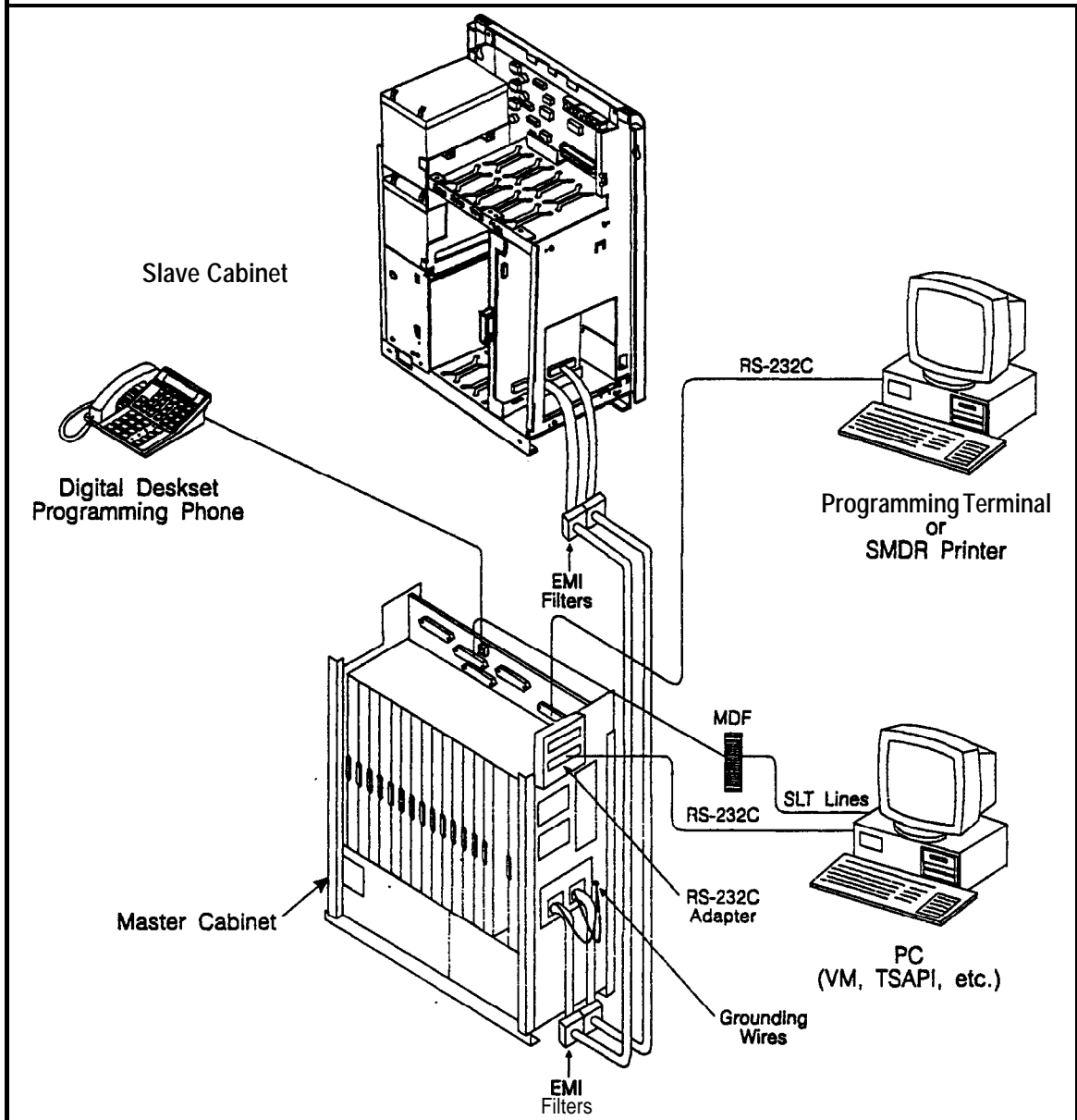
Caution: **DO NOT connect the Red and Black wires from the CBL-S card to the DBS 824 Power Supply. Connecting the wires may damage the equipment.**

5. If the Red and Black wires on the CBL-S card have exposed conductors, separate the wires and cover the exposed conductors on each wire with electrical tape.

6. Secure the Red and Black wires out of the way.

Figure 5. CBL-S Red and Black Wire Location

Panasonic"

DBS

Digital Business System

Section 400
Programming

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Appendix A. Large-Screen Displays

Appendix **B.** Terminal Programming

Section **400-Index**

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About This Section

This **Section** 400 is intended for use as a technical reference manual for DBS programming via the FF keys on a DBS key phone. (Other programming methods are described in Appendix B of this section.)

Structure   **Section** 400 is structured according to FF key numbering. For example, Chapter 1 covers FF1 programs; Chapter 2 covers FF2 programs; and so on. The FF keys categorize the programs by subject -- each FF key represents a group of related programs as follows:

Chapter 1	FF1 -- System
Chapter 2	FF2 -- Trunks
Chapter 3	FF3 -- Extensions
Chapter 4	FF4 -- Ring Assignments & Hunt/Call Coverage Groups
Chapter 5	FF5 -- FF Key Features
Chapter 6	FF6 -- Displayed Names & Messages
Chapter 7	FF7 -- Toll Restriction
Chapter 8	FF8 -- Least Cost Routing
Chapter 9	FF9 -- Program Copy
Chapter 10	FF10 -- Speed Dial Numbers

FF Key Programming

FF key programming is accomplished by entering programming mode, then punching in each program's address (press the FF key, then enter a string of numbers that are separated by the pound #key). The phone's LCD display will show prompts while you are punching in the string, to guide you through the programming. Within each address string (usually at the end of it), you have a choice of numbers to press in order to set the program; the number you press determines the program setting.

Once you've entered programming mode and punched in an FF key address, you do not have to keep pressing the FF key to go to the next [sequential] address -- the DBS will automatically display the next prompt after you set the first one (or press # to accept the displayed setting). To jump to an address in another FF key, simply press that FF key while still in programming mode.

Program Sequence

Although FF key programming separates DBS programs into groups, it is important to note that the numerical sequence of the FF keys and the addresses within them, does not necessarily represent a logical progression for programming a particular feature or application. For example, some DID settings are in FF1 (System), while others are in FF2 (Trunks), FF3 (Extensions) and FF6 (Names and Messages).

In Section 400, each program explanation includes related information about the feature or application it affects (if any). Also, the forms in **Section 450** of the DBS Manual provide a more concise view of programming DBS features.

Introduction to DBS Programming

This introduction provides an overview of DBS programming from a phone. For descriptions of other DBS programming methods. see Appendix B of this manual.

The following table summarizes the topics contained in this introduction.

Before You Begin

This section describes preparations that should be completed *before you start programming.* If you are familiar with FF key programming for DBS systems, you may begin programming as soon as these preparations have been made.

If you are new to DBS programming, be sure to read **"Understanding FF Key Programming"** on page Intro-5 before you begin.

Preparations for Programming

Prior to programming the DBS system, make sure you have completed the following steps:

1. Confirm that the DBS features meet customer requirements. See Section *700-Feature Operation* for DBS feature descriptions.

2. Confirm that you have the DBS hardware required for the end user. See *Section 300-Installation* for details.

3. Use *Forms and Tables (Section 450)* to record the customer's site data. Use the following guidelines when completing *Forms and Tables:*

   - Be sure to record *all* program entries.
   - Leave the default values for equipment that is not connected.
   - Pay careful attention to program items that require a power-down to take effect. Be sure to complete the necessary programming in these areas before you make the system operational.

4. To program a new DBS system, you must first initialize the software to default values (see **"Initializing DBS Systems",** next page). If you are performing an upgrade and the system is using a CPC-B card, you must first perform the New Function Reset procedure (see **"Upgrading CPC-B Software"** on page Intro-5).

Once these steps are completed, use the site data in *Forms and Tables* to program the system.

Initializing DBS Systems (RAMCLR)

After installing a new DBS system, or when upgrading to Version 7.0, you must initialize the CPC (Central Processing Card) before programming the system.

> IMPORTANT: This procedure **must** be performed before you program the DBS system. Failure to initialize the CPC before programming may cause operational problems.

The procedure described below re-initializes the entire DBS memory, and resets all programs to their default values. This means that all programs used, as well as features set on individual extensions, must be reprogrammed. If you have PCAS, you can download existing settings (thru CPC Version 4.0) and upload them to the new version. The new features introduced in CPC Versions 5.0 thru 6. lx. as well as the Permanent Call Forwarding feature, must be manually reprogrammed.

1. Power-off the DBS (set power switch to OFF).

2. Slide the CPC's SW1 switch to "RAMCLR".

3. Power-on the DBS. Wait until the bottom status LED on the CPC card stops flashing (this takes less than a minute).

4. Slide SW 1 back to "RAMHOLD".

5. From any display phone, verify the software version by pressing ON/OFF. CONF 7777

Figure 1.   CPC memory clear switch
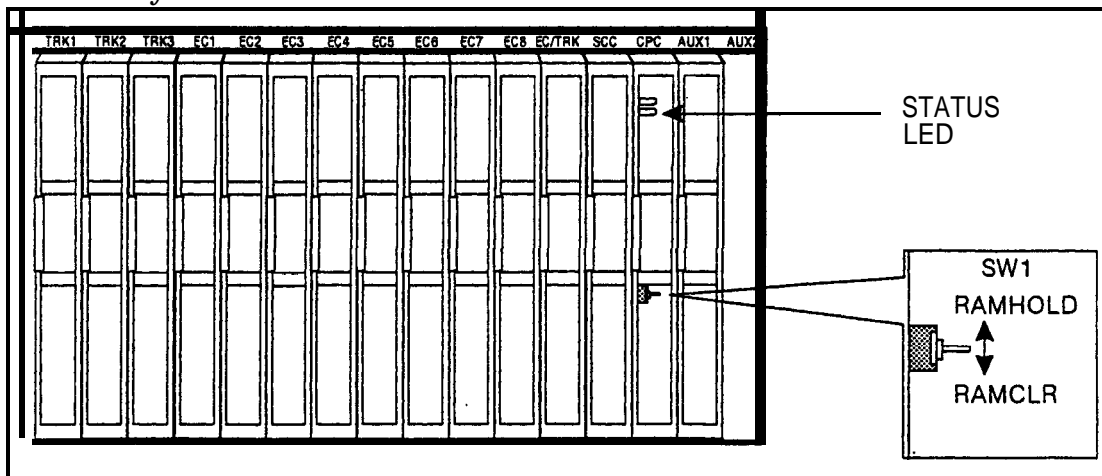
Upgrading CPC-B Software (New Function Reset)

Perform the following procedure when upgrading CPC-B software to a new version. **Exception:** If upgrading to Version 7.0, the system must be initialized instead: see **'"Initializing DBS Systems (RAMCLR)".** previous page.

⚠️   **IMPORTANT:**   Perform New Function Reset if upgrading to a new release -- from 5.0 to 6.0, for example. It is not necessary for a "point" release (e.g., from 5.0 to 5.2).

New Function Reset clears unused registers and adds new programs, but retains all current DBS settings. If you are upgrading from a CPC-B version prior to 3.1, New Function Reset will also clear any existing DID numbers that are extension-based.

1. Power-off the DBS. Remove the CPC-B card.

2. Replace the existing EPROMs l-4 with new EPROMs.

3. Re-install the CPC-B card, then power the system back on.

4. If upgrading to a new release (e.g., from 5.0 to 6.0), perform New Function Reset as shown below:

FF1 8# 1# (0 **or** 1)#

↑

0=Do not perform New Function Reset.
1=Perform New Function Reset.

NOTE: If you enter "1" (to reset), the following displays:

CONFIRM
0:NO   1:YES

This is to confirm that you want to reset the data before the DBS actually performs the reset. Press one of the following:

0=Do not complete the reset.
l=Complete the reset.

---

5. Power-off the system, wait at least 3 seconds, then power it back on.

Understanding FF Key Programming

Program Structure

Program entries for the DBS are organized into 10 primary groups, which are listed in Table 1 below. Each group has its own Flexible Function (FF) key on the phone. These keys can be identified by the LED on the left side of the key. On key telephones, the FF keys are numbered left-to-right, starting on the bottom row.

After you enter the programming mode **(see "How to Enter the Programming Mode",** next page), press the desired FE key to start programming the entries ("addresses") of the group. The phone's LCD display will prompt you through the addresses.

Table 1. **JIBS program structure**

FF Key	Programming Group
FF1	System settings
FF2	CO Trunk settings
FF3	Extension settings
FF4	Ring Assignments and Hunt Groups
FF5	FF Key Assignments
FF6	Names and Messages on LCD Display
FF7	Toll Restrictions (TRS)
FF8	Least Cost Routing (LCR)
FF9	Copy Program Settings
FF10	Speed-Dialing (system and personal)

In the programming mode, some of the phone keys can be used to store your settings and move forward or backward through the program addresses. Figure 2 (next page) identifies these keys and what they do in programming mode.

Figure 2. **Phone keys used in programming mode**

CONF: Resets entry to default setting.

VOL ^: Moves backward to the previous programming level.

FLASH: Stores your entry and moves backward (decrements port number in the same address; or decrements program address number).

HOLD: Stores your entry and moves forward (increments port number in the same address; or increments program address number).

* : Stores your entry and moves backward (decrements program address number).

 # : Stores your entry and moves forward (increments program address number).

How to Enter the Programming Mode

From the Attendant port...

Programming can be performed from an Attendant display phone. The phone connected to extension port 1, assigned extension number 100 is automatically the Primary Attendant phone. By default, extension port 2 (extension number 101) is the Second Attendant phone (although this extension assignment can be reprogrammed). Up to two other phones can also be programmed as Third and Fourth Attendant phones. Programming is also possible from other extensions (see *"From a Non-Attendant Port",* next page).

To enter the programming mode from any Attendant phone, press:

ON/OFF PROG ## [desired FF key]

Notes:

- Name settings can only be programmed from the Attendant phone or a DSS console connected to it.

- When you enter the programming mode on the Attendant phone -- and the DBS is set for only one Attendant -- the system will automatically change to the "Night" mode. After you exit the programming mode (by pressing ON/OFF), the system will return to the appropriate mode according to the system clock and the mode's start time.

From a non-Attendant port . . .

When programming from a display phone other than an Attendant, press:

ON/OFF #98 [NNNN] PROG ## [desired FF key]

(where "[NNNN]" is the programming authorization code -- "9999" by default)

Notes:

- In CPC-A versions prior to 3.3, if a non-Attendant phone is used for programming, you must enter the programming authorization code twice -- once to begin programming, and once to exit programming. Otherwise, other non-Attendant extensions cannot enter the programming mode.

- Beginning with CPC-A Version 3.3, and CPC-B versions, a non-Attendant phone only has to enter the authorization code once, to begin programming. As soon as programming is complete, any other non-Attendant phone can enter the programming mode.

From the Test Terminal port . . .

You can also program from a phone connected to the test terminal (CN3) of the main DBS cabinet:

1. Slide the SW1 switch on the cabinet to 'Test" mode. This will provide a direct connection to ports 7 and 8 (if the DBS is already in service, make sure beforehand that placing ports 7 and 8 out of service is acceptable).

2. Press: **ON/OFF #98 [NNNN] PROG ### [desired FF key]**
   (where "[NNNN]" is the programming authorization code -- "9999" by default)

When you are finished programming, be sure to return SW1 to the "ST" position.

Example Programming Entry

To set the DBS time and date from an Attendant phone, press:

ON/OFF PROG ##
("Program Mode" is displayed on line 1, "MAIN MODE" on line 2)

FF1
("System Program" is displayed on line 1, "SELECT SUB MODE" on line 2)

1#
("SELECT TIME MODE" is displayed on line 1; "1:DATE 2:TIME" on line 2)

1#
("DATE SET MODE" is displayed on line 1; "MONTH/DAY/YEAR" on line 2)

MMDDYY
(Enter new date in MMDDYY format)

 # ON/OFF
(to store the program change and exit programming mode; the new date
should now be displayed on all LCD phones)

Default Program Settings

The following table shows the default settings for all DBS program addresses.
Some of these addresses contain number ranges which are shown in
parentheses. These are the acceptable ranges for trunk numbers, extension
ports, etc. in a DBS 96 + DBS 96 configuration with a CPC-B card. For the
acceptable ranges in other configurations, see *Section 300-Installation*.

Table 2. Default settings

Program Address	Topic	Default	Page
FF1: System Settings			**1-1**
FF1 1#: Date and Time Settings			**1-3**
FF1 1# 1# (MMDDYY)#	Day/Date Setting	Sun JAN 1	1-3
FF1 1# 2# (HHMM)#	Time Setting	12:00	1-4
FF1 2# 1#: General System Settings			**1-5**
FF1 2# 1# 1# (0 or 1)#	Call Duration Display	1 (Displayed)	1-5
FF1 2# 1# 2# (0-2)#	SMDR Display Start Timer for CO Calls	0 (Begins after 5 sec)	1-6
FF1 2# 1# 3# (0 or 1)#	Least Cost Routing (LCR) Access	0 (Pooled trunk)	1-7
FF1 2# 1# 4# (SSD)#	Override Toll Restriction With SSD Numbers	No TRS Override	1-8

Program Address	Topic	Default	Page
FF1 2# 1# 5# (0 or 1)#	SSD Display Restriction	0 (Display D B S dialed digits)	I-9
FF1 2# 1# 6# (0 or 1)#	Auto Flash Redial	1 (REDIAL sends flash)	I-10
FF1 2# 1# 7# (0 or 1)#	One Touch Dial	1 (Enabled)	1-11
FF1 2# 1# 8# (0 or 1)#	Onhook Transfer	1 (Enabled)	1-12
FF1 2# 1# 9# (0 or 1)#	Kev Bank Hold	0 (Disabled)	1-13
FF1 2# 1# 10# (0 or 1)#	/Non-Appearing Trunk Hold	1 (System hold)	1-14
FF1 2# 1# 11# (0 or 1)#	SLT Flash Control	1 (Retrieves held call)	I-15
FF1 2# 1# 12# (0 or 1)##	Extension Number Digits	1 (3 digits)	I-17
FF1 2# 1# 13# (0 or 1)#	Alternate Attendant (CPC-A/B prior to 2.0)	1 (Enabled)	I-18
FF1 2# 1# 14# (0 or 1)#	Attendant Intercom Calling	1 (Voice)	1-19
FF1 2# 1# 15# (0 or 1)#	Extension Intercom Calling	1 (Voice)	1-20
FF1 2# 1# 16# (0 or 1)#	Alert Tone for Voice Calls	1 (Enabled)	1-21
FF1 2# 1# 17# (0 or 1)#	Alert Tone for Busy Override & OHVA	0 (Disabled)	I-22
FF1 2# 1# 18# (0 or 1)#	System Installation Area Code	1 (1+Area)	I-23
FF1 2# 1# 19# (0 or 1)#	SSD Name Display	0 (5 names)	I-24
FF1 2# 1# 20# (2-9 or 2-18)#	API/AEC Slot Assianment	Noassianment	I-25
FF1 2# 1# 21# (0 or 1)#	Voice Mail Busy Tone	0 (Silence)	I-26
FF1 2# 1# 22# (0-6)# (CPC-A 3.21orhigher)	Analog Transfer Ring Pattern	0 (.4 sec on/ 3.6 sec off)	1-27
FF1 2# 1# 22# (1-15)# (CPC-B 1.0 only)	Attendant Overflow for Primary Attendant	8 (maximum 8 stacked calls)	1-28
FF1 2# 1# 23# (0 or 1)#	Delayed Ring (CPC-AII/B)	0 (Disabled)	1-29
FF1 2# 1# 23# (0-15)# (CPC-A 3.3 or higher)	AEC Disconnect Signal Duration	0 (No signal)	1-30
FF1 2# 1# 24# (11-69 or 101-699)#	Second Attendant Position	Ext.11 or 101	I-31
FF1 2# 1# 25# (11-69 or 101-699)#	Third Attendant Position	None	1-32
FF1 2# 1# 26# (11-69 or 101-699)#	Fourth Attendant Position	None	1-33
FF1 2# 1# 27# (11-69 or 101-699)#	Attendant Transfer Extension	None	1-34
FF1 2# 1# 28# (0 or 1)#	Attendant Override	1 (Enabled)	1-35
FF1 2# 1# 29# (0 or 1)# (CPC-B2.09 thru 4.0 with AFP)	Attendant LED Alarm Indication	1 (can assign alarm)	I-36
FF1 2# 1# 30# (0 or 1)#	Extension (BLF) Delayed Ring	0 (Disabled)	I-37
FF1 2# 1# 31# (0-6)#	Analog Transfer Ring Pattern (CPC-AII/B)	0 (.5 sec on/ 3.5 sec off)	1-38
FF1 2# 1# 32# (0 or 1)#	Multiple DID/DNIS (CPC-B 4.0 or higher)	0 (Disabled)	1-39
FF1 2# 1# 33# (0 or 1)#	Page Duration	0 (Unlimited)	1-41
FF1 2# 1# 34# (0 or 1)#	SLT DISA Ring Pattern	0 (1 sec on/ 3 secoff)	1-42
FF1 2# 1# 35# (0-15)# (CPC-AII/B5.0orhigher)	AEC Disconnect Signal Duration	0 (No signal sent)	1-43

Program Address	Topic	Default	Page
FF1 2# 1# 36# (0-2)#	DID/DNIS to a Voice Mailbox (CPC-B 6.0 or higher)	0 (No DID/DNIS digits transmitted)	1-44
FF1 2# 1# 37# (6 char.)#	DID/DNIS Answer Code (CPC-B 6.0 or higher)	None	I-46
FF1 2# 1# 38# (0-2)#	LCD Timer for Caller ID (CPC-AII/B 6.1 or higher)	0 (5 sec)	1-48
FF1 2# 1X 39# (0 or 1)#	Internal Hold Tone (CPC-AII/B 7.0 or higher)	0 (Disabled)	1-49
FF1 2# 1# 40# (0 or 1)#	Door Opener Access Code Required (CPC-AII/B 7.0 or higher)	0 (Not required)	1-50
FF1 2# 1X (41 or 42)# 1X (0 or 1)#	API Port Type (CPC-AII/B 7.0 or higher)	0 (Standard API)	1-51
FF1 2# 1# (41 or 42)P 2# (0 or 1)#	API Baud Rate (CPC-AII/B 7.0 or higher)	0 (9600 bps)	1-52

Program Address	Topic	Default	Page
FF1 2# 2#: Serial Port Parameters (TTY Settings)			**1-53**
FF1 2# 2% 1# (0 or 1)#	Parity Check	1 (On)	I-53
FF1 2# 2# 2# (0 or 1)#	Odd/Even Parity	1 (Even)	I-54
FF1 2# 2# 3# (1-4)#	Baud Rate	4 (9600 bps)	I-55
FF1 2# 2# 4# (1-3)#	Stop Bit Length	1 (1 bit)	I-56
FF1 2# 2# 5# (3 or 4)#	Data Length	4 (8 bits)	I-57
FF1 2# 2# 6# (0 or 1)#	SMDR Printing Mode 1: Outbound and Inbound	1 (Outbound and Inbound)	1-58
FF1 2# 2# 7# (0 or 1)#	SMDR Printing Mode 2: Long-Distance and Local Calls	1 (Long-distance and local)	I-59
FF1 2# 2# 8# (0 or 1)#	SMDR Printing Mode 3: Header Title	0 (No header titles)	I-60
FF1 2# 2# 9# (0 or 1)#	Serial Port Flow Control (XON / XOFF)	1 (No DBS flow control)	1-61
FF1 2# 2# 10# (0 or 1)#	RAI Baud Rate	0 (300 bps)	I-62
FF1 2# 3#: PBX Settings			**1-63**
FF1 2# 3# (1-8)# (O-999 or 0*-99*)#	PBX Access Code(s)	None	1-63
FF1 2# 3# (9-18)# (1-3)#	Automatic Pause Position for PBX Access Codes	None	I-64
FF1 2# 4#: External (UNA) Relay Control			**1-66**
FF1 2# 4# 1# (0 or 1)#	Ring Patterns for UNA Terminals (M, C and B)	0 (1 sec on/ 3 sec off)	I-66
FF1 2# 4# (2-9)# (0 or 1)#	External Page Interface Control for Paging Groups	0 (Internal paging only)	I-67
FF1 2# 5#: Class of Service			**1-68**
FF1 2# 5# (1-8)# (1-21)# (0 or 1)#	Extension Class of Service	0 (All features disabled)	1-68

Program Address	Topic	Default	Page
FF1 2# 6#: Account Codes			**1-70**
FF1 2# 6# (1-100)# 1# (0001-9999)# Verified Forced Account Codes		None set	I-70
FF1 2# 6# (1 -100)# 2# (0-7)#	Toll Restriction for Verified Forced Account Codes	0 (TRS type 0 -- intercom calls **only)**	1-72
FF1 2# 7#: Flexible Function Screens (CPC-AII/B 6.0 or higher)			t-73
FF1 2# 7# 1# (25-39)# (1-10)# (Code)#	Flexible Function Screen Soft-Key Assignment	None	1-73
FF12# 7% 2# (25-39)# (1-10)# (Text)# Flexible Function Screen Text		None	**1-78**
FF12# 7# 3# (25-39)# (Q or 1)#	Flexible Function Screen Default	0 (**Do** not default)	1 - 7 9
FF12# 7# 4# (0 or 1)#	(Flexible Function Screens Default (All)	**0 (Do** not default)	**1-80**
FF1 2# 8#: Caller ID Automatic **DISA** (CPC-AII/B 6.1 or higher)			**1-81**
FF1 2# 8# (1-10)# (PhoneNo.)#	Automatic DISA Callers	**None**	1-81
FF1 2# 9#: Door Phones (CPC-AIl/B 7.0 or higher)			**1-82**
FF1 2# 9# (1-4)# 1# (3-144)#	Door Phone Extensions	**No** assignment	1-82
FF1 2# 9# (1-4)# 2# (1-144)# (0 or 1)#	Door Phone Ring Assignments	0 (Do not ring)	1-84
FF1 2# 9# (1-4)# 3# (0000-9999)#	Door Opener Access Code	9999	1-86
FF1 2# 9% (1-4)# 4# (0 or 1)#	Door Phone Tone Type	0 (Slow chime)	I-87
FF1 2# 9# (1-4)# 5% (0-15)#	Door Phone Ring Timeout Timer	3 (20 **sec)**	I - 8 8
FF1 2# 9# (1-4)# 6# (0-5)#	Door Phone Ring Pattern	1 (4 **sec** between **rings)**	1-89
FF1 2# 9# (1-4)# 7# (0-5)#	Door Opener Relay Timer	1 (Open for 4 **sec)**	I-90

Program Address	Topic	Default	Page
FF1 3#: System **Timers**			**1-91**
FF1 3# 1# (0000-2359)#	[Automatic Night Mode Start Time	Not set	I-91
FF1 3# 2# (0-12)#	Attendant Hold Recall Timer for CO Calls	1 (20 **sec)**	1-93
FF1 3# 3# (0-12)#	Extension Hold Recall Timer for CO Calls	7 (140 **sec)**	1-94
FF1 3# 4# (0-12)#	Attendant Transfer Recall Timer for CO Calls	1 (20 **sec)**	I-95
FF1 3# 5# (0-12)#	Extension Transfer Recall Timer for CO Calls	7 (140 **sec)**	1-96
FF1 3# 6# (0-12)#	Attendant Hunt Group Recall Timer	1 (20 **sec)**	I-97
FF1 3# 7# (0-12)#	Extension Hunt Group Recall Timer	7 (140 **sec)**	1-98
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Program Address	Topic	Default	Page
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FF4 3# (1-8)# 2# (0-2)#	Hunt Group Type **(CPC-All: CPC-B 2.0 or higher)**	0 (Terminal hunting)	4-11
FF4 3# (1-8)# 2# (1-8)#	Call Next Hunt Group **(CPC-A; CPC-B prior to 2.0)**	No assignment	4-13
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FF4 9# 1# (79-86 or 151-158)# (1-64)# (0 or 1)#	CO Night 2 Ring Assignments for Hunt Groups **(CPC-All/B 7.0 or higher)**	0 (No ring)	4-28
FF4 9# 2# (1-73/145)# (1-64)# (0 or 1)#	CO Delayed Night 2 Ring Assignments **(CPC-All/B 7.0 or higher)**	0 (No ring)	4-29
FF4 9# 2# (79-86 or 151-158)X (1-64)# (0 or 1)#	CO Delayed Night 2 Ring Assignments for Hunt Groups **(CPC-All/B 7.0 or higher)**	0 (No ring)	4-30

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FF7 1# (4-11)# (0 or 1)#	3-Digit Toll Restriction For TRS Types 2-6	0 (Allow)	**7-8**
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FF7 1# 17# (0 or 1)#	Dialing Plan Switch (CPC-AII/B 6.0 or higher)	0 (Old dial plan)	7-l 0
FF7 1# 18X (1-144)# (0 or 1)#	Operator Access (CPC-AII/B 6.0 or higher)	0 (Deny)	7-l 1
FF7 1# 19# (1-144)# (Oor 1)#	international Calling on Extensions (CPC-AII/B 6.0 or higher)	0 (Deny)	7-l 2
FF7 1# 20# (1-10)# (0-999)#	Country Code Table (CPC-AII/B 6.0 or higher)	No assignment	7-13
FF7 1# 21# (0 or 1)#	Equal Access Code Format (CPC-AII/B 6.0 or higher)	0 (Old 10XXX format)	7-14
FF7 1# 22# (1-10)# (000-999)#	Office Code Restriction Table For TRS Types 2-6 (CPC-AII/B 6.0 or higher)	No assignment	7-l 5
FF7 2% (3-6)# (000-999)# (0 or 1)#	Area Code Table For TRS Types 3-6	0 (Allow) for TRS types 5 and 6 1 (Deny) for TRS types 3 and 4	7-l 6
FF7 3# (3-6)# (000-999)# (0 or 1)#	Office Code Table For TRS Types 3-6	0 (Allow) for TRS types 4-6 1 (Deny) for TRS type 3	7-l 7

Program Address	Topic	Default	Page
FF7 4# (1-4)# (000-999)#	Special Area Code Table For TRS Types 3-6	No assignment	7-18
FF7 5# (1-4)# (000-999)# (0 or 1)#	Special Office Code Table For TRS Types 3-6	0 (Allow) for Sp. A/Cs 3-4 1 (Deny) for Sp. A/Cs 1-2	7-19
FF7 6# (1-50)# (7-digitNo.)#	Special 7-Digit Table For TRS Types 2-6	No assignment	7-20
FF7 7# (1-144)# (1-33/65)# (0-7)#	Day TRS Types 0-7 for Trunks	7 (TRS type 7— all calls allowed)	7-21
FF7 8# (1-144)# (1-33/65)# (0-7)#	Night TRS Types 0-7 for Trunks	7 (TRS type 7— all calls allowed)	7-22
FF7 9# (1-4)# (0 or 1)#	Area Code Table For TRS Types 3-6 (Global Copy)	0 (Allow) for TRS types 5 and 6 1 (Deny) for TRS types 3 and 4	7-23
FF7 9# (5-8)# (0 or 1)#	Office Code Table For TRS Types 3-6 (Global Copy)	0 (Allow) for TRS types 4, 5 & 6 1 (Deny) for TRS type 3	7-24
FF7 9# (9-12)# (0 or 1)#	Area & Office Code Table for TRS Types 3-6 (Global Copy)	0 (Allow) for TRS types 4, 5 & 6 1 (Deny) for TRS type 3	7-25
FF7 9# (13-16)# (0 or 1)#	Special Office Code Table For TRS Types 3-6 (Global Copy)	0 (Allow) for Sp. A/Cs 3 and 4 1 (Deny) for Sp. A/Cs 1 and 2	7-26

Program Address	Topic	Default	Page
FF8: Least Cost Routing			**8-1**
FF8 1# (1-15)# (000-999)# (0 or 1)#	LCR Area Codes	No assignment	8-6
FF8 2# (1-15)# (000-999)# (0 or 1)#	LCR Office Codes	No assignment	8-7
FF8 3# (1-4)# (000-999)#	Special LCR Area Codes	No assignment	8-8
FF8 4# (1-4)# (1-15)# (000-999)# (0 or 1)#	Special LCR Office Code Tables	No assignment	8-9
FF8 5# (1-15)# (1-48)# (1-8)#	Time Priority Route Tables	No assignment	8-10
FF8 6# (1-8)# (1-8)# (1-64)#	LCR Trunk Groups	No assignment	8-12
FF8 7# (1-8)# (up to 16 digits)#	LCR Delete Tables	No assignment	8-13
FF8 8# (1-8)# (up to 16 digits)#	LCR Add Tables	No assignment	8-14

Program Address	Topic	Default	Page
FF9: Copy Program Settings			**9-1**
FF9 1# (1-64)# (1-64)##	/Trunk Copy	Not set	9-3
FF9 2# (1-144)# (I-144)ft	Extension Copy	Not set	9-4
FF9 3# (1-144)# (1-144)##	FF Key COPY	Not set	i 9-5

Program Address	Topic	Default	Page
FF10: Speed Dial Programming			**10-1**
FF10 1# (00-89 or 000-199)# (up to 16 digits)#	System Speed Dial Numbers	Not set	10-3
FF10 2# (1-144)# (90-99 or 900-909)# (up to 16 digits)#	Personal Speed Dial Numbers	Not set	10-5

1. System Programming (FF1)

This chapter describes DBS system settings using programming key FF1.

This chapter covers the following FF1 addresses:

Date and Time Settings

Day/Date Setting
Software Version: All Versions
Address: FF1 1# 1# (MMDDYY)#

Description   This program sets the date in the DBS system clock.

The day and date are printed on the Station Message Detail Recording
(SMDR) printout Proper LCR (Least Cost Routing) operation depends on
correct date settings. Proper operation of peripheral equipment may also
depend on correct date settings.

Programming

FF1 1# 1# (MMDDYY)#

Month, day, and year in numeric format
(for example, January 1.1995 would be
entered as 010193.

Time Setting
Software Version: All Versions
Address: FF1 1# 2# (HHMM)#

Description   This program sets the time in the DBS system clock. The time appears on key phones that have LCDs. The time is also recorded in SMDR call records.

Note: Correct time settings are necessary for proper LCR (Least Cost Routing) operation.

Programming

```
                        FF1 1# 2# HHMM#
                                  ▲
                                  |
                                  |
                        Time setting in 24-hour format
                        (for example, 3:00 pm would be
                        entered as 1500).
```

General System Settings

Call Duration Display
Software Version: All Versions
Address: FF1 2# 1# 1# (0 or 1)#

Description   This program determines whether call duration will be displayed on telephones with LCDs. By default, call duration will display.

Programming

FF1 2# 1# 1# (0 or 1)#

↑

0=Call duration is not displayed.
1=Call duration is displayed.

Related Programming

SMDR Display Start Timer for CO Calls: FF1 2# 1# 2# (0, 1 or 2)#

LCD Timer for Caller ID: FF1 2# 1# 38# (0, 1 or 2)#

Notes   *No Interaction With SMDR Records.* This setting does not affect SMDR record generation.

Timing of Call Duration Display. In CPC-AII/B Version 6.1 or higher using Caller **ID,** the **LCD Timer for Caller** ID address (FF1 2# 1# 38#) determines the delay before call duration is displayed, so that Caller ID information can appear first. In versions prior to 6.1, the **SMDR Display Start Timer for CO Calls** (see next address) controls the delay.

SMDR Display Start Timer for CO Calls
Software Version: All Versions
Address: FF1 2# 1# 2# (0, 1, or 2)#

Description   This address determines the delay between the start of a call and the
beginning of the SMDR record (5 seconds by default). In CPC-AII/B
versions prior to 6.1, it also controls the delay before call duration is
displayed on LCD phones.

- **For Incoming Calls:** An incoming call starts when the extension user
  answers an incoming trunk call. If the user hangs up before the Timer
  ends, the system will not generate an SMDR record for the call.

- **For Outgoing Calls:** An outgoing call starts after the extension user dials
  the outgoing phone number. This allows time for the CO to connect the
  call, or the called party to answer, before beginning the SMDR record.

Programming

```
          FF1 2# 1# 2# (0, 1, or 2)#
                          ▲
                          │
          0= SMDR record begins after 5 seconds.
          1= SMDR record begins after 16 seconds.
          2= SMDR record begins after 30 seconds.
```

Related Programming

Call Duration Display: FF1 2# 1# 1# (0 or 1)#

SMDR Communications Parameters: FF1 2# 2# (1# thru 9#)

SMDR Report (including the extension in):   FF3 (ExtPort)# 14# (0 or 1)#

Notes   *CallerID Interaction.* In CPC-AII/B Version 6.1 or higher using Caller ID,
the SMDR Display Start Timer does not control when call duration starts
displaying on LCD phones. Instead, the **LCD Timer for Caller ID** address
controls when the display begins.

Settings In Older DBS Versions.   In CPC-A and CPC-B versions prior to
3.1, the SMDR Display Start Timer has only two settings -- "0" (16 seconds)
or "1" (30 seconds).

Least Cost Routing (LCR) Access
Software Version: All Versions
Address: FF1 2# 1# 3# (0 or 1)#

Description   This program specifies whether Least Cost Routing (LCR) is used when "9"
is dialed to make an outside call.

Prdgramming

```
                    FF1 2# 1# 3# (0 or 1)#

                                    ↑
                                    |

                        0="9" indicates a pooled-trunk call.
                        1="9" indicates an LCR call.
```

Related Programming

Forced Least Cost Routing: FF3 (ExtPort)# 4# (0 or 1)#

LCR Settings: all FF8 programs

Notes   *Restriction With Call Forward-Outside Feature (in CPC-AII and CPC-B
Version 7.0 and above).* LCR will not work with the Call Forward-Outside
feature. If LCR is activated (the above address is set to "l"), extensions set to
Call Forward-Outside must use trunk groups l-6 (trunk group "9" cannot be
used). See *Section 700-Feature Operation* for more information.

Required Hardware Setting. Cut strap S 1 on the CPC card to enable LCR.
See Section 300-Installation for instructions.

FCC Registration. If strap S 1 is cut, a different FCC registration number
should be used to identify the DBS system. Both registration numbers -- one
for the DBS as a PBX system (Sl is cut), and one for the DBS as a KSU (S1
is not cut) -- are printed on a label in the main cabinet. See *Section 300-
Installation* for more information.

Override Toll Restriction With SSD Numbers
Software Version: All Versions
Address: FF1 2# 1# 4# (SSD)#

Description   This address allows you to set a range of System Speed Dial (SSD) codes that will override Toll Restriction Service (TRS) types 2-6.

The number entered in this address is the lower boundary for SSD codes that will override TRS. In other words, all SSD numbers higher than the one entered will also override TRS types 2-6.

Programming

To set a range of SSD numbers to override TRS settings
(enter the lowest SSD code in the range) . . .

FF1 2# 1# 4# (00-89 or 000-199)#

↑

Lowest SSD Code that will override TRS
(all SSDs above this number will also override TRS)

00-89=SSD code range for CPC-A (all versions),
CPC-AII and CPC-B versions prior to 7.0

000-199=SSD code range for CPC-AII and CPC-B
Version 7.0 or higher

To reset to the default value . . .
By default, SSD numbers do not override TRS types 2-6. To reset to default:

FF1 2# 1# 4# CONF ON/OFF

Related Programming

TRS Settings: all FF7 programs

SSD Numbers: FF10 1# (SSD)# (PhoneNo.)#

Notes   *SLT Audio* Delay. If "Override Toll Restriction With SSD Numbers" is executed on an SLT phone, there is a 15-second delay before audio is passed to the receiver.

SSD Display Restriction
Software Version: All Versions
Address: FF1 2# 1# 5# (0 or 1)#

Description   This address determines whether the telephone's LCD will display the phone
number actually sent by the DBS when an SSD code is dialed (or redialed
with the REDIAL key). By default, the phone number will display.

This address affects SSD codes 80-89 (or 160-199, in CPC-AII/B Version 7.0
or higher). The phone numbers associated with SSD codes 00-79 (or 000-
159) will always display during dialing, regardless of the setting here.

If SSD Display Restriction is enabled (set to "1" in this address), the text
assigned to the SSD code will display, but the dialed digits will not.

Programming

FF1 2# 1# 5# (0 or 1)#

0=DBS-dialed digits of SSD are displayed.
1 =DBS-dialed digits are not displayed
(only the SSD name is displayed).

SSD Codes Affected By This Address --
80-89 (all CPC versions prior to 7.0)
or 160-199 (CPC-AII/B Version 7.0 or higher)

Related Programming

Override TRS With SSD Numbers: FFI 2# 1# 4# (SSD)#

SSD Name Display: FF1 2# 1# 19# (0 or 1)#

SSD Names: FF6 2# (SSD)# CONF (Name)#

SSD Numbers: FF10 1# (SSD)# (PhoneNo.)#

Auto Flash Redial
Software Version: All Versions
Address: FF1 2# 1# 6# (0 or 1)#

Description   This address determines whether the DBS will send a "flash" signal to the CO on loop-start trunks when the REDIAL key is pressed. By default, the REDIAL key sends a flash before redialing a number.

If your DBS system is connected to a PBX, set this address to "0" (sending a flash may place the line to the PBX on hold).

Programming

```
FF1 2# 1# 6# (0 or 1)#
                    ▲
                    |
          O=REDIAL does not send "flash".
          1=REDIAL sends "flash".
```

Related Programming

CO Flash Timer: FF1 3# 13# (0-15)#

PBX Flash Timer: FF1 3# 18# (0-10)#

Trunk Port Type: FF2 (Trunk)# 10# (1 or 2)#

Notes   *Flash Timing.* The CO Flash Timer (FF1 3# 11#) determines the duration of a flash when REDIAL is pressed.

Ground-Start Trunk Restriction. The Flash and Redial features are not functional for ground-start trunks. See *Technote 13* (March 1992) for more information.

One Touch Dial

Software Version: All Versions
Address: FF1 2# 1# 7# (0 or 1)#

Description The One-Touch Dial feature enables users to dial an extension by pressing a single programmable key. This feature is enabled regardless of the program setting (One-Touch Dial cannot be deactivated).

Onhook Transfer
Software Version: All Versions
Address: FF1 2# 1# 8# (0 or 1)#

Description   This address determines whether a call can be transferred without pressing the PROG key.

- If Onhook Transfer is enabled (default setting), the user can transfer a call by placing the call on hold, dialing the extension number, and then hanging up-
* If Onhook Transfer is disabled, the user places the call on hold, dials the extension number, then presses PROG (or "8" if using an SLT or DSLT phone) and hangs up to transfer the call.

Programming

```
                    FF1  2#  1#  8#   (0 or 1)#
                                        ▲
                                        |
                                        |
                        O=Onhook Transfer is disabled.
                        1=Onhook Transfer is enabled.
```

Related Programming

Attendant Transfer Recall Timer for CO Calls: FF1 3# 4# (0-12)#

Extension Transfer Recall Timer for CO Calls: FF1 3# 5# (0-12)#

Attendant Transfer Recall Timer for Intercom Calls: FF1 3# 24# (0-12)#

Extension Transfer Recall Timer for Intercom Calls: FF1 3# 25# (0-12)#

Notes   *Call Transfer Limitation With CPC-A.* In CPC-A versions, only trunk calls can be onhook-transferred to other extensions. In CPC-AII and CPC-B, both trunk and intercom calls can be onhook-transferred.

Transfer Recalls. If a transferred call recalls to an extension and is not answered, it will automatically transfer to the attendant. Timing for the attendant transfer is controlled by the Attendant Call Reversion Timer (FF1 3# 10# 0-12#).

VAU Interaction. If a VAU (Voice Announce Unit) is used, enable Onhook Transfer to allow the VAU to transfer calls.

Key Bank Hold
Software Version: All Versions
Address: FF1 2# 1# 9# (0 or 1)#

Description   Use this address to enable or disable the Key Bank Hold feature in the DBS system.

- If Key Bank Hold is enabled:

    - a phone user can switch back and forth between trunk calls (by pressing the FF key for each trunk) without placing the current trunk on hold.

    - an Attendant phone can press a DSS/BLF key to automatically transfer a trunk call to an extension without pressing HOLD first.

    In both cases, the DBS will automatically place the current trunk call on System Hold (anyone can pick up the call) when the phone user presses the FF key or DSS/BLF key.

- If Key Bank Hold is disabled (default setting), the phone user must press HOLD before accessing a second trunk or transferring a call.

Programming

```
FF1  2#  1#  9#  (0 or 1)#
                      ▲
                      |
                      |
             0=Key Bank Hold is disabled.
             1=Key Bank Hold is enabled.
```

Non-Appearing Trunk Hold
Software Version: All Versions
Address: FF1 2# 1# 10# (0 or 1)#

Description   This address determines who can pick up trunk calls that are on hold. It
applies to DBS phones that don't have dedicated key appearances for trunk
calls (the phone user can't tell which trunk is being used for incoming or
outgoing calls).

Choose one of the following:

- **Exclusive Hold:** The call can be retrieved only on the extension where it
  was placed on hold.

- **System Hold (default setting):** Any extension can pick up the call.

Programming

```
                    FF1  2#  1#  10#  (0 or 1)#

                                    ▲
                                    |

        O=Exclusive Hold is used for non-appearing trunk calls.
        l=System Hold is used for non-appearing trunk calls.
```

Notes   *Applicable Phone Types.* This feature applies to both single-line and digital
telephones.

Number of Trunks That Can Be Held Without Key Appearances.   Phones
that do not have a key appearance for trunk calls can only hold one trunk at a
time.

VAU Interaction.   If a VAU (Voice Announce Unit) is used, set Non-
Appearing Trunk Hold to "Exclusive Hold" to prevent other extensions from
picking up calls being handled by the VAU.

SLT Flash Control

Software Version: All Versions
Address: **FF1 2# 1# 11# (0 or 1)#**

Description   This address determines how the DBS will respond to a second hookflash during a call transfer on an SLT (Single-Line Telephone). By default, the second hookflash will retrieve the held call.

To transfer a call on an SLT, the user hookflashes to place the call on hold, then dials the extension number to transfer the call to. If the extension is busy or not answered, the SLT user can hookflash again to either return to dial tone or retrieve the held call. depending on the setting ("0" or "1", respectively) in this address.

The following table further explains the SLT call transfer process for both settings:

Table 1-1.   SLT Hookflash Control Settings

If SLT Flash Control is Set to "0" ...	If SLT Flash Control Is Set to "1" ...
-- The user hookflashes to place a call on hold.	-- The user hookflashes to place a call on hold.
-- The.user dials an extension number to transfer the call. The extension is busy or does not answer.	-- The user dials an extension number to transfer the call. The extension is busy.
-- The user hookflashes a second time to receive dial tone.	**-- The user hookflashes a second time to retrieve the held call.**
-- The user dials another extension*.	-- The user can then hookflash a third time to place the call on hold and receive dial tone.
-- When the extension rings, the user hangs up to transfer the held call.	-- The user dials another extension.
* Or, the user can hookflash a third time to retrieve the held call.	-- When the extension rings, the user hangs up to transfer the held call.

NOTE: This address does not affect how the hookflash functions when the SLT user is listening to dial tone.

Programming

FF1 2# 1# 11# (0 or 1)#

O=A second SLT hookflash results in dial tone.
1=A second SLT hookflash retrieves a held call.

Extension Number Digits
Software Version: All Versions
Address: FF1 2# 1# 12# (0 or 1)##

Description   This address determines whether the DBS will use 2-digit or 3-digit extension numbers.

- **If 2-digit numbers are** used, a maximum of 60 extension numbers are available for assignment. Number Range: 10 thru 69.

- **If 3-digit numbers are** used (default setting), a maximum of 600 extension numbers are available. Number Range: 100 thru 699.

Programming

```
         FF1 2# 1# 12# (0 or 1)# (# or *)



             0=2-digit numbers     A second "#" is required to
             1=3-digit numbers     confirm the new numbering
                                   plan. (Or, enter "*" to cancel
                                   the new numbering plan.)
```
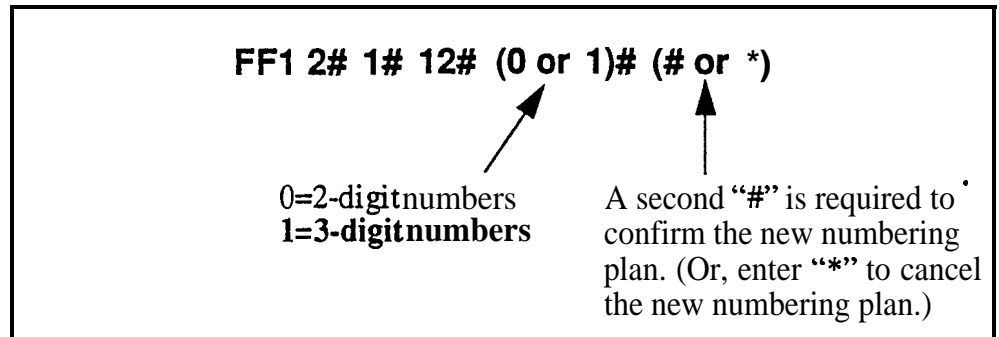
Related Programming

Extension Numbers: FF 3 (ExtPort)# 1# (10-69 or 100-699)#

Notes   *Interaction With Larger Systems.*   If more than 60 phones are installed in your system, use 3-digit extension numbers. Sites with fewer than 60 phones can use either 2-digit or 3-digit extension numbers.

Interaction With Voice Mail.   If your system uses Voice Mail, use 3-digit numbers in order to match extensions with Voice Mail boxes.

Precaution for Changing Extension Number Digits.   Changing this setting can adversely affect other DBS settings that are based on extension numbers, such as entries for DSS/BLF keys and Call Forwarding.

Alternate' Attendant

Software Version: CPC-A and CPC-B Versions Prior to 2.0
Address: FF1 2# 1# 13# (0 or 1)#

Description   Use this address to enable or disable the use of an Alternate Attendant phone. By default, the Alternate Attendant is enabled.

When enabled, the Alternate Attendant phone receives overflow intercom calls from the Primary Attendant. The Alternate Attendant also has full access to Attendant features.

Programming

FF1 2# 1# 13# (0 or 1)#

⬆

0=Disables the Alternate Attendant.
1=Enables the Alternate Attendant.

Related Programming

Attendant Overflow for Primary Attendant (CPC-B Version 1.0 only):
   FF1 2# 1# 22# (1-15)#

Extension Numbers (assigning to ports): FF3 (ExtPort)# 1# (ExtNo.)#

Terminal Type: FF3 (ExtPort)# 2# (Type)#

Notes   ***Alternate Attendant Phone Settings In Later DBS Versions.*** In CPC-B Version 2.0 and above, and in all CPC-AII versions, you can program Second, Third, and Fourth Attendant phones instead of just one Alternate Attendant. See FF1 2#1# 24# thru 26# for more information.

Limitations on Assigning Attendant Phones. The DBS system always recognizes the Primary Attendant location at extension port 1, with extension number 10 or 100; this cannot be changed. However, you can change the assignment of the Alternate Attendant -- but it is recommended that you leave its default extension number at 11 or 101, so that a DSS/BLF console can be used with it. (The Alternate Attendant is assigned by default to port 2, but it can be reassigned to another port -- as long as extension 11 or 101 is assigned to the new port.)

Attendant Intercom Calling

Software Version: All Versions
Address: FF1 2# 1# 14# (0 or 1)#

Description   Use this address to determine how intercom calls from an Attendant phone
               are announced at extension phones -- by ringing the extension, or by
               immediately establishing a voice path over the extension loudspeaker. By
               default, a voice path is established when an Attendant dials an extension.

               After the connection is established, the Attendant can change from voice to
               ring (or vice versa) by dialing " 1".

Programming

```
|
|                    FF1 2# 1# 14#  (0 or 1)#

                                  ▲
                                  |
                    0=Ring tone intercom calling from Attendant.
                    1=Voice intercom calling from Attendant.
```

Related Programming

        Alert Tone for Voice Calls: FF1 2# 1# 16# (0 or 1)#

Notes   *Interaction With VAU.* If this address is set to "Voice intercom calling" and a
               VAU is used, the VAU will not answer a call from an Attendant unless the
               Attendant dials a "1" after dialing the VAU.

Extension Intercom Calling
Software Version: All Versions
Address: FF1 2# 1# 15# (0 or 1)#

Description   Use this address to determine how intercom calls from another extension will be announced at extension phones -- by ringing the extension, or by imrnediately establishing a voice path over the extension loudspeaker. By default, a voice path is established when an extension dials another extension -- the called party can hear and talk to the caller without lifting the handset.

After the connection is established, the caller can switch from voice to ring (or vice versa) by dialing "1".

Programming

FF1 2# 1# 15# (0 or 1)#

↑

|

O=Tone intercom calling from extension.
l=Voice intercom calling from extension.

Related Programming

Alert Tone for Voice Calls: FF1 2# 1# 16# (0 or 1)#

Notes   *Interaction With VAU.* If this address is set to "Voice intercom calling" and a VAU is used, the VAU will not answer a call from an extension unless the extension dials a "1" after dialing the VAU.

Alert Tone for Voice Calls
Software Version: All Versions
Address: FF1 2# 1# 16# (0 or 1)#

Description   Use this address to determine whether voice intercom calls are preceded by an initial alert ("splash") tone. By default, the alert tone is enabled.

The alert tone (if enabled) will be sounded for **0. 5** seconds before the caller's voice path is established.

Programming

FF1 2# 1# 16# (0 or 1)#

O=Alert tone is disabled.
1=Alert tone is enabled.

Related Programming

Attendant Intercom Calling: FF1 2# 1# 14# (0 or 1)#

Extension Intercom Calling: FF1 2# 1# 15# (0 or 1)#

Alert Tone for Busy Override & OHVA
Software Version: All Versions
Address: FF1 2# 1# 17# (0 or 1)#

Description This address determines if Attendant Override, Busy Override, and Offhook Voice Announce (OHVA) calls are preceded by an alert tone. By default, the alert tone is disabled.

This feature is governed by state law -- some states require the alert tone.

Programming

> **FF1 2# 1# 17# (0 or 1)#**
>
> ↑
>
> 0=Alert tone is disabled.
> l=Alert tone is enabled.
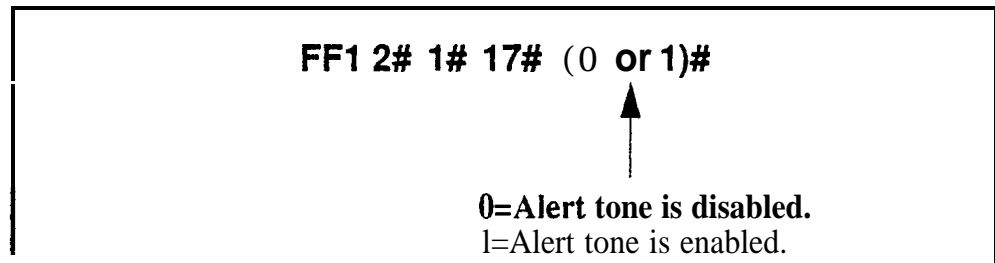
Related Programming

Busy Override Send: FF3 (ExtPort)# 9# (0 or 1)#

Busy Override Receive: FF3 (ExtPort)# 10# (0 or 1)#

Page Group Extensions: FF3 (ExtPort)# 18# thru 25# (0 or 1)#

System Installation Area Code
Software Version: All Versions
Address: FF1 2# 1# 18# (0 or 1)#

Description   This address determines if the DBS site requires a "1" to be dialed before the
area code to make long-distance calls. This setting will affect the way the
DBS handles Toll Restriction (TRS) and Least Cost Routing (LCR) for long-
distance calls.

In almost all cases, the default setting ("1" must be dialed) should not be
changed.

Programming

```
                    FF1 2# 1# 18# (0 or 1)#

                                   ▲
                                   |
                                   |

            0="1" is not required before a long-distance call.
            1="1" must be dialed before a long-distance call.
```

Related Programming

Toll Restrictions: FF7

Least Cost Routing: FF8

Notes   *Interaction With TRS and LCR.*   If "0" is selected above ("1" is *not* required
before a long-distance call), the system will look at the first three digits of the
number dialed, whether it's a "1" or not. This would severely limit the
capability of TRS and LCR, which are based on 3-digit area codes.

If "1" is selected ("1" *is* required before dialing a long-distance call), the
system will ignore the first dialed digit (could be "0" or "1") and look at the
next three digits dialed as the area code.

SSD Name Display
Software Version: All Versions
Address: FF1 2# 1# 19# (0 or 1)#

Description   Use this address to determine how many SSD (System Speed Dial) names can be displayed at a time on large-display phones, whenever an SSD menu is displayed.

When 5 names are displayed (default setting), the maximum length for each name is 16 characters. When 10 names are displayed, the maximum length for each name is 5 characters.

Programming

```
FF1 2# 1# 19# (0 or 1)#
              ▲
              |
         0=Displays 5 SSD names.
         1=Displays 10 SSD names.
```

Related Programming

Override TRS with SSD Numbers: FF1 2# 1# 4# (SSD)#

SSD Display Restriction: FF1 2# 1# 5# (0 or 1)#

SSD Menu display during call states: FF3 (ExtPort)# 26# thru 33# 3#

System Speed Dial Names: FF6 2# (SSD)# CONF (Name)#

System Speed Dial Numbers: FF10 1# (SSD)# (DialedNo.)#

API/AEC Slot Assignment

Software Version: CPC-A Version 3.3 or higher; CPC-AII; and CPC-B Version 5.0 or higher
Address: FF1 2# 1# 20# (2-9 or 2-18)#

Description   This program is only used with third-party API applications. Its purpose is to designate which Analog Extension Card (AEC) is used for voice channel connections to the API product.

Programming

FF1 2# 1# 20# (2-9 or 2-18)#

Analog Extension Slot used for voice paths to a third-party API product.

NOTE: Do not set this to "1" (slot 1 must be a digital port).

Valid Ranges --
  CPC-A and CPC-AII: 2-9
  CPC-B: 2-18

Default: ** (no assignment)

Related Programming

Voice Mail Busy Tone: FF1 2# 1# 21# (0 or 1)#

Terminal Type: FF3 (ExtPort)# 2# (21-28, 31-38 or 41-48)#

Notes   ***Third-Party Voice Mail Systems Not Integrated With the DBS.*** In these systems, the API card is not required. Set up Call Forward ID codes so that the DTMF codes will be sent to the appropriate Voice Mail box (ON/OFF - PROG - AUTO - * - [Ext] - [up to 16 char.] - HOLD). See ***Section 700-Feature Operation*** for more information.

Voice Mail Busy Tone

Software Version: All-Versions
Address: FF1 2# 1# 21# (0 or 1)#

Description   This address determines what is sent to a voice-mail port at the conclusion of a call -- either silence or a busy tone. By default, the DBS sends silence.

Programming

```
                    FF1 2# 1# 21# (0 or 1)#
                                 ▲
                                 |
                            0=Silence.
                            1 =B usy tone.
```
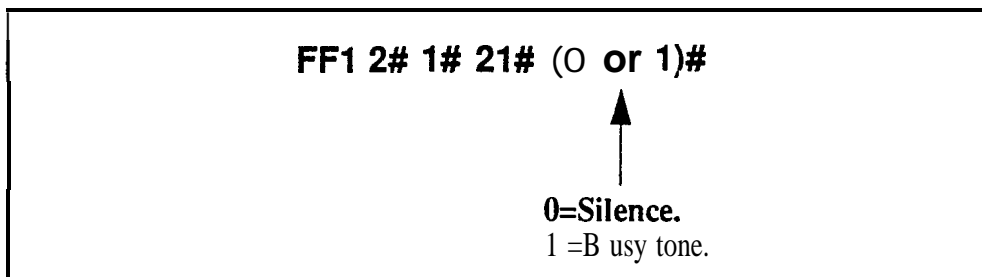
Related Programming

API/AEC Slot Assignment: FF1 2# 1# 20# (2-18)#

Analog Transfer Ring Pattern

Software Version: CPC-A Only (Version 3.21 or higher)
Address: FF1 2# 1# 22# (0-6)#

Description   This address determines which ringing pattern is used for transferred calls to devices connected to analog extension ports. By default, the ringing pattern is .4 seconds on / 3.6 seconds off.

This setting is typically used to assign specific ringing patterns for calls transferred to a modem, or for SLTs that require distinctive ringing for transferred calls.

Programming

FF1 2# 1# 22# (0-6)#

Setting (in seconds):
0= .4 on / 3.6 off
1= .8 on / .2 off / .8 on / .2 off / .8 on / .2 off / 1 off
2= .8 on / .2 off / .8 on / 2.2 off
3= .8 on / 2.2 off
4= .8 on / 3.2 off
5= .8 on / 5.2 off
6= .8 on / 3.2 off / .8 on / 7.2 off

Notes   ***Analog Transfer Ring Pattern Setting for CPC-AN and CPC-B.*** The Analog Transfer Ping Pattern for CPC-AI1 (all versions) and CPC-B (Version 2.11 or higher) is set in FF1 2# 1# 31#.

Attendant Overflow for Primary Attendant
Software Version: CPC-B Version 1 .O only
Address: FF1 2# 1# 22# (1-15)#

Description
This address determines the maximum number of trunk calls that can be stacked at the Primary Attendant phone. By default, up to 8 calls can be stacked at a time.

Calls exceeding the set limit are automatically transferred to other extensions. To determine which extensions receive ovefflow trunk calls, use the Day and Night Delayed Ring tables (FF4 5#, FF4 6#, and FF4 9# 2#).

The following types of calls can be stacked at the Primary Attendant:
- Incoming trunk calls.
- Hold recalls.
- Transferred recalls.
- Hunt group recalls.
- Call reversions.

Programming

```
            FF1 2# 1# 22# (1-15)#
                          ▲
                          |
           Number of Calls That Can Be Stacked
                    (default: 8)
```
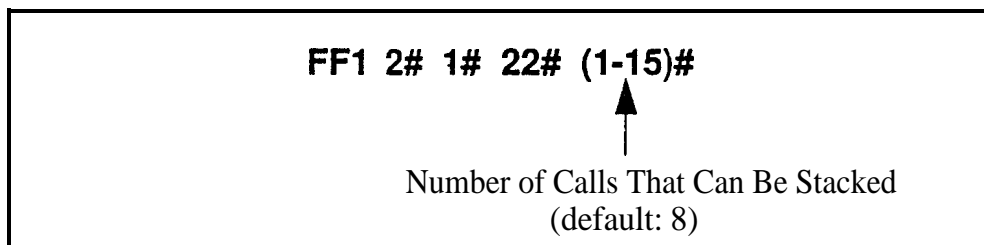
Related Programming

Attendant Hold Recall Timer: FF1 3# 2# (0-12)#

Extension Hold Recall Timer: FF1 3# 3# (0-12)#

Attendant Transfer Recall Timer: FF1 3# 4# (0-12)#

Extension Transfer Recall Timer: FF1 3# 5# (0-12)#

Attendant Hunt Group Recall Timer: FF1 3# 6# (0- 12)#

Extension Hunt Group Recall Timer: FF1 3# 7# (0-12)#

Attendant Call Reversion Timer: FF1 3# 10# (0-12)#

Notes
Overflow Intercom *Calls.* Intercom calls will automatically ovefflow to the Alternate Attendant, if enabled in FF1 2#1# 13#.

Delayed Ring

Software Version: CPC-All (all versions) and CPC-B Version 2.0 or higher
Address: FF1 2# 1# 23# (0 or 1)#

Description   This address determines if delayed ringing is allowed for CO trunks. By default, delayed ringing is disabled.

Delayed ringing is an automatic transfer of unanswered calls -- if an incoming call is not answered at one extension, the system will send the call to another extension (the first extension will cease ringing).

Programming

```
                    FF1  2#  1#  23#  (0 or 1)#
                                        ↑
                                        |

                        0=Delayed ringing is disabled.
                        l=Delayed ringing is enabled.
```

Related Programming

CO Delayed Ring Timer (CPC-AII and CPC-B Ver 3.1 or higher):   FF1 3# 26#   (0-15)#

CO Delayed Day Ring Assignments: FF4 5# (ExtPort)# (Trunk)#

CO Delayed Day Ring Assignments for Hunt Groups: FF4 5# (HuntGrp)# (Trunk)#

CO Delayed Night 1 Ring Assignments : FF4 6# (ExtPort)# (Trunk)#

CO Delayed Night 1 Ring Assignments for Hunt Groups: FF4 6# (HuntGrp)# (Trunk)#

CO Delayed Night 2 Ring Assignments: FF4 9# 2# (ExtPort)# (Trunk)#

CO Delayed Night 2 Ring Assignments for Hunt Groups: FF4 9# 2# (Hun tGrp)# (Trunk)#

AEC Disconnect Signal Duration
Software Version: CPC-A Version 3.3 or higher
Address: FF1 2# 1# 23# (0-15)#

Description   Use this address to set the AEC card (VB-43621A) to provide a positive
disconnect signal, and determine the duration of the signal. By default, the
disconnect signal is not sent.

If set, analog extension ports will provide a disconnect signal (open loop)
upon hangup. Sending this signal allows quick disconnect from third-party
voice mail systems.

Programming

FF1 2# 1# 23# (0-15)#

↑

0=No disconnect signal.
1=100 ms signal will be sent.
2=200 ms signal will be sent.
3=300 ms signal will be sent.
4=400 ms signal will be sent.
5=500 ms signal will be sent.
6=600 ms signal will be sent.
7=700 ms signal will be sent.
8=800 ms signal will be sent.
9=900 ms signal will be sent.
lO=l-second signal will be sent.
11=1.5-second signal will be sent.
12=2-second signal will be sent.
13=2.5-second signal will be sent.
14=3-second signal will be sent.
15=3.5-second signal will be sent.

Related Programming

AEC Disconnect (CPC-A 3.3 or higher): FF3 (ExtPort)# 35# (0 or 1)#

AEC Disconnect (CPC-AII/B 5.0 or higher): FF3 (ExtPort)# 46# (0 or 1)#

Notes   ***AEC Disconnect Signal Duration for CPC-B Versions.*** For CPC-B Version
5.0 and higher, the AEC Disconnect Signal Duration is set in **FF1 2# 1# 35#.**

Second Attendant Position
Software Version: CPC-All (all versions) and CPC-B Version 2.0 or higher
Address: FF1 2# 1# 24# (11-69 or 101-699)#

Description   This address assigns an extension number as the Second Attendant position.
By default, the Second Attendant position is extension 101.

When all line appearances at the Primary Attendant are busy, calls will
transfer in sequence to the Second. Third, and Fourth Attendants. If all line
appearances are busy on all Attendants, calls will transfer to the Attendant
Transfer Extension (if assigned).

Programming

To assign a Second Attendant position . . .

```
FF1 2# 1# 24# (11-69 or 101 to 699)#
                           ▲
                  Extension Number
                  (default: 11 or 101)
```

To clear the Second Attendant position . . .

```
FF12# 1# 24# CONF ON/OFF
```

Related Programming

Extension Number Digits: FF1 2# 1# 12# (0 or 1)##

Third Attendant Position: FF1 2# 1# 2% (11-69 or 101-699)#

Fourth Attendant Position: FF12#1# 26# (1 1-69 or 101-699)#

Attendant Transfer Extension: FF12# 1# 27# (1 1-69 or 101-699)#

Extension Numbers (assigning to ports): FF3 (ExtPort)# 1# (ExtNo.)#

Notes   *Programming Restrictions.*   A telephone must be plugged into the Second
Attendant port before its extension number can be programmed or cleared.
Also, use another phone to program or clear its extension number (e.g., you
can't use ext. 101's phone to program ext. 101 as the Second Attendant
position).

Limitations on Assigning Attendant Phones.   It is recommended that you
leave the Second Attendant at the default assignment (extension 11 or 101),
so that a DSS/BLF console can be used. System default for the Primary
Attendant phone is extension 10 or 100, assigned to port 1 -- and Primary
Attendant assignments cannot be changed.

Third Attendant Position

Software Version: CPC-Ail (all versions) and CPC-8 Version 2.0 or higher
Address: FF1 2# 1# 25# (11-69 or 101-699)#

Description   This address assigns an extension number as the Third Attendant position. By default, no extension is assigned as the Third Attendant.

When all line appearances at the Primary Attendant are busy, calls will transfer in sequence to the Second, Third, and Fourth attendants. If all line appearances are busy on all Attendants, calls will transfer to the Attendant Transfer Extension (if assigned).

Programming

To assign a Third Attendant position . . .

```
FF1 2# 1# 25# (11-69 or 101 to 699)#
                        ↑
                        |
                Extension Number
        (default: no Third Attendant assigned)
```

To clear the Third Attendant position . . .

```
FF1 2# 1# 25# CONF ON/OFF
```

Related Programming

Extension Number Digits: FF1 2# 1# 12# (0 or 1)##
Second Attendant Position: FF 1 2# 1# 24# (1 1-69 or 101-699)#
Fourth Attendant Position: FF1 2# 1# 26# (11-69 or 101-699)#
Attendant Transfer Extension: FFI 2# 1# 27# (11-69 or 101-699)#
Extension Numbers (assigning to ports): FF3 (ExtPort)# 1# (ExtNo.)#

Notes   *Programming Restrictions.*   A telephone must be plugged into the Third Attendant port before its extension number can be programmed or cleared. Also, use another phone to program or clear its extension number (e.g., you can't use ext. 102's phone to program ext. 102 as the Third Attendant position).

Limitation on Assigning the Third Attendant.   The DBS system will not allow you to assign extension 10 or 100 as the Third Attendant position. This is the system default for the Primary Attendant phone, which cannot be changed.

Fourth Attendant Position
Software Version: CPC-All (all versions) and CPC-B Version 2.0 or higher
Address: FF1 2# 1# 26# (11-69 or 101-699)#

Description   This address assigns an extension number as the Fourth Attendant position. By default, no extension is assigned as the Fourth Attendant.

When all line appearances at the Primary Attendant are busy, calls will transfer in sequence to the Second, Third, and Fourth Attendants. If all line appearances are busy on all Attendants, calls will transfer to the Attendant Transfer Extension (if assigned).

Programming

To assign a Fourth Attendant position . . .

> **FF1 2# 1# 26# (11-69 or 101 to 699)#**
>
> ↑
>
> Extension Number
> (default: **no Fourth Attendant assigned**)

To clear the Fourth Attendant position . . .

> **FF1 2# 1# 26# CONF ON/OFF**

Related Programming

Extension Number Digits: FF1 2# 1# 12# (0 or 1)##

Second Attendant Position: FF1 2# 1# 24# (1 1-69 or 101-699)#

Third Attendant Position: FF1 2# 1# 25# (11-69 or 101-699)#

Attendant Transfer Extension: FF1 2# 1# 27# (11-69 or 101-699)#

Extension Numbers (assigning to ports): FF3 (ExtPort)# 1# (ExtNo.)#

Notes   *Programming Restrictions.*   A telephone must be plugged into the Fourth Attendant port before its extension number can be programmed or cleared. Also, use another phone to program or clear its extension number (e.g., you can't use ext. 103's phone to program ext. 103 as the Fourth Attendant position).

Limitation on Assigning the Fourth Attendant.   The DBS system will not allow you to assign extension 10 or 100 as the Fourth Attendant position. This is the system default for the Primary Attendant phone, which cannot be changed.

Attendant Transfer Extension

Software Version: CPC-All (all versions) and CPC-B Version 2.09 or higher
Address: FF1 2# 1# 27# (11-69 or 101-699)#

Description   If all line appearances are busy on all Attendants (Primary, Second, Third and Fourth), calls will transfer to the extension assigned in this address.

Programming

To assign an Attendant Transfer Extension . . .

> **FF1 2# 1# 27# (11-69 or 101-699)#**
>
> Extension Number
> (default: **no Transfer Extension assigned**)

To clear the Attendant Transfer Extension . . .

> **FF1 2# 1# 27# CONF ON/OFF**

Notes   *Pilot Number Restriction.* The overflow position must be an installed extension -- it cannot be a hunt group pilot number.

Attendant Override

Software Version: CPC-All (all versions) and CPC-B Version 2.09 or higher
Address: FF1 2# 1# 28# (0 or 1)#

Description   Use this address to enable or disable the Attendant Override feature. which allows an Attendant phone to "barge into" a trunk or intercom call in progress on any extension -- even if the extension has been programmed to block barge-ins. By default, Attendant Override is enabled.

When a barge-in occurs, all three parties can hear and talk to each other.

Programming

```
                    FF1 2# 1# 28# (0 or 1)#

                                    ▲
                                    |
                        0=Disables Attendant Override.
                        1=Enables Attendant Override.
```
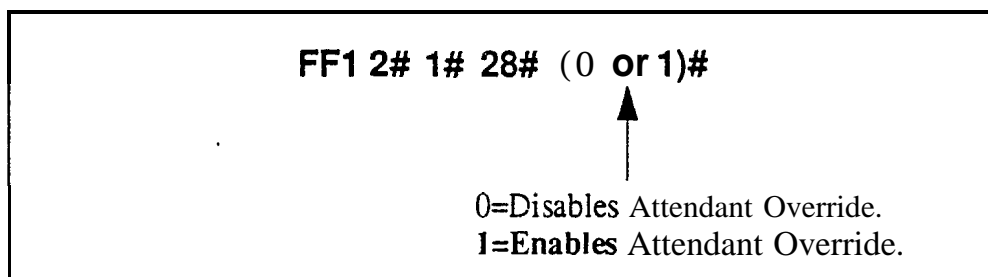
Related Programming

klert Tone for Busy Override & OHVA: FF1 2# 1# 17# (0 or 1)#

Attendant LED Alarm Indication
Software Version: CPC-B Versions 2.09 to 4.0 (requires Attendant Feature Package)
Address: FF1 2# 1# 29# (0 or 1)#

Description   Use this address to allow or disallow the Alarm feature (LED lights to indicate an alarm condition) to be assigned to an FF key on an Attendant phone. By default, the Alarm feature can be assigned.

NOTE: The Attendant Feature Package (AFP) was discontinued in CPC-B Version 5.0.

Programming

```
                    FF1 2# 1# 29# (0 or 1)#

                                ▲
                                │

            0=Alarm feature cannot be assigned to Attendant FF key.
            1=Alarm feature can be assigned to Attendant FF key.
```

Related Programming

AFP Key Assignn tents: FF5 (1 49-152)# (1-72)# (FF 12 4)#

Notes   *Installing AFP.* Installation of the AFP software requires the replacement of EPROM Chip 1 on the CPC-B card with an AFP chip. Make sure the new chip is installed in the proper direction. See *Technote 4 (September 1991)* for complete information.

Extension (BLF) Delayed Ring

Software Version: CPC-All (all versions) and CPC-B Version 2.0 or higher
Address: FF1 2# 1# 30# (0 or 1)#

Description   Use this address to enable or disable Delayed Ringing for intercom calls. By
default, Extension (BLF) Delayed Ringing is disabled.

Delayed Ringing is a call-forwarding feature for unanswered calls -- if an
incoming call is not answered at one extension, the system will send the call
to another extension.

NOTE: The extension to which the call is forwarded must have a DSS/BLF
key.

Programming

```
FF1 2# 1# 30# (0 or 1)#
              ▲
              |
        0=Extension Delayed Ringing is disabled.
        1=Extension Delayed Ringing is enabled.
```

Related Programming

Extension Delayed Ring Table: FF4 8# (ExtPort)# (ExtPort)# (0 or 1)#

Extension Delayed Ring Timer (CPC-B 2.0 or higher):   FF1 3# 27# (0-15)#

Call Forward-No Answer Timer (CPC-B prior to 2.0): FF1 3# 19# (0-1S)#

Analog Transfer Ring Pattern
Software Version: CPC-All (all versions) and CPC-B Version 2.11 or higher
Address: FF1 2# 1# 31# (0-6)#

Description   Use this address to choose a distinctive ringing pattern for calls transferred to analog SLT phones. This setting is typically used for calls transferred to a modem, or for SLT phones requiring distinctive ringing for transferred calls,

There are 7 different patterns (numbered **O-6**) to choose from. The pattern for each setting depends on the analog connection --

* an SLT phone connected directly to an AEC card;
* an SLT phone connected to an OPX Adapter; or
* an SLT phone connected to an SLT-A (4-port Adapter).

Programming

```
FF1 2# 1# 31# (0-6)#

            ▲
            |
   Transfer Ring Pattern setting
   (see table below)
```
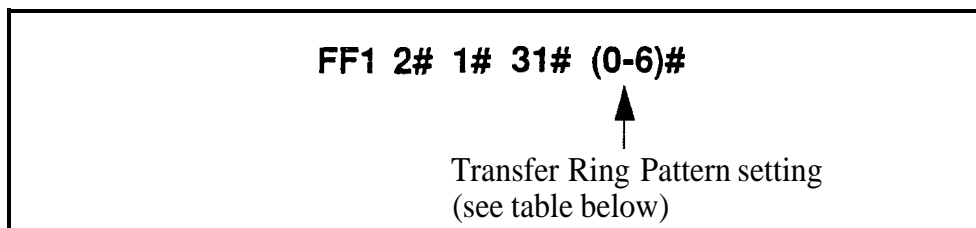
Table 1-2.   Analog Transfer Ring Patterns (vary depending on analog connection)

Address Setting	Ring Pattern (no. of seconds on/off) for SLT phones connected to ...		
	AEC Card	OPX Adapter	SLT Adapter (SLT-A)
0	.5 on / 4 off	.5 on / 3.5 off	.25 on / .25 off / .25 on / 3.5 off
1	1 on / .25 off / 1 on / .25 off / 1 on / 2 off	3 on / 1 off	.25 on / 3.5 off
2	1 on / .25 off / 1 on / 3 off	2 on / 2 off	1 on / 3.5 off
3	1 on / 2 off	1 on / 2 off	1 on / 3 off
4	I 1 on / 3 off	I 1 on / 3.5 off	I 1 on / 7 off
5	1 on / 6 off	1 on / 5 off	.5 on / 7 off
6	1 on / 4 off / 1 on / 7 off	1 on / 7 off	.25 on / .25 off / .25 on / 7 off

Related Programming

Analog Transfer Ring Pattern (CPC-A 3.21 or higher): FF1 2# 1# 22# **(0-6)#**

Terminal Type: FF3 (ExtPort)# 2# (Type)#

Extension Ring Pattern: FF3 (ExtPort)# 39# (0-9)#

Multiple DID/DNIS

Software Version: CPC-B Version 4.0 **or higher**
Address: FF1 2# 1# 32# (0 or 1)#

Description   Use this address to enable or disable Multiple DID for analog trunks, or
Multiple DID and DNIS for T1 trunks. By default. Multiple DID/DNIS is
disabled.

With Multiple DID/DNIS enabled, one DID or DNIS number can be assigned
to multiple extensions, which will simultaneously ring when an outside caller
dials the DID or DNIS number.

- DID stands for "Direct Inward Dialing." DID can be used only in systems
  using analog trunks exclusively (no other types of trunks are used in the
  system). Up to 500 DID numbers can be assigned to extension numbers in
  FF1 8# 3# (0000-9999)# (ExtNo.)#.
- DNIS stands for "Dialed Number Identification Service." DNIS is
  available only with the T1 Interface. You can use DID and DNIS
  simultaneously in a T1 system. Up to 500 DNIS numbers can be assigned
  to extension numbers in FF1 8# 4# 7# (0000-9999)# (10-69 or 100-699)#,
  in addition to the 500 DID numbers allowed.

Programming

```
                    FF1 2# 1# 32# (0 or 1)#
                                    ▲
                                    |
                    0=Disables Multiple DID/DNIS ringing.
                    1=Enables Multiple DID/DNIS ringing.
```

Related Programming

Inbound DID Dial Numbers: FF1 8# 3# (0000-9999)# (100-699)#

DID/DNIS (enabling trunks for): FF1 8# 4# 6# (Trunk)# 2# (0-2)#

DNIS Number Setting: FF1 8# 4# 7# (0000-9999)# (10-69 or 100-699)#

DID Flexible Ringing Assignments: FF1 8# 5# (DIDNo.)# (ExtNo.)#
(000000-111111)#

DNIS Flexible Ringing Assignments: FF1 8# 6# (DNISNo.)# (ExtNo.)#
(000000-111111)#

Extension Numbers (assigning to ports): FF3 (ExtPort)# 1# (ExtNo.)#

Notes

Restriction Far ***CPC-B Version 3.1.*** This address is also present in CPC-B Version 3.1; however, it only controls Multiple DID (DMS cannot be used with this version).

DID Hardware and Power Requirements. The DID trunk card is required: each card provides 8 ports. The card requires dial-pulse dialing and an external, -48V power supply. See *Section 300-Installation* for cabling instructions.

DID/DNIS Digit Length Requirement. The DBS only supports 4-digit DID/ DMS numbers.

Central Office Requirement. When the CO sends a DID/DNIS call to the DBS, it first receives a wink from the DBS before sending the digits. Once the wink is received, the CO should wait at least 200 ms before sending the digits.

Trunk Requirement. Individual trunks must be enabled for DID or DMS (see FF 1 8# 4# 6# Trunk# 2#).

Simultaneous Ringing. If Multiple DID/DNIS is enabled, all extensions assigned the same DID/DNIS number will ring for the incoming DID/DNIS call. If you later disable Multiple DID/DNIS, only the extension at the lowest-numbered'port will ring for the DID/DNIS call.

Call Forwarding Interaction.. If Multiple DID/DNIS is enabled, and the DID/DNIS extensions are programmed to call-forward to different extensions. the simultaneous ringing will also apply to the call-forward destination extensions. In other words, all call-forward paths will be followed simultaneously for the same DID/DNIS call, until someone picks it up. If you later disable Multiple DID/DNIS, only the call-forwarding path assigned to the extension at the lowest-numbered port will be followed.

Page Duration

Software Version: CPC-All (all versions) and CPC-B Version 3.1 or higher
Address: FF1 2# 1# 33# (0 or 1)#

Description   This address determines whether the DBS system will automatically close the
paging circuit 60 seconds after a page is initiated. By default, the paging
circuit is left open indefinitely, until the paging person closes the circuit by
hanging up.

Programming

> **FF1 2# 1# 33# (0 or 1)#**
>
> ↑
>
> |
>
> **0=The page circuit remains open indefinitely.**
> 1=The paging circuit remains open for 60 seconds before
>   the system closes it.

SLT DISA Ring Pattern

Software Version: CPC-All (all versions) and CPC-B Version 3.1 or higher
Address: FF1 2# 1# 34# (0 or 1)#

Description   Use this address to specify a distinctive ring pattern for DISA calls on SLT
phones, or follow the Analog Transfer Ring Pattern setting. By default, the
pattern is 1 second on / 3 seconds off.

Programming

```
                    FF1 2# 1# 34# (0 or 1)#
                                  ▲
                                  |
                    0=1 second on / 3 seconds off.
                    1=Same as the Analog Transfer Ring Pattern.
```

Related Programming

Analog Transfer Ring Pattern (CPC-All and CPC-B): FF1 2# 1# 31# (0-6)#

AEC Disconnect Signal Duration

Software Version: CPC-All (all versions) and CPC-B Version 5.0 or higher
Address: FF1 2# 1# 35# (0-15)#

Description   Use this address to set the duration of a positive disconnect signal sent from analog extension ports (VB-43621A version of the AEC card). Sending this signal allows quick disconnect from third-party voice mail systems. By default, no disconnect signal is sent.

This address applies to CPC-AI1 and CPC-B. The AEC Disconnect Signal Duration address for CPC-A (Version 3.3 or higher) is FF1 2# 1# 23# (0-15)#.

The sending of the AEC disconnect signal can be enabled or disabled on individual extensions using FF3 (ExtPort)# 46#.

Programming

FF1 2# 1# 35# (0-1 5)#

▲

AEC Disconnect Signal Duration setting
Default: **0 (no signal sent)**
(see table below)

Table 1-3.   AEC Disconnect Signal Duration values

Setting	Value
0	**No disconnect signal sent**
1	I 100 ms
2	200 ms
3	300 ms
4	400 ms
5	500 ms
6	600 ms
7	700 ms
8	800 ms
9	900 ms
10	1 second
11	1.5 seconds
12	2 seconds
13	2.5 seconds
14	3 seconds
15	3.5 seconds

DID/DNIS to a Voice Mailbox

Software Version: CPC-B Version 6.0 or higher
Address: FF1 2# 1# 36# (0, 1 or 2)#

Description   This address determines whether (and how many) final digits of a DID/DNIS phone number are transmitted to Voice Mail, in cases where the DID/DNIS trunk is assigned to ring directly to Voice Mail (not to a DBS extension phone). This address allows DID/DNIS calls to be routed to a Voice Mailbox system that is not connected to a physical extension.

To implement this feature, assign the DID/DNIS trunks to ring at the Voice Mail system (using FF4 ring assignment addresses). Once Voice Mail answers, the DBS sends a DID/DNIS Answer Code that signals the Voice Mail system to open the appropriate mailbox, plus the final DID/DNIS digits (if any) specified in this address.

Programming

FF1 2# 1# 36# (0, 1 or 2)#

↑

0=No DID/DNIS digits are transmitted (only the Answer Code).
l=Answer Code, then final 4 DID/DNIS digits are transmitted.
2=Answer Code, then final 3 DID/DNIS digits are transmitted.

Related Programming

DID/DNIS Answer Code: FF1 2# 1# 37# (NNNNNN)#

DID/DNIS (enabling trunks for): FF1 8# 4# 6# (Trunk)# 2# (0-2)#

Inbound DID Dial Numbers: FF1 8# 3# (0000-9999)# (100-699)#

DMS Number Setting: FF1 8# 4# 7# (0000-9999)# (10-69 or 100-699)#

Terminal Type: FF3 (ExtPort)# 2# (Type)#

Ringing Assignments (trunks to extensions):   FF4 addresses

Notes   *DID/DNIS Digit Transmission.*   The DID/DNIS digits are sent only to ports that are assigned as Voice Mail.

Voice Mail Ports and Hunt Groups.   The DID/DNIS digits can be sent to a specific Voice Mail port or a Voice Mail hunt group.

Second Hunt Group.   If the DID/DNIS call rings into a hunt group that is programmed to transfer calls to a second hunt group, the DID/DNIS call will not be transferred to the second hunt group.

Third-Party Voice Mail. This feature can be used with Panasonic's Voice Mail system or with third-party Voice Mail systems. If the feature is used with third-party Voice Mail systems, the Voice Mail can be connected through analog extension ports or OPX ports.

Call Forward ID Code for DID/DNIS Calls To An Extension. If a DID/DNIS call is assigned to ring an extension, and the extension is programmed to forward to Voice Mail, only the Call Forward ID Code will be transmitted to Voice Mail (the DID/DNIS digits will not).

DID/DNIS Data Transmission. The DID/DNIS digits are transmitted over the API link using the existing API key code packet.

DID/DNIS Answer Code

Software Version: CPC-B Version 6.0 or higher
Address: FF1 2# 1# 37# (Code)#

Description   Use this address to specify a DID/DNIS Answer Code. The Answer Code is used for routing DID/DNIS calls to a Voice Mailbox system that is not connected to a physical extension.

To implement this feature, assign DID/DNIS trunks to ring directly to the Voice Mail system using FF4 ring assignment addresses. Once Voice Mail answers, the DBS sends the DID/DNIS Answer Code, which signals the Voice Mail system to open the appropriate mailbox.

Programming

```
           FF1 2# 1# 37# (NNNNNN)#
                         ▲
                         │
                  DID/DNIS Answer Code
                   (up to 6 characters)

          Valid Entries: O-9, *, #, or REDIAL (pause)
```

Related Programming

DID/DNIS to a Voice Mailbox: FF1 2# 1# 36# (0, 1 or 2)#

DID/DNIS (enabling trunks for): FF1 8# 4# 6# (Trunk)# 2# (0-2)#

Inbound DID Dial Numbers: FF1 8# 3# (0000-9999)# (100-699)#

DNIS Number Setting: FF1 8# 4# 7# (0000-9999)# (10-69 or 100-699)#

Terminal Type: FF3 (ExtPort)# 2# (Type)#

Ringing Assignments (trunks to extensions): FF4 addresses

Notes   *Assigning the DID/DNIS Answer Code When Not In Programming Mode.*   The DID/DNIS Answer Code may be entered from an Attendant phone, or from a key phone where the programming access code has been entered. Press PROG **#95** NNNNNN HOLD -- where **"NNNNNN"** is the Answer Code of up to 6 characters, including O-9, *, #, or REDLAL (for "pause").

DIDIDNIS Digit Transmission.   The DID/DNIS digits are sent only to ports that are assigned as Voice Mail.

Voice Mail Ports and Hunt Groups. The DID/DNIS digits can be sent to a specific Voice Mail porr or a Voice Mail hunt group.

Second Hunt Group. If the DID/DNIS call rings into a hum group that is programmed to transfer calls to a second hunt group, the DID/DNIS call will not be transferred to the second hunt group.

Third-Party Voice Mail. This feature can be used with Panasonic's Voice Mail system or with third-party Voice Mail systems. If the feature is used with third-party Voice Mail systems, the Voice Mail can be connected through analog extension ports or OPX ports.

Call Forward ID Code for DZDIDNZS Calls To An Extension. If a DID/DNIS call is assigned to ring an extension, and the extension is programmed to forward to Voice Mail, only the Call Forward ID Code will be transmitted to Voice Mail (the DID/DNIS digits will not).

DID/DNIS Data Transmission. The DID/DNIS digits are transmitted over the API link using the existing API key code packet.

LCD Timer for Caller ID

Software Version: CPC-All and CPC-B, Version 6.1 or higher
Address: **FF1 2# 1# 38# (0, 1** or **2)#**

Description   The LCD Timer determines how long the DBS waits before displaying call duration timing on the phone's LCD. This Timer allows Caller ID information (if available) to appear before the call duration timing is displayed.

For example, if the LCD Timer is set to 5 seconds (default), call duration timing will start displaying on the phone's LCD 5 seconds after an outgoing number is dialed, or 5 seconds after an incoming call is answered.

Programming

FF1 2# 1# 38# (0, 1 or 2)#

↑

0=5 seconds
1= 16 seconds
2=30 seconds
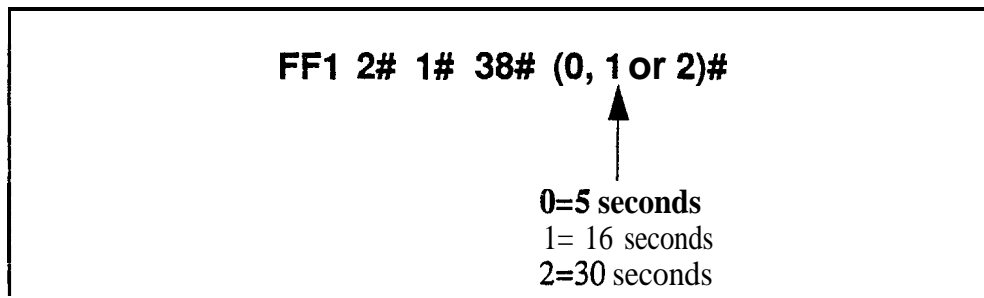
Related Programming

Call Duration Display: FF1 2# 1# 1# (0 or 1)#

SMDR Display Start Timer for CO Calls: FF1 2# 1# 2# (0, 1 or 2)#

Notes   *SMDR Interaction.* The LCD Timer only affects the **display** of call duration. The system begins the actual SMDR recording of the call according to the SMDR Start Timer address (FF1 2# 1# 2#). In order for call duration to be displayed, the LCD Timer has to **expire** after the SMDR Start Timer -- which means the LCD Timer setting must be equal to or greater than the SMDR Start Timer.

Caller ID Interaction. The LCD 'Timer setting will be the actual length of time that Caller ID information is displayed before the LCD changes to call duration timing. However, the Timer also controls when call duration display begins for all types of trunk calls, not just Caller ID calls.

Internal Hold Tone

Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF1 2# 1# 39# (0 or 1)#

Description   Use this address to enable or disable Internal Hold Tone, which is a double-beep heard every 7 seconds by a caller on hold.

Programming

```
FF1 2# 1# 39# (O or 1)#
                      ▲
                      |
                0=Disabled (no Internal Hold Tone)
                1=Enabled (Internal Hold Tone heard)
```

Notes   *MOH* Override.   Internal Hold Tone (if enabled) will override any MOH (Music-On-Hold) sound source installed.

Door Opener Access Code Required
Software Version: CPC-All and CPC-8, Version 7.0 or higher
Address: FF1 2# 1# 40# (0 or **1)#**

Description   This address determines whether a Door Opener Access Code must be
entered on an extension to unlock the Door Box. This applies to Door Boxes
connected to digital extension ports (not trunk ports).

Programming

```
FF1 2# 1# 40# (0 or 1)#

            ↑
            |
               0=Not required
               1=Required
```
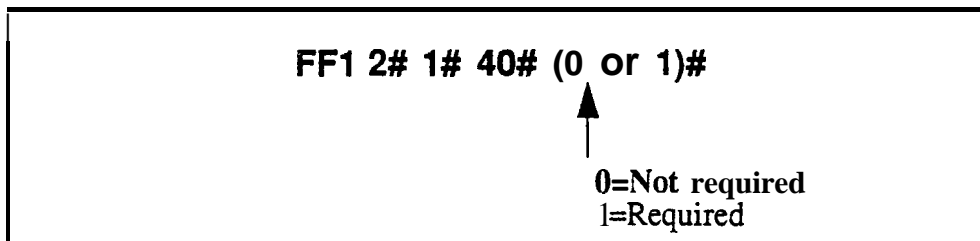
Related Programming

Door Phone Extensions: FF1 2# 9# (1-4)# 1# (ExtPort)#

Door Opener Access Code: FF1 2# 9# (1-4)# 3# (0000-9999)#

Notes   *Unlocking the Door Box During a Door Phone* Call. If this address is set to
"1" (Required), an extension user answering a door phone call would unlock
the door by pressing **#3** NNNN * (where NNNN=Access Code). If set to
"0" (Not required), the extension user answering the door phone call would
simply press **#3***.

Unlocking the Door Box From Another Extension. The door can also be
unlocked from any other extension not engaged in a door phone call. If this
address is set to "1" (Required), dial ON/OFF **#3** XXX NNNN * on any
extension (where XXX=Door Box extension number, and NNNN=Access
Code) to unlock the door. If set to "0" (Not required), dial ON/OFF **#3**
XXX * to unlock the door.

Hardware Requirement.   The Door Opener Access Code applies to door
phone devices connected to the VB-437 11 Door Phone Adaptor, which
connects the Door Box to a digital extension port Door Boxes connected to
trunk ports use another Adaptor (VB-43701), and do not utilize the Access
Code.

API Port Type

Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF1 2# 1# (41 or 42)# 1# (0 or 1)#

Description   Use this address to configure the appropriate API port for TSAPI protocol.
Only one API port should be configured for TSAPI.

Programming

FF1 2# 1# (41 or 42)# 1# (0 or 1)#

API Port Number: Port Type:
41=API Port 1   0=Standard API protocol
42=API Port 2   1=TSAPI protocol
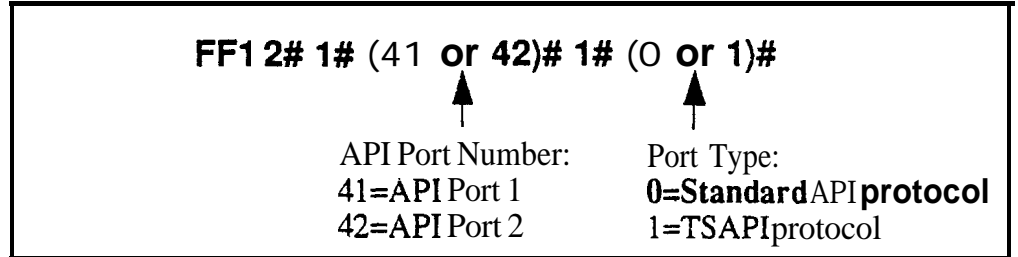
Related Programming

API Baud Rate: FF1 2# 1# (41 or 42)# 2# (0 or 1)#

API Baud Rate

Software Version: **CPC-All** and CPC-B, Version 7.0 or higher
Address: **FF1 2#** 1# (41 or **42)# 2#** (0 or **1)#**

Description   The baud rate for the TSAPI port can be set to either 9600 or 19200 bps.

Programming

```
FF1 2# 1#  (41 or 42)# 2#  (O or 1)#
               ▲              ▲
               ┊              ┊
         API Port Number:    Baud Rate:
         41=API Port 1       0=9600 bps
         42=API Port 2       1=19200 bps
```
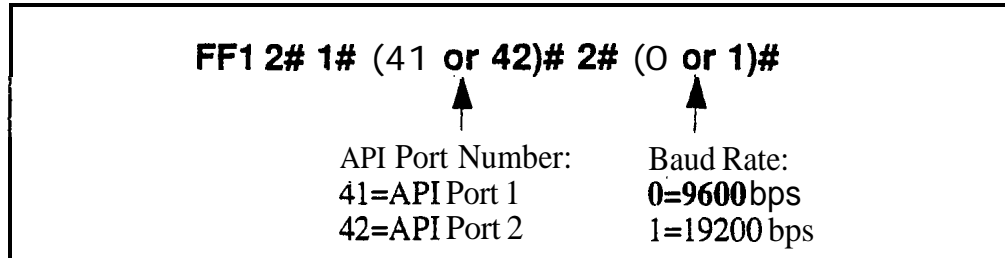
Related Programming

API Port Type: FF1 2# 1# (41 or 42)# 1# (0 or 1)#

Notes   *Using **Both API Ports.*** If both API ports are being used, both baud rates
must be set to 9600 bps.

Serial Port Parameters (TTY Settings)

Parity Check
Software Version: All Versions
Address: FF1 2# 2# 1# (0 or 1)#

Description   This address determines whether the DBS checks parity over serial port CN6. By default, parity checking is turned on.

If parity checking is activated, select the parity count -- "Even" or "Odd" -- in FF1 2# 2# 2#.

Serial Port CN6 is normally used for SMDR.

Programming

<p align="center">FF1 2# 2# 1# (0 or 1)#</p>

<p align="center">↑</p>

<p align="center">0=Turns off the parity check.
1=Turns on the parity check.</p>

Related Programming

Odd/Even Parity: FF1 2# 2# 2# (0 or 1)#

Notes   ***Checking Communications Parameters.*** If you later change this address value, be sure to check all Serial Port addresses -- FF1 2# 2# 1# thru 9# -- to make sure they are set properly.

Odd/Even Parity

Software Version: All Versions
Address: FF1 2# 2# 2# (0 or 1)#

Description   If parity checking for Serial Port CN6 was activated in FF1 2# 2# 1#, this address (Odd/Even Parity) determines whether the check is based on an even count or an odd count. By default, the parity count is even.

Programming ·
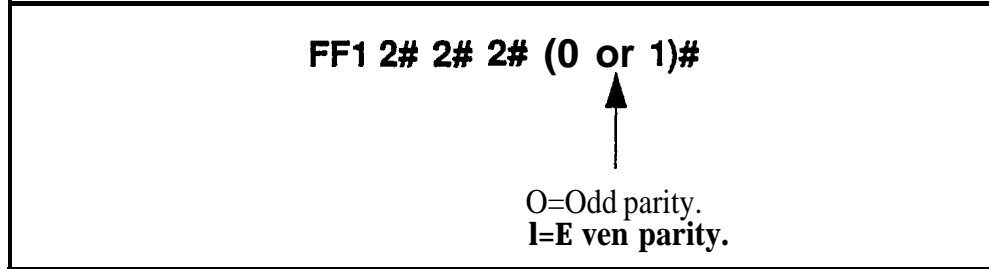
```
              FF1 2# 2# 2# (0 or 1)#
                          ▲
                          |
                          |
                    O=Odd parity.
                    l=E ven parity.
```

Notes   *Checking Communications Parameters.*   If you later change this address value, be sure to check all Serial Port addresses -- FF1 2# 2# 1# thru 9# -- to make sure they are set properly.

Baud Rate

Software Version: All Versions
Address: FF1 2# 2# 3# (1-4)#

Description Use this address to set data transmission speed (baud rate) between Serial Port CN6 and the peripheral equipment attached to it. By default, baud rate is set at 9600 bits per second.

Programming
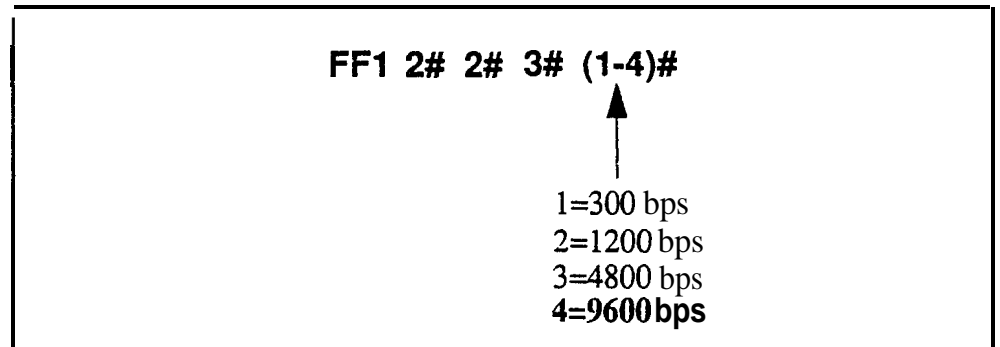
```
                    FF1 2# 2# 3# (1-4)#
                              ▲
                              │
                          1=300 bps
                          2=1200 bps
                          3=4800 bps
                          4=9600 bps
```

Notes *Checking Communications Parameters.* If you later change this address value, be sure to check all Serial Port addresses -- FF1 2# 2# 1# thru 9# -- to make sure they are set properly.

Stop Bit Length
Software Version: All Versions
Address: FF1 2# 2# 4# (1-3)#

Description   This address sets the length of the stop-bit parameter for transmitted data over Serial Port CN6. By default, the stop bit length is set to 1 bit.

Programming
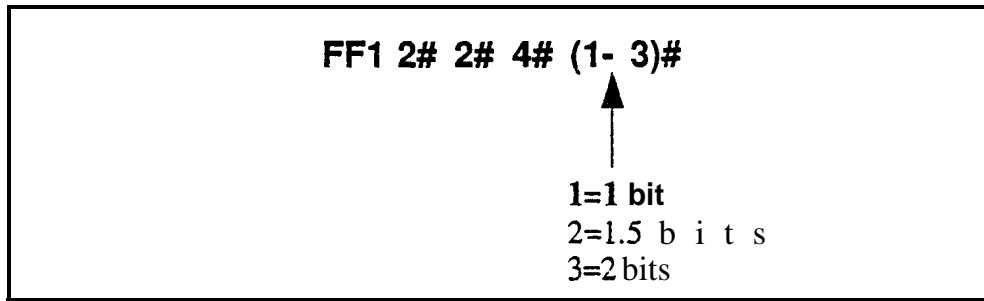
```
              FF1 2# 2# 4# (1- 3)#
                              ▲
                              |
                        1=1 bit
                        2=1.5 b i t s
                        3=2 bits
```

Notes   ***Checking Communications Parameters.***   If you later change this address value, be sure to check all Serial Port addresses -- FF1 2# 2# 1# thru 9# -- to make sure they are set properly.

Data Length
Software Version: All Versions
Address: FF1 2# 2# 5# (3 or 4)#

Description   This address sets the length of the transmitted data string over Serial Port
CN6. By default, data length is set to 8 bits.

Programming
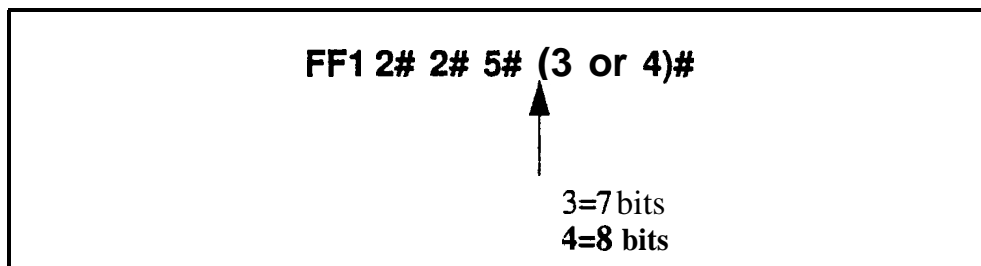
```
                        FF1 2# 2# 5# (3 or 4)#
                                    ▲
                                    |
                                 3=7 bits
                                 4=8 bits
```

Notes   *Checking Communications Parameters.*   If you later change this address
value, be sure to check all Serial Port addresses -- FF1 2# 2# 1# thru 9# -- to
make sure they are set properly.

SMDR Printing Mode 1: Outbound and Inbound

Software Version: All Versions
Address: **FF1 2# 2# 6#** (0 or **1)#**

Description   The SMDR data sent to Serial Port CN6 can be programmed to include both outbound and inbound calls, or it can be limited to outbound calls only. By default, both outbound and inbound calls are recorded.

Programming

```
FF1 2# 2# 6# (0 or 1 )#
                    ▲
                    |
         0=Include outbound calls only.
         1=Include both inbound and outbound calls.
```

Notes   ***Bus Monitor Mode Interaction.***   If the DBS is switched to Bus Monitor mode for troubleshooting, the SMDR mode must be reactivated to resume SMDR output. The SMDR mode can be reactivated from any Attendant phone by pressing ON/OFF - #93 - ON/OFF.

SMDR Printing Mode 2: Long-Distance and Local Calls

Software Version: All Versions
Address: FF1 2# 2# 7# (0 or 1)#

Description   The SMDR data sent to Serial Port CN6 can be pro&rarnmed to include both local and long-distance calls. or it can be limited to long-distance calls only. By default, both local and long-distance calls are included.

Programming .
_____

FF1 2# 2# 7# (0 or 1)#

▲
⋮

0=Include long-distance calls only.
1=Include local and long-distance calls.

Notes   ***Bus Monitor Mode Interaction.***   If the DBS is switched to Bus Monitor mode for troubleshooting, the SMDR mode must be reactivated to resume SMDR output. The SMDR mode can be reactivated from any Attendant phone by pressing ON/OFF - #93 - ON/OFF.

SMDR Printing Mode 3: Header Title

Software Version: All Versions
Address: FF1 2# 2# 8# (0 or 1)#

Description   The SMDR data sent to Serial Port CN6 can be programmed to include a
header title (inserted every 60 lines on the SMDR report); or the header title
can be excluded from the report. By default, the header title is excluded.

The header title identifies the SMDR information in each column on the
report -- "Time," "Duration," "COW, etc.

Programming

```
                 FF1 2# 2# 8# (0 or 1)#
                              ▲
                              |
                       0=Do not include the header title.
                       1=Include the header title.
```

Notes   ***Bus Monitor Mode Interaction.***   If the DBS is switched to Bus Monitor
mode for troubleshooting, the SMDR mode must be reactivated to resume
SMDR output, The SMDR mode can be reactivated from any Attendant
phone by pressing ON/OFF - #93 - ON/OFF.

Serial Port Flow Control (XON / XOFF)
Software Version: All Versions
Address: FF1 2# 2# 9# (0 or 1)#

Description   If "XON/XOFF" is activated in this address, the DBS will stop the flow of
data when the SMDR device's memory buffer becomes full, and resume the
flow when the buffer empties.

"XON/XOFF" should be deactivated (default setting) if a flow control
mechanism is present elsewhere in the interface (i.e., in the printer, or RTS
and CTS lines). A flow control mechanism should always be present in order
to prevent data from being lost during transmission.

Programming

```
FF1 2# 2# 9# (0 or 1)#
                  ▲
                  |
          0=DBS does not use "XON/XOFF"
            (flow control is present elsewhere).
          1=DBS uses "XON/XOFF".
```

Notes   *DBS Buffer* Size. The size of the DBS buffer for SMDR is 8 kB. This is the
maximum amount of data that the system can hold while the SMDR device is
emptying its buffer.

RAI Baud Rate

Software Version: CPC-All (all versions); CPC-B Version 1.0 or higher
Address: **FF1 2# 2# 10# (0 or 1)#**

Description   The baud rate used for the DBS's internal RAI modem can be set to 300 or
1200 bps. By default, 300 bps is used for remote programming.

Programming

```
                FF1 2# 2# 10# (0 or 1)#
                                ▲
                                |
                             0=300 bps
                             1=1200 bus
```
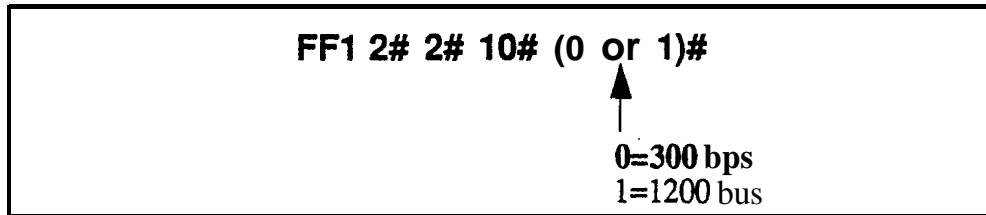
Related Programming

Remote Programming ID Code: FF1 4# (0000-9999)#

Notes   ***Modem Card Requirement for Remote Programming.***   Remote
programming is provided through a modem card installed on the SCC card.
Two versions of the Remote Administration Interface (RAI) modem card are
available: RAI-A and RAI-B.   The following table shows the transmission
rate of each card, along with the SCC version with which it can be used:

Table 14.   RAI Modem Card Compatibility

RAI Version/Part No.	Transmission Rate	SCC Compatibility
RAI-A (VB-43706)	300 bps	SCC-A or SCC-B
RAI-B (VB-43707)	300 or 1200 bps	SCC-B only

Restrictions for Two-Cabinet Systems Using Voice Mail.   In dual-cabinet
DES systems that have a Voice Mail system connected to an analog extension
port, the RAI card's baud rate must be set *to 300* bps. *See Technote 3 (April
1991)* for complete information.

RAI Data Communications Parameters.   When using the RAI card with
CPC-A, set the Serial Port parameters as follows:

- Parity: None
- Data Length: 8 bits
- Stop Bit Length: 1 bit

In CPC-B configurations, the DBS will automatically set these parameters for
the RAI card.

PBX Settings

PBX Access Code(s)

Software Version: All Versions-
Address: FF1 2# 3# (1-8)# (O-999 or 0*-99*)#

Description   Use this address to program PBX Access Codes for DBS systems installed behind a PBX or Centrex, with Toll Restriction (TRS) enabled. By default, no PBX Access Codes are created.

Creating a PBX Access Code in this address will "activate" the PBX feature; the DBS will recognize the fist dialed digits as the PBX Access Code (separate from the outgoing phone number being dialed). Otherwise, the DBS will regard the Access Code as part of the outgoing phone number.

The DBS can use as many as 8 different PBX Access Codes. Each Access Code can be one, two, or three digits long.

Programming

To program a PBX Access Code . . .

FF1 2# 3# (1-8)# (O-999 or 0*-99*)#

Access Code Number   Access Code Required to Dial the PBX
(*=wildcard; press FF11 to enter it)
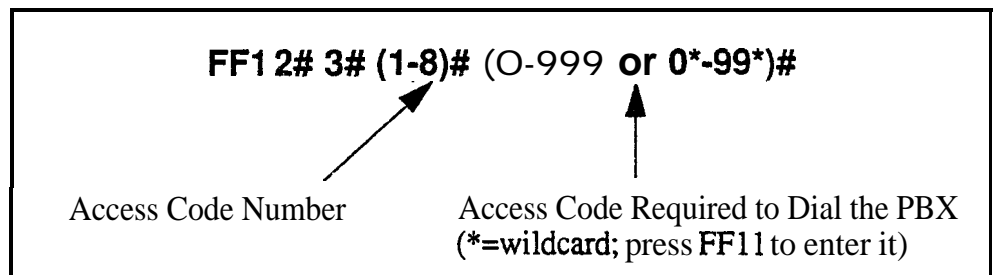
To reset PBX Access Codes to default (* no codes created) . . .**

FF1 2# 3# (1-8)# CONF ON/OFF

Access Code Number

Related Programming

Automatic Pause Position for PBX Access Codes: FF1 2# 3# (9-18)# (1-3)#

Trunk Port Type: FF2 (Trunk)# 10# (1 or 2)#

Automatic Pause Position For PBX Access Codes

Software Version: All Versions
Address: FF1 2# 3# (9-18)# (1-3)#

Description Use this address to insert a pause in the PBX Access Code (and in SSD and PSD codes) after the output of the first, second, or third digit.

The pause ensures that the PBX has time to connect to the CO before the DBS sends the PBX any digits. If the pause is inadequate, the DBS will send digits to the PBX too quickly, causing the call attempt to fail.

Different pause sequences can be assigned to each PBX Access Code.

Programming

To program an Automatic Pause . . .

FF1 2# 3# (9-18)# (1-3)#

First Digit of PBX Access Code
(see table below)

1 =Pause after 1 st digit
2=Pause after 2nd digit
3=Pause after 3rd digit

Address No.	Dialed Digit
9	1
10	2
11	3
12	4
13	5
14	6
15	7
16	8
17	9
18	0

To clear an Automatic Pause from a PBX Access Code . . .

FF1 2# 3# (9-18)# CONF ON/OFF

First Digit of PBX Access Code
(see table, previous page)
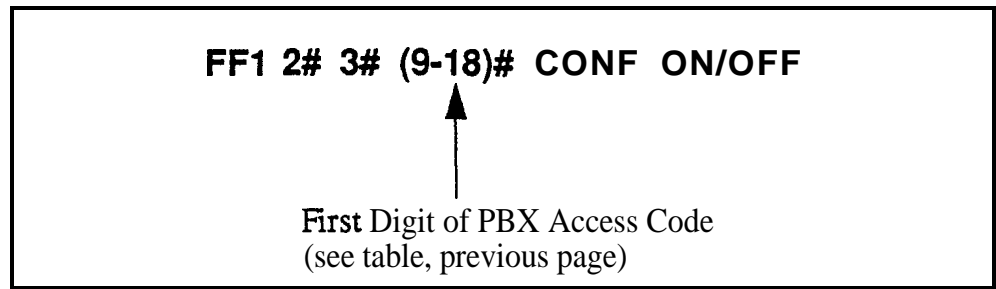
Programming Examples

Insetting a pause after PBX Access Code "9X" . . .

To insert a pause after the PBX access code "9X" is dialed, enter this address ("X" represents the numbers O-9):

FF1 2# 3# 17# 2#

This sequence will insert a pause between the "9X" and the rest of the dialed digits. For example,

91 + PAUSE + 404-555-5793

Inserting a pause after PBX Access Code "8" . . .

To insert a pause after the PBX access code "8" is dialed, enter this address:

FF1 2# 3# 16# 1#

This sequence will insert a pause between the "8" and the rest of the dialed digits. For example,

8 + PAUSE + 404-555-5793

Related Programming

Automatic Pause Timer: FF1 3# 12# (0-15)#

Automatic Pause for PBX Line: FF2 (Trunk)# 13# (0 or 1)#

External (UNA) Relay Control

Ring Patterns For UNA Terminals (M, C and B)
Software Version: All Versions
Address: FF1 2# 4# 1# (0 or 1)#

Description   Use this address to set the ring pattern for incoming trunk calls sent to Universal Night Answer (UNA), where calls ring over a loudspeaker or amplifier. By default, the ring pattern is 1 second on / 3 seconds off.

This address controls the UNA relay terminals labeled "M", "C" and "B" on the DBS Connector Panel. A bell or tone device can be attached to these relay terminals to transmit incoming ring over the loudspeaker. See *Section 300-Installation* for more information about UNA.

Programming

```
          FF1 2# 4# 1# (0 or 1)#

                        ↑

              0=1 second ON / 3 seconds OFF
              1=Continuous ring
```
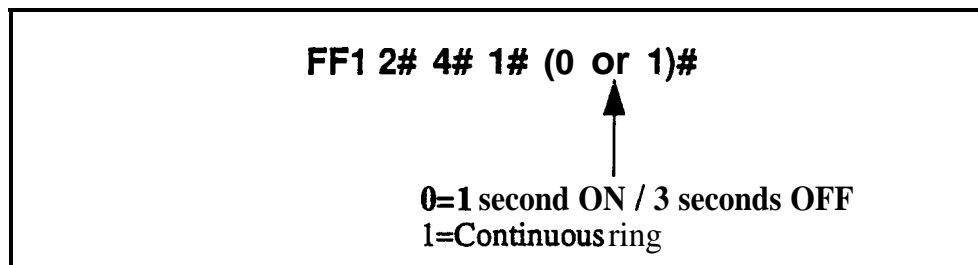
Related Programming ·

CO Ring Assignments: FF4 addresses

CO Ping Cycle Detection Timer: FF1 3# 15# (0-3)#

Notes   *Port Assignments for UNA Ringing (FF4).*   With CPC-A and CPC-AII, use extension port 73 to assign ringing to UNA -- with CPC-B, use extension port 145.

External Page Interface Control For Paging Groups
Software Version: All Versions
Address: FF1 2# 4# (2-9)# (0 or 1)#

Description   Use this address to activate external paging (e.g., loudspeaker installed in
ceiling) for paging groups 00-04. Paging groups 05-07, although included in
this address, cannot be activated for external paging.

Internal paging, where a page is announced on the speakers of extension
phones belonging to the page group dialed, is activated with either setting.

Programming

FF1 2# 4# (2-9)# (0 or 1)#

Page Group
(see table below)

0=**Internal paging only.**
1=**External** and Internal paging
(see table below).

Address Number (2-9)	Page Group	If External Paging is activated ("1" selected above) ...	
		Relay Contacts on DBS Connector Panel	**Audio Path**
2	00	Z0 activated	
3	01	Z1 activated	"M", "B" and "C" contacts are activated.
4	02	22 activated	Audio path is established via CN4 (to which amplifier is connected).
5	03	23 activated	
6	04	Z4 activated	
7	05	Internal Paging Only (not used with Extemai Paging)	
8	06		
9	07		

Related Programming

Page Group Extensions: FF3 (ExtPort)# (18-25)# (0 or 1)#

Notes   ***Puging Control.***   When a page is initiated, either ***zone*** paging or ***general***
paging occurs. For external paging, this is determined by the hardware
connections to the DBS Connector Panel's CN2 terminal block (see ***Section
300-Installation*** for instructions). For internal paging, this is determined by
programming (assigning extensions to page groups in FF3 ExtPort#18-25#).

Page Group 00.   Pages to group 00 will be heard in *all* paging zones.

Class of Service

Extension Class Of Service

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
Address: FF1 2# 5# (1-8)# (1-21)# (0 or 1)#

Description   This address allows you to define up to 8 different Classes of Service, by enabling or disabling the phone features of each. Up to 21 features are available (see table below). The definable Classes of Service are numbered 1-8. An additional Class of Service "0" automatically enables all features and cannot be changed.

Classes of Service are assigned to extensions using FF3 ExtPort# 35# (0-8)#.

Programming

```
            FF1 2# 5# (1-8)# (1-21)# (0 or 1)#
```

Class of Service   Class of Service   &Off (disabled)
                        Features (see   1=On (enabled)
                        table below)
                                                  Note: All features are
                                                  defaulted to "Off" for
                                                  Classes of Service 1-8.
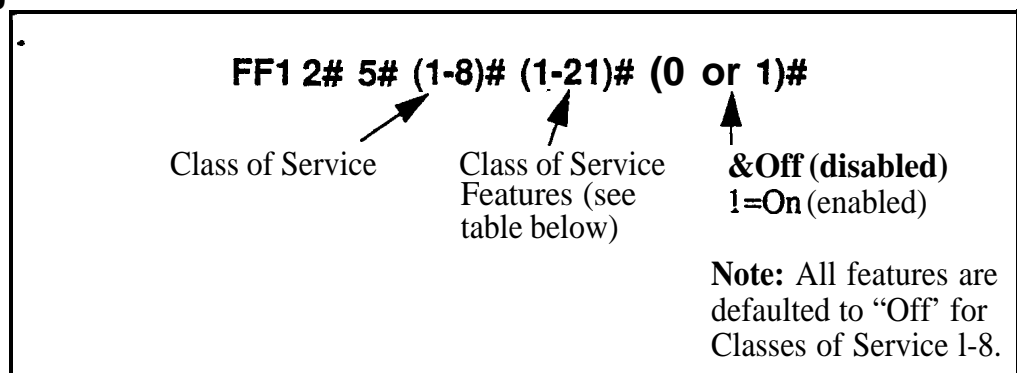
Table 1-5.   Class of Service features

Setting	Value (Feature Description)
1	Dial Tone On/Off (#50)
2	Head/Handset Exchange (#51)
3	BGM On/Off (#53)
4	Absence Message Set/Reset (7 1)
5	Call Forward Set/Reset (72)
6	Do Not Disturb (73)
7	Station Lockout (74)
8	Park Access (75)
9	Park Pick Up (76)
10	Meet Me Answer (77)
11	UNA Pickup (78)

12	Direct Pickup (79)
13	Group Pickup (70)
14	Tone/Voice Mode (1)
15	Message Waiting Set (2)
16	Busy Override (4)
17	call waiting (3)
18	Offhook Voice Announce (5)
19	Central Office Call Queuing (2)
20	SLT Transfer (8)
21	Call Forward--Outside (723) Note: This item controls external call forwarding for internal calls in CPC-B Version 5.0 to 6.x (prior to 7.0).

Related Programming

Extension Class of Service Assignment: FF3 (ExtPort)# 35#

Notes   ***Interaction with Extension Class of Service Assignment.*** By default, every extension is assigned to Class of Service "0" (all 21 features are enabled). To restrict feature usage on the extension, assign another Class of Service (l-8) to it.

Caution When Changing A Class of Service Feature Setting. If you disable a previously enabled feature for a Class of Service, make sure the feature is not currently being used on the extension(s) assigned that Class of Service. Otherwise, the extension user may not be able to deactivate the feature.

For example, if you reset Feature No. 3 to "0" (disabled) while an extension has Background Music turned on, the extension user will not be able to turn it off. (If this occurs, re-enable Feature No. 3 for the Class of Service, then turn Backgound Music off at the extension -- then disable Feature No. 3 again.)

Call Forward--Outside (21) Feature Expansion. Beginning with CPC-AII and CPC-B Version 7.0, any call (not just internal calls) can be call-forwarded to an outside number.

Account Codes

Verified Forced Account Codes

Software Version: **CPC-All (all versions); CPC-B Version 3.1 or higher**
Address: FF1 2# 6# (1-100)# 1# (0001-9999)#

Description   Use this address to assign up to 100 four-digit verified account codes. Once the account codes are assigned, use address FF1 2# 6# (1-100)# 2# (0-7)# to assign a Toll Restriction Setting (TRS) value to the account code.

Forcing the use of account codes, as well as system verification of the entered account code, can be enabled or disabled on individual extensions (see FF3 ExtPort# 5#). After verifying the entered account code, the DBS will allow or disallow an outgoing call based on the TRS type assigned to the account code. However, if the system does not find a match for the account code in this address, or if the TRS type restricts it, the user cannot make the call.

Programming

To assign an Account Code . . .

```
FF1 2# 6# (I-I 00)# 1# (0001-9999)#
              ↑                    ↑
     Account Code Entry Number    Account Code
```
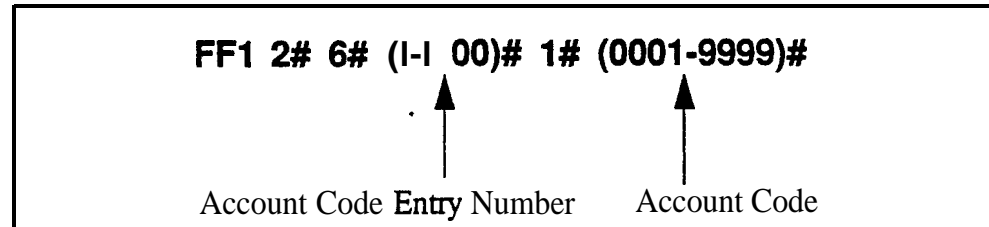
To clear an Account Code (reset to ** default) . . .**

```
FF1 2# 6# (1-100)# 1# CONF ON/OFF
              ↑
    Account Code Entry Number
```
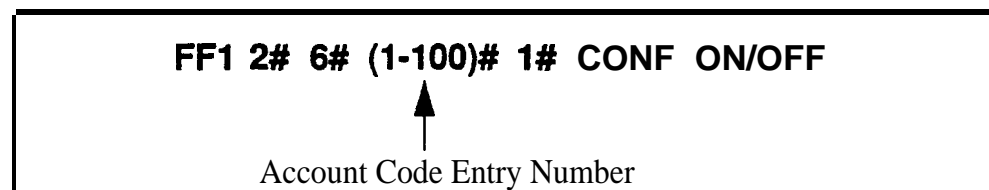
Programming Examples

Assigning 1234 as Account Code 1 . . .
To assign "1234" as Account Code 1, enter this address:

FF1 2# 6# 1# 1# 1234#

Assigning 9999 as Account Code 100 . . .

To assign "9999" as Account Code 100, enter this address:

FF1 2# 6# 100# 1# 9999#

Related Programming

Toll Restriction For Verified Forced Account Codes: FF1 2# 6# (1- 1 00)# 2# (0-7)#

Forced Account Codes: FF3 (ExtPort)# 5# (0 or 1)#

Toll Restriction Settings: FF7 addresses

Notes

Forced Unverified Account Codes. With CPC-AII and CPC-B versions prior to 6.0, Unverified Account Codes can only be used on a voluntary basis -- Forced Unverified is not available. However, beginning with Version 6.0, Forced Unverified Account Codes can be used. See FF3 (ExtPort)# 5# (0-2)# for more information.

TRS Interaction. The default TRS type for Verified Forced Account Codes is "0," which generally allows intercom calling only. Therefore, if you assign an account code but do not assign a TRS value to it, the Account Code will restrict outside dialing.

Assignment Restriction. "0000" cannot be assigned as an Account Code.

SMDR Format. In the SMDR report, the Account Code that was used to access the CO trunk will appear starting in position 70 of the call record line.

Toll Restriction For Verified Forced Account Codes

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
Address: FF1 2# 6# (1-100)# 2# (0-7)#

Description   Use this address to assign toll restriction (TRS) types to Verified Forced
Account Codes. A caller who enters the account code will be restricted by the
TRS type assigned to the *account* code (not the TRS type assigned to the
extension).

Programming

```
FF1 2# 6# (1-100)# 2# (0-7)
              ↑             ↑
Account Code Entry Number   TRS Types O-7
                            Default: TRS Type 0
```
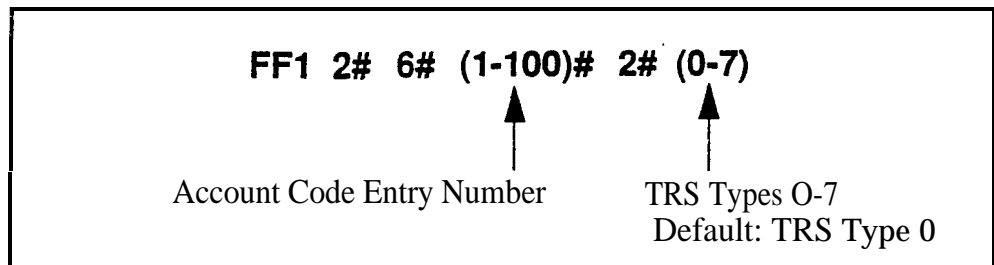
Related Programming

Forced Account Codes: FF3 (ExtPort)# 5# (0, 1 or 2)#

Toll Restriction Settings: FF7 addresses

Notes   *TRS* Interaction. The default TRS type for Verified Forced Account Codes is
"0," which generally allows intercom calling only. Therefore, if you assign
an account code but do not assign a TRS value to it, the code will restrict
outside dialing.

Flexible Function Screens

Flexible Function Screen Soft-Key Assignment
Software Version: CPC-All and CPC-B, Version 6.0 or higher
Address: FF1 2# 7# 1# (Screen)# (SoftKey)# (Feature)#

Description   Use this program to create up to 15 menu screens for large-display phones.
Each screen can contain up to 10 feature codes (one feature code per soft
key). "Soft keys" are the 10 buttons located on the left and right sides of the
LCD display window on the large-display phone (see figure below). Soft key
1 is the top left button; soft key 2 is beneath it; and so on.

When creating these flexible function screens, you are programming the soft
keys to perform one of the following special functions while the screen is
displayed:

- *One-touch access to directories.* Pressing the soft key will display a
directory of extension numbers, Personal Speed-Dial numbers, or System
Speed-Dial numbers.

- *One-touch initiation of a specific feature. The* soft keys can also execute
any feature operation code except for "Conference" and "Flash", which
already have their own fixed keys on the phone.

After the flexible function screens are built, you can assign them to display
during different call states (phone idle, intercom dial tone, CO dial tone,
during a CO call, etc.), using another programming address -- FF3 (ExtPort)#
(26-33)# (Screen)#.

When deciding what feature codes to assign to the soft keys on the screens,
keep in mind that the DBS system already has 24 preprogrammed menus (see
Appendix A) that can also be assigned to display during different call states.

Figure l-l. Soft key numbering on large-display phones

Programming

FF1 2# 7# 1# (25-39)# (1-10)# (xxxxx)#

Screen Number:
25=Flex.Func. Screen 1
26=Flex.Func. Screen 2
27=Flex.Func. Screen 3
28=Flex.Func. Screen 4
29=Flex.Func. Screen 5
30=Flex.Func. Screen 6
31=Flex.Func. Screen 7
32=Flex.Func. Screen 8
33=Flex.Func. Screen 9
34=Flex.Func. Screen 10
35=Flex.Func. Screen 11
36=Flex.Func. Screen 12
37=Flex.Func. Screen 13
38=Flex.Func. Screen 14
39=Flex.Func. Screen 15

Soft Key Number
(see figure, previous page)

Feature Code
(see table below

Table 1-6.   Feature codes for Flexible Function Screen soft keys

Feature	Code to be assigned to soft key (**FF11** enters an asterisk *) (**FF12** enters a pound sign #)
Absence Message	71
Account Code	**FF12** 7 (if using SLT or DSLT) or AUTO FF12 (all other phones)
Answer Key	**FF11** 1
Any Key	PROG PROG XXXXXX **Note: The** "Any Key" feature allows you to store digits other than extension numbers, CO trunks, or feature codes. For example, Any Key can be used to store an account code or a Voice Mail password.
Attendant Park Hold	75 (00-09)
BGM (Background Music) On/Off	FF12 53
Busy Override	PROG PROG 4
Call Forward--Outside (**CPC-AII/B** versions prior to 7.0)	723

Feature	Code to be assigned to soft key (**FF11** enters an asterisk *****) (FF12 enters a pound sign **#**)

Call Forward
   Call Forward--All Calls
   Call Forward--Busy/No Answer
   Call Forward--Busy
Call Forward--No Answer
	72 **Note:** Beginning with CPC-AII/B Version
	720 7.0, you can call-forward to an outside
	721 phone number. Use an existing PSD or SSD
	722 code as the destination phone number, with a
	724 "CX-PhoneNo." format (where C is the
	         CONF key, and X is l-6 or 9 for trunk group
	         8 l-86 or 89).

Call Park	75
Call Pickup	79
Call Waiting	PROG PROG 3
Caller ID Log	FF11 6
Day Mode	FF12 521
Day/Night/Night:! Mode Toggle (CPC-AII/B Version 7.0 or higher)	FF12 520 **Note:** The FF key LED will be off during Day mode: red during Night mode: and green during Night 2 mode.
Dial Tone Off	FF12 50
DND (Do Not Disturb)	73
DP to DTMF Signal Conversion	PROG PROG FF1 1 -or- PROG PROG FF 12
DSS/BLF Key (internal calls)	PROG (10-69 or 100-699)
Extension Directory	900002
Extension Lockout	74
Group Call Pickup	70
Headset	FF12 51
Intercom Key	FF12 8
Internal Dial Tone	FF12 50
MCO or ML Keys	(8 1-86 or 89) **Note: See "ML/MCO** Separation" (FF3 ExtPort# 44#) to determine which type of key is available with your software.
Meet-Me Answer	77
Message Waiting Answer	AUTO REDIAL
Mute	FF11 FF12
Night Mode	FF 12 52 (CPC-AII/B versions prior to 7.0) FF12 522 (CPC-AII/B Version 7.0 or higher)
Night 2 mode (CPC-AII/B Version 7.0 or higher)	FF12 523

Feature	Code to be assigned to soft key (**FF11** enters an asterisk *****) (**FF12** enters a pound sign **#**)
Offhook Voice Announce	PROG PROG 5
Offhook Voice Announce Answer	FF11 3
Page	FFt2 (00-07)
Park Hold	75
PSD (Personal Speed Dial) Directory	900000
PSD (Personal Speed Dial) Number	AUTO (90-99 or 900-909)
Release	FF11 2
Reminder	FF12 4
Save Number Redial Access	AUTO FF11
Save Number Redial Set	AUTO AUTO FF11
SSD (System Speed Dial) Directory	90000 1
SSD (System Speed Dial) Number	AUTO (00-89 or 000- 199)

Tl Alarms --
   Frame Loss
   Red Alarm
   Signal Loss
   Slips
   Sync Loss
   Yellow Alarm
	(Master or Slave)
	   (101 or 121) FF12
	   (103 or 123) FF12
	   (104 or 124) FF12
	   (102 or 122) FF12
	   (105 or 125) FF12
	   (107 or 127) FF12

Talkback	FF11 3
Tone/Voice Calling	PROG PROG 1
Transfer	PROG PROG PROG
Trunk Group Selection (same as "MCO or ML Keys")	(81-86 or 89)
Trunk Queuing	PROG PROG 2
Trunk Selection	(01-64)
UNA Pickup	78
Voice Mail One-Touch Access (CPC-B Version 5.0 or higher)	**PROG AUTO NNN (XXX or AUTO SSD/PSD) #** VM Pilot Number Password (optional) Press the # key to register the string. **Note:** The password (if used) can be 1 to 3 digits long. If the password is over 3 digits, it must be assigned as a speed-dial code (be sure to include an ending pound **#** sign after the password when creating the speed-dial code).
Voice Mail Transfer	PROG AUTO AUTO NNN (NNN=VM Pilot Number)

Related Programming

Flex.Func. Screen Text: FF1 2# 7# 2# (Screen)# (Key)# (Text)#

Flex.Func. Screen Default: FF1 2# 7# 3# (Screen)# (0 or 1)#

Flex.Func. Screens Default (All): FF1 2# 7# 4# (0 or 1)#

Display Screens During Call States: FF3 (ExtPort)# (26-33)# (Screen)#

Notes

FF11 and FF12 in the Feature Codes.   The * and # phone keys are used as movement keys (for scrolling through addresses) while in programming mode. Therefore, when programming feature codes for soft keys, FF11 and FF12 are used instead to represent * and # (FF11 enters *; FF12 enters #). The phone will not display the symbol when you press FF11 or FF12, but it will register * or # as part of the feature code.

Initial Displays.   The 15 flexible function screens are blank by default.

Displaying Feature Codes.   To display an existing feature code assignment for a soft key, use the same address (FF1 2# 7# 1# Screen# SoftKey#).

Flexible Function Screen Text
Software Version: CPC-All and CPC-B, Version 6.0 or higher
Address: FF1 2# 7# 2# (Screen)# (SoftKey)# (Text)#

Description   Use this program to create the text that identifies the soft keys on a flexible function screen for large-display phones. The text for each soft key can be up to 8 characters long.

Use a DSS/72 console (with alphabetic keys) or the remote programming mode on a large-display phone (scroll through the alphabetic characters on the digital keypad) to assign the text in this address.

Programming

```
              FF1 2# 7# 2# (25-39)# (1-1 0)# (xxxxxxxx)#
```

Screen Number: Soft Key Number   Text (up to 8 char.)
  25=Flex.Func. Screen 1   (see Figure 1- 1
  26=Flex.Func. Screen 2   on page l-7 1)
  27=Flex.Func. Screen 3
  28=Flex.Func. Screen 4
  29=Flex.Func. Screen 5
  30=Flex.Func. Screen 6
  31=Flex.Func. Screen 7
  32=Flex.Func. Screen 8
  33=Flex.Func. Screen 9
  34=Flex.Func. Screen 10
  35=Flex.Func. Screen 11
  36=Flex.Func. Screen 12
  37=Flex.Func. Screen 13
  38=Flex.Func. Screen 14
  39=Flex.Func. Screen 15

Related Programming

Flex.Func. Screen for Soft Keys: FF1 2# 7# 1# (Screen)# (Key)# (Code)#

Flex.Func. Screen Default: FF1 2# 7# 3# (Screen)# (0 or 1)#

Flex.Func. Screens Default (All): FF1 2# 7# 4# (0 or 1)#

Display Screens During Call States: FF3 (ExtPort)# (26-33)# (Screen)#

Flexible Function Screen Default

Software Version: CPC-All and CPC-B, Version 6.0 or higher
Address: FF1 2# 7# 3# (Screen)# (0 or 1)#

Description   Use this program to reinstate individual flexible function screens to the
default value (blank: no features assigned to soft keys).

Programming

FF1 2# 7# 3# (25-39)# (0 or 1)#

Screen Number:
25=Flex.Func. Screen 1
26=Flex.Func. Screen 2
27=Flex.Func. Screen 3
28=Flex.Func. Screen 4
29=Flex.Func. Screen 5
30=Flex.Func. Screen 6
3 1 =Flex.Func. Screen 7
32=Flex.Func. Screen 8
33=Flex.Func. Screen 9
34=Flex.Func. Screen 10
35=Flex.Func. Screen 11
36=Flex.Func. Screen 12
37=Flex.Func. Screen 13
38=Flex.Func. Screen 14
39=Flex.Func. Screen 15

0=Do not return to default setting.
1=Return to default setting.

Related Programming

Flex.Func. Screen for Soft Keys: FF1 2# 7# 1# (Screen)# (Key)# (Code)#

Flex.Func. Screen Text: FF1 2# 7# 2# (Screen)# (Key)# (Text)#

Flex.Func. Screens Default (All): FF1 2# 7# 4# (0 or 1)#

Display Screens During Call States: FF3 (ExtPort)# (26-33)# (Screen)#

Flexible Function Screens Default (All)

Software Version: CPC-All and CPC-B, Version 6.0 or higher
Address: FF1 2# 7# 4# (0 or 1)#

Description   Use this program to reinstate all 15 flexible function screens to the default value (blank; RO features assigned to soft keys).

Programming

```
FF1 2# 7# 4# (0 or 1)#
                ▲
                |
            0=Do not return to default setting.
            1=Return to default setting.
```

Related Programming

Flex.Func. Screen for Soft Keys: FF1 2# 7# 1# (Screen)# (Key)# (Code)#

Flex.Func. Screen Text: FF1 2# 7# 2# (Screen)# (Key)# (Text)#

Flex.Func. Screen Default: FF1 2# 7# 3# (Screen)# (0 or 1)#

Display Screens During Call States: FF3 (ExtPort)# (26-33)# (Screen)#

Caller ID Automatic DISA

Automatic DISA Callers
Software Version: CPC-All and CPC-B, Version 6.1 or higher
Address: FF1 2# 8# (1-10)# (PhoneNo.)#

Description   Use this program to assign up to 10 phone numbers for the Caller ID Automatic DISA (Direct Inward System Access) feature. When a caller (e.g., company salesman) calls from one of the phone numbers assigned in this address, the trunk receiving the call will automatically switch to DISA without requiring the caller to enter an ID Code.

The DISA feature gives the caller access to inside features normally available only to another extension.

Note: In order to use the Automatic DISA feature, the DBS system must have a Caller ID package installed. *See Caller ID Installation and Operation (Section 510)* for more information.

Programming

```
              FF1 2# 8# (1-10)# (PhoneNo.)#

                     ╱              ╱
      Phone Number Assignment    Caller's Phone Number (up to 10 digits)
```
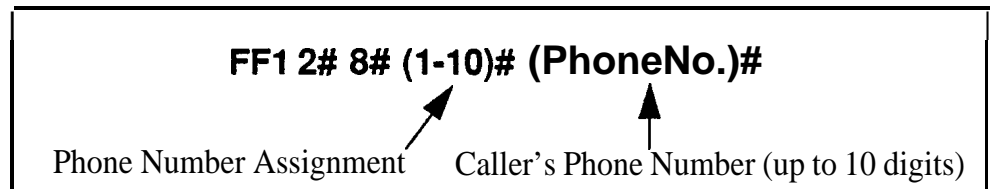
Notes   *Matching The Caller's Phone Number.*   The caller's phone number entered in this address must exactly match the phone number received by Caller ID (usually 10 digits).

Enabling DISA on Trunks.   If the Caller ID Automatic DISA feature is used, do not enable DISA on any trunks (see FF2 Trunk# 11#). The Caller ID feature will automatically switch the trunk to DISA based on the originating phone number.

Hardware Requirement For DZSA.   MFR Card VB-4343 1 is required for Caller ID Automatic DTSA, so that the system can interpret DTMF tones entered via the DISA connection.

Door Phones

A "Door Phone" (also called "Door Box") is an intercom with a single button, installed on building entrance doors, that allows visitors to announce their presence by pressing the button. It is used with a Door Opener (not sold by Panasonic), which is an electronic lock that can be unlocked from an extension phone inside.

The DBS supports two types of door phone connections -- one to trunk ports (using a VB-43701 Door Phone Adaptor) and the other to digital extension ports (using a VB-43711 Door Phone Adaptor). The extension port connection is supported beginning with CPC-AIIICPC-B Version 7.0, and is controlled by the FF1 2# 9# addresses below.

Door Phone Extensions
Software Version: CPC-AII and CPC-B, Version 7.0 or higher
Address: FF1 2# 9# (DoorPhone)# 1# (ExtPort)#

Description   Use this address to establish the extension ports that are connected to door phones. Up to 4 door phones can be assigned (one per extension port).

Programming

FF1 2# 9# (1-4)# 1# (3-72 or 3-144)#

Door Phone Number
(1-4)

Extension Port
CPC-AII: 3-72
CPC-B: 3- 144

NOTE: Do not assign Extension Port 1 or 2 to a door phone.
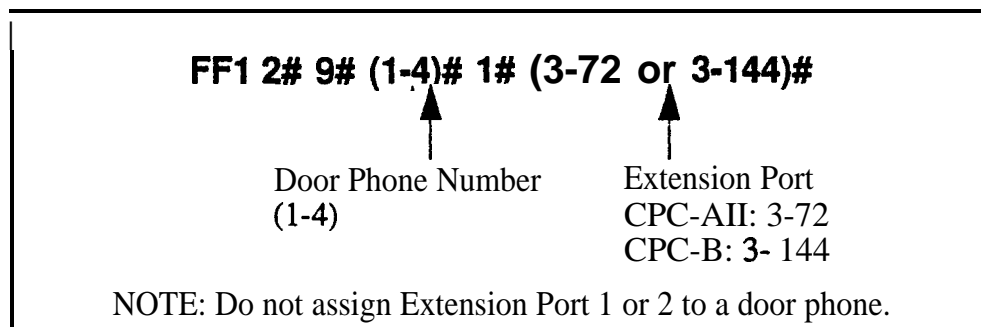
Related Programming

Door Phone Access Code Required: FF1 2# 1# 40# (0 or 1)#

Door Phone Ring Assignments: FF1 2# 9# (1-4)# 2# (ExtPort)# (0 or 1)#

Door Opener Access Code: FF1 2# 9# (1-4)# 3# (0000-9999)#

Door Phone Tone Type: FF1 2# 9# (1-4)# 4# (0 or 1)#

Door Phone Ring Timer: FF1 2# 9# (1-4)# 5# (0-15)#

Door Phone Ring Pattern: FF1 2# 9# (1-4)# 6# (0-5)#

Door Opener Relay Timer: FF1 2# 9# (1-4)# 7# (0-5)#

Extension Numbers: FF3 (ExtPort)# 1# (ExtNo.)#

Notes

Reset Requirement. After setting FF12# 9# addresses, activate the door phones by unplugging them from their extension ports, then plugging them back in.

Restrictions for Door Phones:

- Door phones cannot be Attendants (ports 1 or 2).

- Door phones cannot be included in a conference call.

- Door phones cannot be members of a hunt group or call coverage group.

- Door phone calls are not subject to barge-ins (Busy Override), regardless of the extension's program settings.

- It is not possible to Call Forward to a door phone.

- It is not possible to Auto-Redial to a door phone.

- Door phone calls have the same priority as intercom extension calls.

- All calls to a door phone are established as voice calls, regardless of the extension's program settings.

- The DTMF path is disabled during a door phone call. When the extension user dials the access code to unlock the door, the visitor will not hear the DTMF digits.

Calling a Door Phone from an Internal Extension. Any extension can establish a call to a door phone by dialing the door phone's extension number. Extension numbers can be assigned to door phone ports using the **"Extension Numbers"** address, FF3 (ExtPort)#1# (ExtNo.)#.

Door Phone Ring Assignments
Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF1 2# 9# (DoorPhone)# 2# (ExtPort)# (0 or 1)#

Description   Use this address to determine which extension(s) will ring when a door phone
caller initiates a call. This applies to door phones connected to digital
extension ports only (not trunk ports).

It is possible to assign several or all extensions to ring for a door phone call.

Programming

FF1 2# 9# (1-4)# 2# (l-72 or 1-144)# (0 or 1)#

Door Phone Number   Extension Port   **0=Do not ring.**
(1-4)   CPC-AII: 1-72   1=Ring.
                          CPC-B: 1- 144
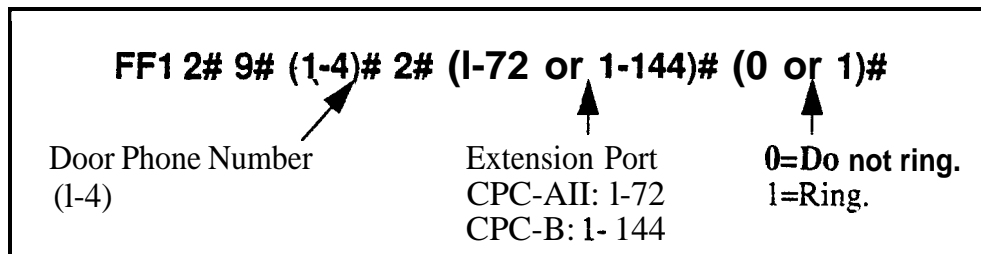
Related Programming

Door Opener Access Code Required: FF1 2# 1# 40# (0 or 1)#

Door Phone Extensions: FF1 2# 9# (1-4)# 1# (ExtPort)#

Door Opener Access Code: FF1 2# 9# (1-4)# 3# (0000-9999)#

Door Phone Tone Type: FF1 2# 9# (1-4)# 4# (0 or 1)#

Door Phone Ring Timer: FF1 2# 9# (1-4)# 5# (0-15)#

Door Phone Ring Pattern: FF1 2# 9# (1-4)# 6# (0-5)#

Door Opener Relay Timer: FF1 2# 9# (1-4)# 7# (0-5)#

Notes   *Power-Cycling Requirement.*   In order for changes to this parameter to take
effect, the system must be turned off, then back on.

Programming Restriction.   Programming an extension to ring for a door
phone call must be performed from another extension.

Interaction With SLT Phones.   An SLT phone (no speaker) can receive a
door phone call (same ring pattern as a normal intercom call).

Interaction With ML Keys.   If the extension is programmed as an ML key, it
can receive a door phone call while the extension is on another call (the phone
will "buzz"). However, the door phone call will not transfer to another

---

extension, even if the phone is programmed to transfer (the phone will continue to buzz, until the user picks it up).

Restrictions for Door Phone Calls:

- Door phones cannot be included in a conference call.

- Door phones cannot be members of a hunt group or call coverage group.

- Door phone calls are not subject to barge-in (Busy Override), regardless of the extension's program settings.

- Door phone calls have the same priority as intercom extension calls.

- The DTMF path is disabled during a door phone call. When the extension user dials the access code to unlock the door, the visitor will not hear the DTMF digits.

Receiving a Door Phone Call.   When a visitor presses the door phone button, an intercom call is generated automatically to the extension(s) assigned to ring for a door phone call.

- If the extension is on-hook, the visitor will hear ringing tones. The tones will stop when the extension user answers the door phone call.

- If the extension is busy, the door phone call will ring in as a normal call (for example, the extension user will hear a "beep" in the receiver, indicating another call) -- and the visitor will hear silence. When the extension user hangs up, a call will be established between the door phone and the extension (it will either ring or establish an intercom voice path, depending on the extension's programming).

Door Opener Access Code
Software Version: **CPC-All** and CPC-B, Version 7.0 or higher
Address: **FF1 2# 9#** (DoorPhone)# **3# (0000-9999)#**

Description   Use this address to establish a 4-digit door opener access code that can be
entered on any extension phone to unlock the door. This applies to door
phones connected to digital extension ports only (not trunk ports).

NOTE: To require the use of the access code to unlock the door, address
FF1 2# 1# 40# must be enabled.

Programming
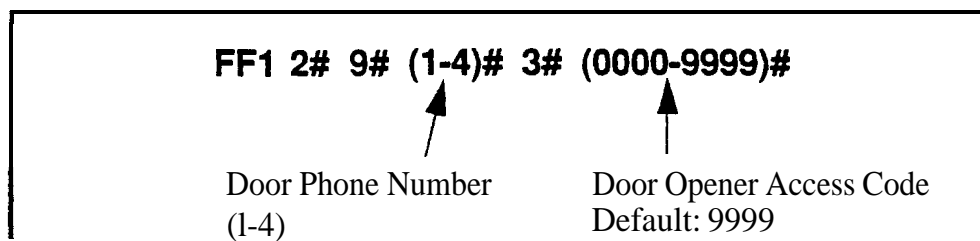
```
            FF1 2# 9# (1-4)# 3# (0000-9999)#
                        ↑              ↑
                       /               |
            Door Phone Number     Door Opener Access Code
            (1-4)                 Default: 9999
```

Related Programming

Door Opener Access Code Required: FF1 2# 1# 40# (0 or 1)#

Door Phone Ring Assignments: FF1 2# 9# (1-4)# 2# (ExtPort)# (0 or 1)#

Door Opener Relay Timer: FF1 2# 9# (1-4)# 7# (0-5)#

Notes   *Unlocking the Door With the Access Code.* *If* Access Code NNNN is
established in this address, and **"Door Opener Access Code Required"** is
enabled, the extension user receiving the door phone call can press
#3 :::: • (while still engaged in the call) to unlock the door. Or, from any
other extension not engaged in a door phone call, press ON/OFF **#3** XXX
NNNN * (where "XXX" is the extension number assigned to the door phone
port).

Unlocking the Door Without the Access Code. *If* an access code is not
established (and its use is not required), extension users can still unlock the
door by pressing **#3*** (if engaged in a door phone call) -- or, ON/OFF **#3**
XXX • (from another extension).

Setting the Amount of Time the Door Will Remain Unlocked Use the
"Door Opener Relay Timer" address (FF1 2# 9# 1-4# 7#) to set the number
of seconds the door will remain open after it is unlocked.

Door Phone Tone Type

Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF1 2# 9# (DoorPhone)# 4# (0 or 1)#

Description   This address specifies the type of tone heard by the called extension when a
visitor presses the door phone button. This appiies to door phones connected
to digital extension ports only (not trunk ports).

Prdgramming

```
            FF1 2# 9# (1-4)# 4# (0 or 1)#


        Door Phone Number          Tone Type: (heard by extension)
        (1-4)                      0=Slow chime
                                   1=Fast chime
```
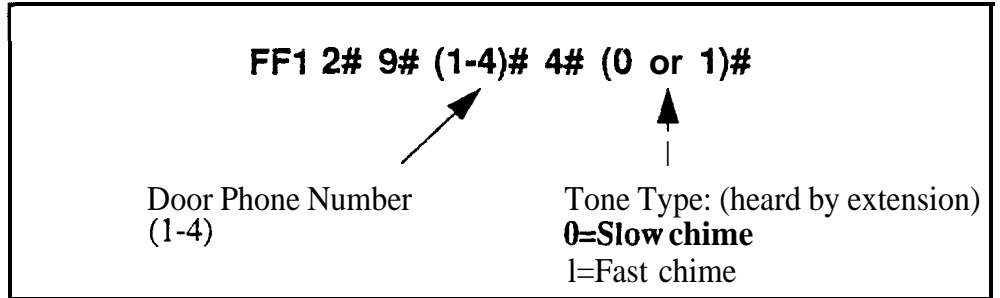
Related Programming

Door Phone Ring Assignments: FF1 2# 9# (DoorPhone)# 2# (ExtPort)#
(0 or 1)#

Door Phone Ring Timer: FF1 2# 9# (DoorPhone)# 5# (C- 15)#

Door Phone Ring Pattern: FF1 2# 9# (DoorPhone)# 6# (0-5)#

Notes   Reset *Requirement.* If changing the Tone Type setting, activate the change
by unplugging the door phone from its port and plugging it back in.

Door Phone Ring Timeout Timer

Software Version: CPC-All and CPC-6, Version 7.0 or higher
Address: FF1 2# 9# (DoorPhone)# 5# (0-15)#

Description This address sets the amount of time (in seconds) that a door phone will ring an extension before it goes on-hook (extension stops ringing). This applies to door phones connected to digital extension ports only (not trunk ports).

If the door phone caller re-initiates the call before this Timer is up, the Timer will automatically reset and the extension will begin ringing again.

Programming

```
FF1 2# 9# (1-4)# 5# (0-15)#
```

Door Phone Number
(1-4)

Ring Timer
Default: 3 (20 **seconds)**
(**see** table below)
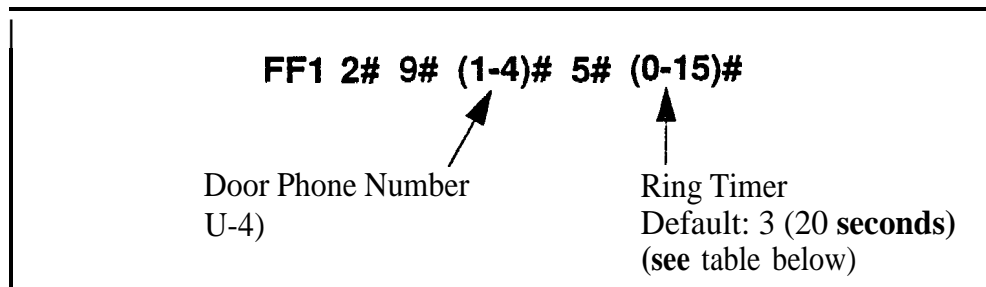
Table 1-7.   Door phone ring timer values

Setting	Value	Setting	Value
0	5 seconds	8	45 seconds
1	10 seconds	9	50 seconds
2	15 seconds	10	55 seconds
3	20 seconds	11	60 seconds
4	25 seconds	12	65 seconds
5	30 seconds	13	70 seconds
6	35 seconds	14	75 seconds
7	40 seconds	15	80 seconds

Related Programming

Door Phone Ring Pattern: FF1 2# 9# (DoorPhone)# 6# (0-5)#

Notes Reset *Requirement.* If changing the Ring Timer setting, activate the change by unplugging the door phone from its port and plugging it back in.

Door Phone Ring Pattern

Software Version: CPC-All and CPC-8, Version 7.0 or higher
Address: FF1 2# 9# (DoorPhone)# 6# (0-5)#

Description   This address specifies the ring pattern heard at the extension receiving a door
phone call. This applies to door phones connected to digital extension ports
only (not trunk ports).

This address specifies the **number of seconds** between rings (4 seconds by
default). The ring itself has a fixed duration of approximately 3 seconds.

Programming

FF1 2# 9# (1-4)# 6# (0-5)#

Door Phone Number   Number of Seconds Between Rings:
(1-4)   O=Rings one time only (no repeat ringing)
                         1=4 seconds between rings
                         2=6 seconds between rings
                         3=8 seconds between rings
                         4=10 seconds between rings
                         5=12 seconds between rings
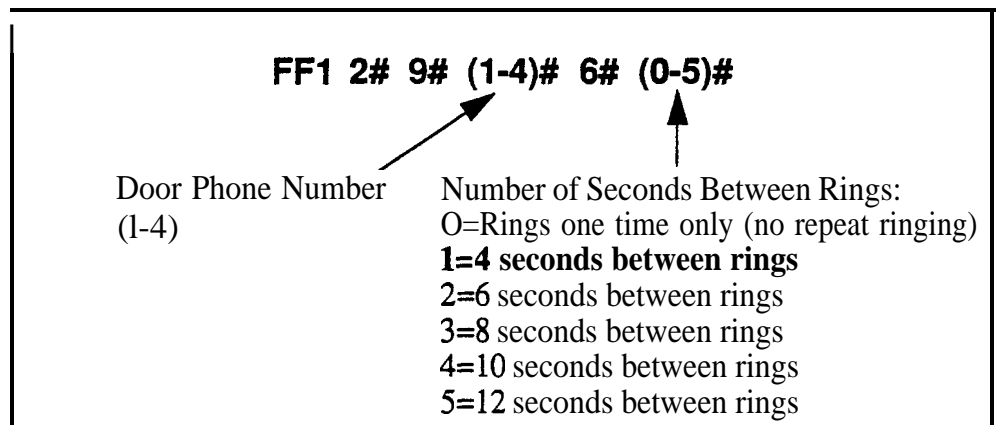
Related Programming

Door Phone Ring Timer: FF1 2# 9# (DoorPhone)# 5# (0-15)#

Notes   *Reset Requirement.* If changing the Ring Pattern setting, activate the change
by unplugging the door phone from its port and plugging it back in.

Door Opener Relay Timer
Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF1 2# 9# (DoorPhone)# 7# (0-5)#

Description   Use this address to determine the number of seconds a "buzzing" (unlocked) door will remain unlocked for the visitor to enter the building (4 seconds by default). This applies to door phones connected to digital extension ports only (not trunk ports).

This Relay Timer begins immediately after an extension enters the appropriate codes (#3*, #3 NNNN *, #3 XXX *, or #3 XXX NNNN *) to unlock the door.

Programming
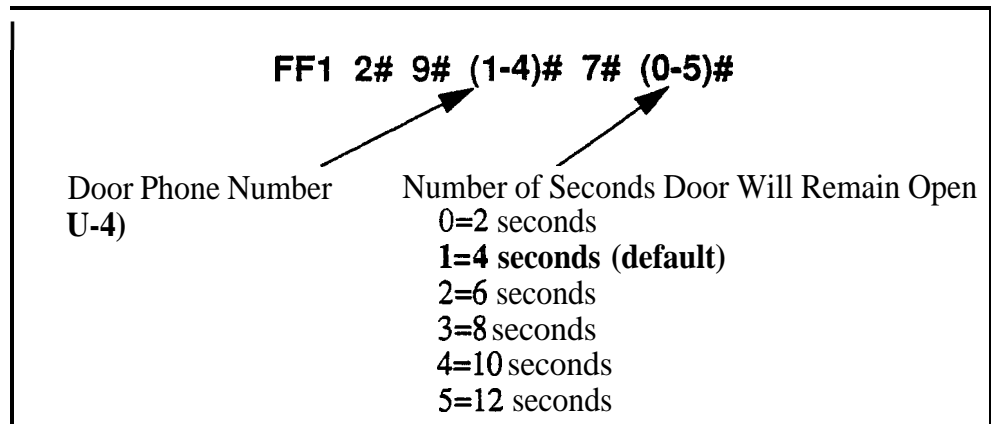
```
          FF1  2#  9#  (1-4)#  7#  (0-5)#
                         ↗              ↗

    Door Phone Number       Number of Seconds Door Will Remain Open
    U-4)                           0=2 seconds
                                   1=4 seconds (default)
                                   2=6 seconds
                                   3=8 seconds
                                   4=10 seconds
                                   5=12 seconds
```

Related Programming

Door Opener Access Code Required: FF1 2# 1# 40# (0 or 1)#

Door Opener Access Code: FF1 2# 9# (1-4)# 3# (0000-9999)#

System Timers

Automatic Night Mode Start Time
Software Version: All Versions
Address: FF1 3# 1# (0000-2359)#

Description   Set the time when the DBS will automatically switch from Day to Night mode. Use the 24-hour military time format (e.g.. enter "1700" for 5:00 pmj.

You can program trunks to ring incoming calls at different extensions when the system is in Night mode (see FF4 addresses). And different TRS types can be programmed to be used during Night mode (see FF8 addresses).

NOTE: Starting with Version 7.0 of the CPC-AII and CPC-B cards, a second Night mode is also available -- see FF1 3# 30# for more information.

Programming

To set the Automatic Night Mode start time . . .

```
            FF1  3#  1#  (0000-2359)#
                           ▲
                           |

                    Night Mode Start Time
                    (in 24-hour military format)
```

To **clear the start time (disable Automatic Night Mode) . . .**

```
            FF1  3#  1#  CONF  ON/OFF
```

Related Programming

Time Setting: FF1 1# 2# HHMM#

Automatic Day Mode Start Time: FF1 3# 29# HHMM#

Automatic Night 2 Mode Start Time: FF1 3# 30# HHMM#

CO Ring Assignments: FF4 addresses

Toll Restriction: FF8 addresses

Notes   *System Clock.*   The Automatic Night Mode start time depends on the DBS system clock being set correctly.

NIGHT Key Operation. If only one of the Auto Mode Start Times is set, the Attendant NIGHT key can be used to manually switch to another mode. For instance, if Night mode has been activated automatically, the Attendant can press the NIGHT key to go into Day mode. (However, the Attendant must wait at least 3 minutes after the mode is automatically activated, before using the NIGHT key to switch the mode again.)

In CPC-AII/B versions prior to 7.0, if both Auto Day and Auto Night Mode Start Times are set, the Attendant NIGHT key cannot be used to manually switch modes. (However, it will work in Version 7.0 or higher; or press #520 to toggle between Day, Night and Night 2 modes.)

> **SUGGESTION (for versions prior to** 7.0): Set only the Auto Night Mode Start Time, so that the DBS will automatically switch to Night mode each night -- and each morning the Attendant phone user can press the NIGHT key to manually switch to Day mode.

Required Intervals Between Auto Day and Night Modes. If *you* set both Auto Mode Start Times, it is recommended that the start times differ by at least 1 hour.

Attendant Hold Recall Timer for CO Calls

Software Version: All Versions
Address: FF1 3# 2# (0-12)#

Description   This timer determines how long a trunk call can be held by an Attendant phone before it will recall (20 seconds by default).

Programming

FF1 3# 2# (0-12)#

▲
|

Attendant Hold Recall Timer setting for CO calls
Default: 1 (20 **seconds**) (**see** table below)
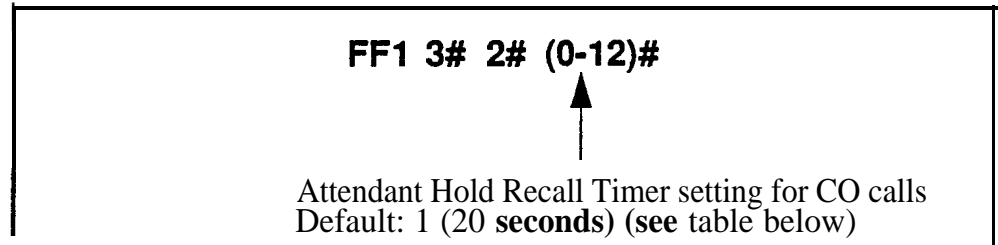
Table 1-8.   Attendant Hold Recall Timer values for CO calls

Setting	Value
0	No recall
1	i 20 **seconds**
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Related Programming

Attendant Hold Recall Timer for Intercom Calls: FF1 3# 22# (0-12)#

Extension Hold Recall Timer for CO Calls

Software Version: All Versions
Address: FF1 3# 3# (0-12)#

Description   This timer determines how long a trunk call remains on hold at an extension
before it recalls (starts ringing the extension again; 140 seconds by default).

Programming

```
                    FF1 3# 3# (0-12)#

                          ▲
                          |

        Extension Hold Recall Timer setting for CO calls
        Default: 7 (140 seconds) (see table below)
```

Table l-9.   Extension Hold Recall Timer values for CO calls

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	**140 seconds**
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Related Programming

Attendant Call Reversion Timer for CO Calls: FF1 3# 10# (0-12)#

Notes   *Recall Treatment for CO Calls.*   If a trunk recall is unanswered, it will revert
to the Attendant phone after ringing for the amount of time set in the
Attendant Call Reversion Timer.

Attendant Transfer Recall Timer for CO Calls
Software Version: All Versions
Address: FF1 3# 4# (0-12)#

Description   When an Attendant phone transfers a trunk call to an extension or hunt group, the transferred call will recall to the Attendant if it is not answered. This timer determines how long a transferred trunk call will go unanswered before it recalls (20 seconds by default).

Programming

```
                    FF1 3#  4#  (0-12)#

                              ▲
                              |

            Attendant Transfer Recall Timer setting for CO calls
            Default: 1 (20 seconds) (see table below)
```

Table 1-10. Attendant Transfer Recall Timer values for CO calls

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Related Programming

Attendant Transfer Recall Timer for Intercom Calls: FF1 3# 24# (0-12)#

Extension Transfer Recall Timer for CO Calls

Software Version: All Versions
Address: FF1 3# 5# (0-12)#

Description   When an extension transfers a trunk call to another extension or to a hunt group, the transferred call will recall to the extension if it is not answered. This timer determines how long a transferred trunk call will go unanswered before it recalls (140 seconds by default).

Programming

```
                    FF1 3# 5# (0-12)#

                              ▲
                              |

            Extension Transfer Recall Timer setting for CO calls
            Default: 7 (140 seconds) (see table below)
```

Table I-l.!. Extension Transfer Recall Timer values for CO calls

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	**140 seconds**
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	**240** seconds

Related Programming

Attendant Call Reversion Timer for CO Calls: FF1 3# 10# (O-l 2)#

Notes   *RecallTreatment for CO Calls.*   If a trunk recall is unanswered, it will revert to the Attendant phone after ringing for the amount of time set in the Attendant Call Reversion Timer.

Attendant Hunt Group Recall Timer

Software Version: All Versions
Address: FF1 3# 6# (0-12)#

Description   When an Attendant phone transfers a trunk call to a hunt group, the transferred call will recall to the Attendant if it is not answered, This timer determines how long the call will go unanswered before it recalls (20 seconds by default).
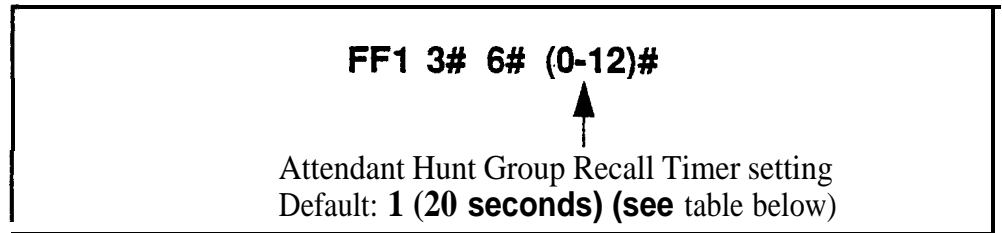
Programming

```
FF1 3# 6# (0-12)#
                 ↑
Attendant Hunt Group Recall Timer setting
Default: 1 (20 seconds) (see table below)
```

Table l-12. Attendant Hunt Group Recall Timer values for CO calls

Setting	Value
0	No recall
1	**20 seconds**
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Extension Hunt Group Recall Timer

Software Version: All Versions
Address: FF1 3# 7# (0-12)#

Description When an extension transfers a trunk call to a hunt group, the transferred call will recall to the extension if it is not answered. This timer determines how long a transferred trunk call will go unanswered before it recalls (140 seconds by default).

Programming

FF1 3# 7# (0-12)#

Extension Hunt Group Recall Timer setting
Default: 7 (**140** seconds) (see table below)

Table I-13. Extension Hunt Group Recall Timer values for CO calls

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Attendant Park Hold Recall Timer
Software Version: All Versions
Address: FF1 3# 8# (0-12)#

Description   An Attendant phone can use up to 10 call park numbers (00-09) to hold trunk
calls. These park numbers can be assigned to an FF key or accessed by
placing a call on hold, then dialing 7500-7509. Anyone can pick up the call
by dialing 7600-7609.

This address determines how long a parked call will be held before it recalls
(20 seconds by default).

Programming

```
                           FF1 3# 8# (0-12)#

                                  ▲
                                  ┊
                    Attendant Park Hold Recall Timer setting
                    Default: 1 (20 seconds) (see table below)
```

Table 1-14. Attendant Park Hold Recall Timer values

Setting	Value
0	No recall
1	20 **seconds**
2	40 seconds
3 ,	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Extension Park Hold Recall Timer

Software Version: All Versions
Address: FF1 3# 9# (0-12)#

Description   If an extension parks a trunk call, the parked call will recall (start ringing at
the extension) if it is not picked up. This address determines how long the
parked call remains on hold before it recalls (140 seconds by default).

Programming

```
FF1 3# 9# (0-12)#

       ▲
       |

Extension Park Hold Recall Timer setting
Default: 7 (140 seconds)   (see table below)
```

Table I-15. Extension Park Hold Recall Timer values

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	**140 seconds**
8	160 seconds
9	180 seconds
10	200 seconds
11	**220** seconds
12	**240** seconds

Related Programming

Attendant Call Reversion Timer for CO Calls: FF1 3# 10# (0-12)#

Notes   ***Recall Treatment for* CO *Calls.***   If a trunk recall is unanswered. it will revert
to the Attendant phone after ringing for the amount of time set in the
Attendant Call Reversion Timer.

Attendant **Call Reversion** Timer for CO Calls
Software Version: All Versions
Address: FF1 3# 10# (O-l 2)#

Description   By default, the DBS will ultimately revert unanswered trunk recalls on
extensions to the Attendant phone. This timer determines how long an
unanswered trunk recall will ring at the last possible answering position
(extension) before it reverts to the Attendant phone (180 seconds by default).
This applies to trunk calls in the following states:

- Hold recalls that are unanswered on the holding extension.
- Transfer recalls that are unanswered by the transferring extension.
- Park recalls that are unanswered by the parking extension.

Programming

```
                    FF1 3# 10# (O-1 2)#
                                ▲
                    Attendant Call Reversion Timer setting
                    Default: 9 (180 seconds) (see table below)
```

Table l-16. Attendant Call Reversion Timer values

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 **seconds**
10	200 seconds
11	220 seconds
12	240 seconds

Related Programming

Extension Hold Recall Timer for CO Calls: FF1 3# 3# (0-12)#
Extension Transfer Recall Timer for CO Calls: FF1 3# 5# (0-12)#
Extension Park Hold Recall Timer: FF1 3# 9# (0-12)#

Notes   *Night Mode Restriction.* This feature is not available when the DBS is in
"Night" or "Night 2" mode.

Unsupervised Conference Timer
Software Version: All Versions
Address: FF1 3# 11# (0-15)#

Description   This address determines how long a conference call can continue between two trunks after the DBS extension drops out of the conference (10 minutes by default). When the timer expires, the DBS will automatically disconnect the conferenced trunks.

This timer also determines how long outbound trunk calls made through DISA can last.

Programming

```
                    FF1 3# 11# (0-15)#

                              ↑

                    Unsupervised Conference Timer setting
                    Default: 2 (10 minutes j (see table below)
```
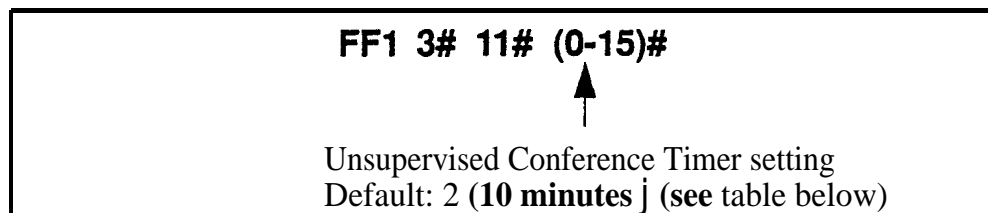
Table l-17. Unsupervised Conference Timer values

Setting	Value
0	Unlimited (DBS will not disconnect the two conferenced trunks)
1	5 minutes
2	**10 minutes**
3	15 minutes
4	**20** minutes
5	25 minutes
6	**30** minutes
7	**35 minutes**
8	40 minutes
9	**45** minutes
10	50 minutes
11	55 minutes
12	60 minutes
13	**65** minutes
14	70 minutes
15	**75** minutes

Related Programming

Unsupervised Trunk Conference: FF2 (Trunk)# 16# (0 or 1)#
Unsupervised Conference: FF3 (ExtPort)# 13# (0 or 1)#

Automatic Pause Timer

Software Version: All Versions
Address: FF1 3# 12# (0-15)#

Description   When users program their phones with PBX access codes, Personal Speed
Dial numbers, or System Speed Dial numbers, they can insert pause(s) in
these numbers (by pressing the **REDIAL** key for each pause) so the system
will dial the numbers correctly. This address determines the length of each
pause inserted by the **REDIAL** programming key (3.5 seconds by default).

Programming

```
                    FF1 3# 12# (0-15)#

                             ▲
                             │

                    Automatic Pause Timer setting
                    Default: 7 (3.5 seconds) (see table below)
```

Table 1-18. Automatic Pause Timer values

Setting	Value
0	No pause
1	.5 seconds
2	1 seconds
3	1.5 seconds
4	2 seconds
	2.5 seconds
	3 seconds
	3.5 **seconds**
8	4.0 seconds
9	4.5 seconds
10	5 seconds
11	5.5 seconds
12	6 seconds
13	6.5 seconds
14	7 seconds
15	7.5 seconds

Related Programming

Automatic Pause for PBX Line: FF2 (Trunk)# 13# (0 or 1)#
PBX Access Codes: FF1 2# 3# (1-8)# (O-999 or 0*-99*)#
Automatic Pause Position for PBX Access Codes: FF1 2# 3# (9-18)# (1-3)#
Speed Dial Programming: FF10 addresses

CO Flash Timer
Software Version: All Versions
Address: **FF1 3# 13# (0-15)#**

Description   A DBS phone user can press the FLASH key to disconnect from and then reseize a CO loop-start trunk (this operation is called a "flash"). Pressing the REDIAL key also performs a flash before automatically redialing a phone number.

This CO Flash Timer determines how long the flash will last if FLASH or REDIAL is depressed (1 second by default).

Exceptions: If the FLASH key is pressed *and held down*, the flash signal will last as long as the key is pressed. (The flash generated by pressing REDIAL is always controlled by the CO Flash Timer, regardless of how long REDIAL is held down.) Also, if you are using a PBX or Centrex line, the FLASH key will place the call on hold.

Programming

```
              FF1 3# 13# (0-15)#

                      ↑
                      |
              CO Flash Timer setting
              Default: 9 (1 second) (see table below)

    NOTE: Settings 11 to 15 are available with CPC-A Version 3.3
    or higher, and CPC-AII/B 5.0 or higher. These settings require
    Loop-S tart Trunk Card VB-435 1 OA or VB -435 11 A.
```

Table I-19. CO Flash Timer values

Setting	Value
0	No flash
1	.2 seconds
2	.3 seconds
3	.4 seconds
4	.5 seconds
5	.6 seconds
6	.7 seconds
7	.8 seconds
8	.9 seconds
9	**1 second**

10	1.1 seconds
11	1.5 seconds
12	2 seconds
13	2.5 seconds
14	3.0 seconds
15	3.5 seconds

Related Programming

PBX Flash Timer: FF1 3# 18# (0- 10)#

Auto Flash Redial: FF1 2# 1# 6# (0 or 1)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0 or 1)#

Dialing Restriction During Inbound Trunk Calls for TRS Types 3-6: FF7 1# 2# (0 or 1)#

Notes   *Circuit Card Requirements.*   Timer settings 1 1- 15 are only available with the loop-start trunk card (Part No. VB-435 10A or VB-435 11A).

Phone Type Restriction. The FLASH key function applies only to digital and digital single-line telephones.

Trunk Type Restriction. This timer only applies to loop-start trunks.

FLASH and REDZAL Restriction.   FLASH and REDIAL features are not available with ground-start trunks. *See Technote 13 (March 1992)* for further information.

SLT Flash Operation.   Single-line telephones must press the hookswitch and dial "87" to activate this feature.

Using FLASH Key With PBX or Centrex Lines.   If you are using a PBX or Centrex line, the FLASH key places the call on hold. See PBX Flash Timer address (FF1 3# 18#) for more information.

SLT Onhook Flash Timer
Software Version: All Versions
Address: FF1 3# 14# *(0-6)#*

Description   This timer determines how long an SLT user must hold down the switchhook before the DBS recognizes a hookflash (200 ms by default). This address also includes a setting that prevents hookflashes from being performed on SLTs.

If you change this setting, you must turn the system off, then back on to activate the change.

Programming

```
                    FF1 3# 14# (0-6)#
                              ▲
                              │
                    SLT Onhook Flash Timer setting
                    Default: 4 (valid flash=200 to 1500 ms)
                    (see table below)
```

Table l-20. SLT Onhook Flash Timer values

Address Setting	Flash Treatment		
	No Detection	*Valid Flash*	*Disconnect*
0	**Less than 200** ms	200 to 500 ms	Greater than 500 ms
1	**Less than 200** ms	200 to 700 ms	Greater than 700 ms
2	Less than 200 ms	200 to 1000 ms	Greater than 1000 ms
3	Less than 200 ms	200 to 1200 ms	Greater than 1200 ms
4	**Less than 200 ms**	**200 to 1500 ms**	**Greater than 1500 ms**
5	Less than 200 ms	None	Greater than 200 ms
6	**Less than 200** ms	200-500 ms	Greater than 500 ms

Notes   *Power-Cycling Requirement.*   In order for changes to this program to take effect, the system must be turned off, then back on.

CO Ring Cycle Detection Timer

Software Version: All Versions
Address: FF1 3# 15# (0-3)#

Description   This timer determines how long the DBS attempts to detect an incoming CO
ring cycle (6 seconds by default).

To ensure that the DBS can recognize incoming trunk calls, set this timer to
equal the duration of the ring cycle -- including the first "on" period and the
first "off" period. For example, if the ring cycle for an incoming trunk is 2
seconds on/ 4 seconds off, this parameter should be set to at least 6 seconds to
detect the full cycle. If this timer is set too short, the DBS will not recognize
valid CO ring signals.

See Figure 1-2 below for an example of proper CO ring cycle detection
timing for an incoming pattern of 2 seconds on/4 seconds off.

Figure 1-2. Example of a CO Ring Cycle and its Detection Timer
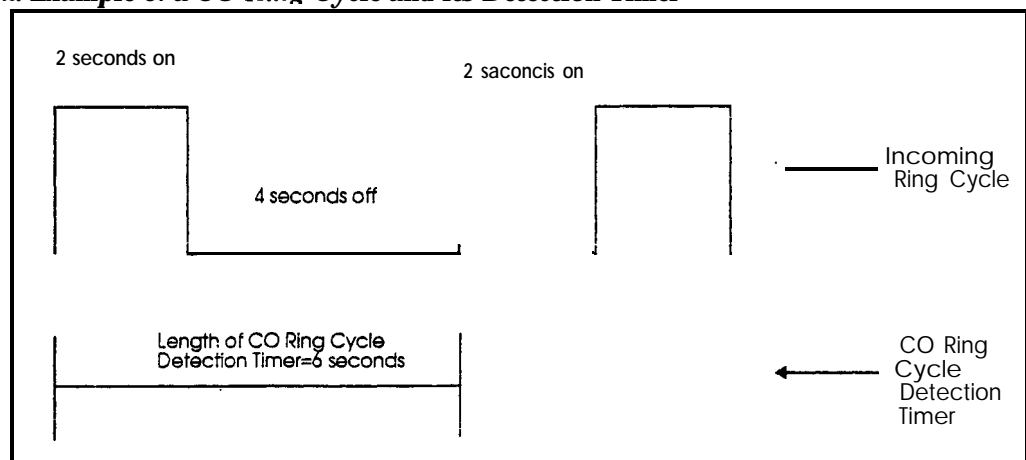
Programming

FF1 3# 15# (0-3)#
A
CO Ring Cycle Detection Timer setting:
0=4 seconds
1=6 seconds
2=8 seconds
3=10 seconds

Related Programming

Inbound Ring Cycle Expansion Timer: FF1 3# 16# (0-15)#

Inbound Ring Cycle Expansion Timer
Software Version: All Versions
Address: FF1 3# 16# (0-15)#

Description   If the incoming ring pattern for an extension (FF3 ExtPort# 39#) is set to emulate CO ringing, an extension may sometimes receive a very short ring burst when a trunk call begins ringing. This short ring burst occurs because the DBS received only part of the first "on" burst (see Figure l-2, previous page) from the trunk.

To eliminate these short rings, this timer can be used to expand initial ring bursts.   For example, if the timer is set to 350 ms and the first ring burst only lasts 50 ms, the first ring burst sent to the extension will be 350 ms. If the first ring burst is over 350 ms, the timer is ignored and the DBS emulates the initial CO ring.

Programming

```
FF1 3# 16# (0-15)#

         ▲
         ┆
Inbound Ring Cycle Expansion Timer setting
Default: 7 (350 ms)    (see table below)
```

. *Table 1-21. Inbound Ring Cycle Expansion Timer values*

Setting	Value
0	Synchronizes to the incoming call signal
1	50 ms
2	100 ms
3	150 ms
4	200 ms
5	250 ms
6	300 ms
7	350 ms
8	400 ms
9	450 ms
10	500 ms
11	550 ms
12	600 ms
13	650 ms
14	700 ms
15	750 ms

Dial Pause Timer

Software Version: All Versions
Address: FF1 3# 17# (0-15)#

Description   Use this address to insert a pause (1.5 seconds by default) before outpulsing dialed digits, once a CO trunk is accessed.

The pause is used in speed-dialing (SSD and PSD) and in Least Cost Routing (LCR).

Programming

FF1 3# 17# (0-15)#

↑

Dial Pause Timer setting
Default: **1 (1.5 seconds) (see** table below)
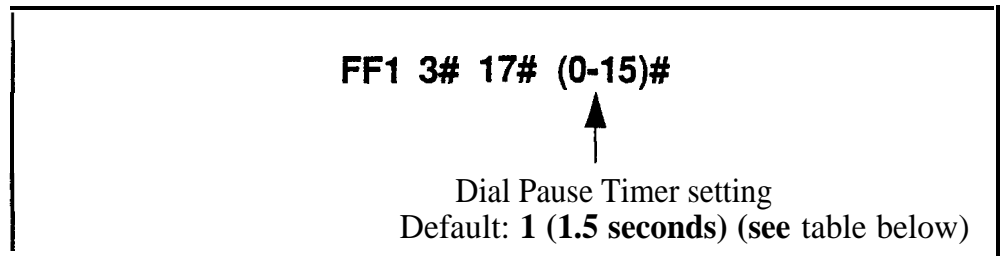
Table I-22. Dial Pause Timer values

Setting	Value
0	1.2 seconds
1	**1.5 seconds**
2	2 seconds
3	3 seconds
4	4 seconds
5	5 seconds
6	6 seconds
7	7 seconds
8	8 seconds
9	9 seconds
10	10 seconds
11	11 seconds
12	12 seconds
13	13 seconds
14	14 seconds
15	15 seconds

PBX Flash Timer
Software Version: All Versions
Address: FF1 3# 18# (0-IO)#

Description   When a DBS trunk is defined as a PBX trunk, the FLASH key can be used to place a call on hold.

This timer determines how long the flash signal will last if the FLASH key is pressed then immediately released (.8 seconds by default).

If the FLASH key is pressed and held down, the flash signal will last as long as the key is pressed.

Programming

```
              FF1 3# 18# (0-10)#
                           ▲
                           |
              PBX Flash Timer setting
              Default: 7 (.8 seconds) (see table below)
```
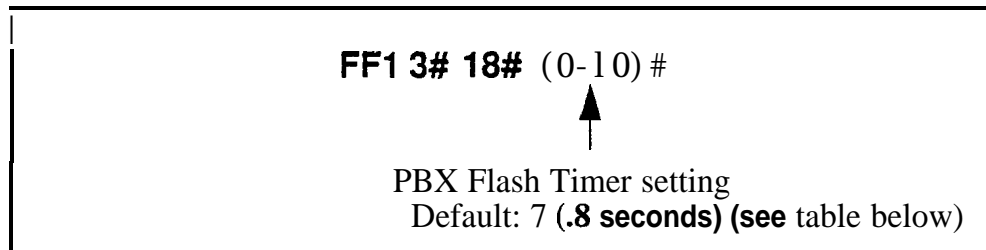
Table l-23. PBX Flash Timer values

Setting	Value
0	No flash
1	.2 seconds
2	.3 seconds
3	.4 seconds
4	.5 seconds
5	.6 seconds
6	.7 seconds
7	**.8 seconds**
8	.9 seconds
9	1 second
10	1.1 seconds

Related Programming

Auto Flash Redial: FF1 2# 1# 6# (0 or 1)#

Trunk Port Type: FF2 (Trunk)# 10# (1 or 2)#

Call Forward-No Answer Timer
Software Version: All Versions
Address: FF1 3# 19# (0-15)#

Description   The Call Forward-No Answer Timer determines how long an unanswered call
will ring at an extension before it is sent to a secondary destination (12
seconds by default).

NOTE: Although this address is present in all CPC versions, it controls
different ringing features in different versions (see table below):

Table I-24. King control for Call Forward-No Answer Timer

Address	Ring Feature	CPC-A (all)	CPC-AII (all)	CPC-B (prior to 3.1)	CPC-B (3.1 or higher)
FF1 3# 19#	CallForward-No Answer	YES	YES	YES	YES
FF1 3# 28#	Hunt Group-No Answer	YES	NO	YES	NO
FF1 3# 26#	CO Delaved Ring	(not available)	NO	YES	NO
FFi 3# 27#	Extension Delayed Ring	(not available)	NO	YES	NO

YES = The Call Forward-No Answer Tier controls this ring feature.
NO = The Call Forward-No Answer Timer does **not** control this feature -- it has its own address (see "Address"
     column).
(not **available)** = Control of this ring feature is not available in this CPC version.

Programming .

FF1 3# 19# (0-15)#

Call Forward-No Answer Timer setting
Default: **2 (After 12 seconds) (see** table below)

Table I-25. Call Forward-No Answer Timer values

Setting	Value	Setting	Value
0	After 4 seconds	9	After 40 seconds
1	After 8 seconds	10	After 44 seconds
2	**After 12 seconds**	11	After 48 seconds
3	After 16 seconds	12	After 52 seconds
4	After 20 seconds	13	After 56 seconds
5	After 24 seconds	14	After 60 seconds
6	After 28 seconds	15	After 64 seconds
7	After 32 seconds		
8	After 36 seconds		

Outbound Ground Start Detection Timer
Software Version: CPC-B Version 1.0 or higher
Address: FF1 3# 20# (1-8)#

Description   This timer determines how long the DBS waits for the CO to ground the Tip
side of a trunk (4 seconds by default). before establishing a connection
between the extension and the CO.

When an extension attempts to place an outgoing call on a ground-start trunk,
the DBS grounds the Ring side of the trunk. In response, the CO grounds the
Tip side of the trunk. When the DBS detects the Tip ground, it will establish
the connection (the extension user will hear dial tone).

If the Tip ground is not received within the time set in this address, the DBS
will treat the trunk as unavailable (the extension user will hear busy signal).

Programming

```
                         FF1 3# 20# (1-8)#
                                  ▲
                                  |
          Outbound Ground Start Detection Timer setting
          Default: 4 (4 seconds) (see table below)
```

Table l-26. Outbound Start Detection Timer values

Setting	Value
1	1 second
2	2 seconds
3	3 seconds
4	4 seconds
5	5 seconds
6	6 seconds
7	7 seconds
8	8 seconds

Related Programming

Inbound Ground Start Detection Timer: FF1 3# 21# (1-8)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0-4)#

Inbound Ground Start Detection Timer
Software Version: CPC-B Version 1 .O or higher
Address: FF1 3# 21# (1-8)#

Description   This timer determines how long a CO Tip ground signal must be present
before the DBS recognizes it as a valid incoming call (4 seconds by default).

When the CO sends a call to a ground-start DBS trunk, it signals the incoming
call by grounding the Tip side of the trunk.

In most cases, this timer should be set to 3 seconds or longer.   Otherwise, the
DBS may generate false ringing when Tip ground is not quickly removed at
the end of a call.

Programming

```
                    FF1 3# 21# (1-8)#
                           ▲
                           |

        Inbound Ground Start Detection Timer setting
        Default: 4 (4 seconds) (see table below)
```
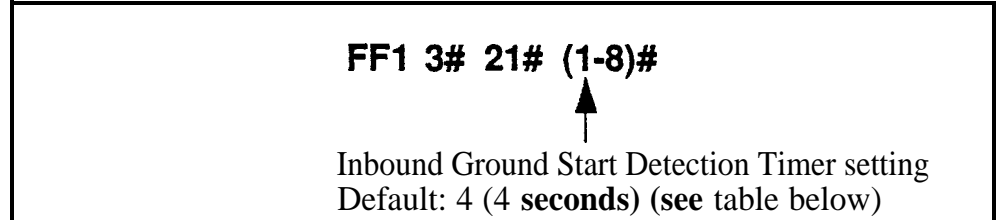
Table l-27. Inbound Ground Start Detection Tinier values

Setting	Value
1	1 second
2	2 seconds
3	3 seconds
4	**4 seconds**
5	5 seconds
6	**6** seconds
7	**7** seconds
8	**8** seconds

Related Programming

Outbound Ground Start Detection Timer: FF1 3# 20# (1-8)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0-4)#

Attendant Hold Recall Timer for Intercom Calls
Software Version: CPC-All (all versions) and CPC-B Version 2.0 or higher
Address: FF1 3# 22# (0-12)#

Description   This timer determines how long an intercom call will remain on hold at an
Attendant phone before it recalls (20 seconds by default).

Programming

FF1 3# 22# (0-12)#

↑

Attendant Hold Recall Timer setting for Intercom Calls
Default: 1 (20 seconds) (see table below)

Table l-28. Attendant Hold Recall Timer values for intercom calls

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Related **Programming**

Attendant Hold Recall Timer for CO Calls: FF1 3# 2# (0-12)#

Extension Hold Recall Timer for Intercom Calls

Software Version: CPC-All (ail versions) and CPC-B Version 2.0 or higher
Address: FF1 3# 23# (0-12)#

Description   This timer determines how long an intercom call will remain on hold at an
extension phone before it recalls (140 seconds by default).

Programming

FF1 3# 23# (0-12)#

↑

Extension Hold Recall Timer setting for intercom calls
Default: 7 (140 **seconds**) **(see** table below)

Table l-29. Extension Hold Recall Timer values for intercom calls

Setting	Value
0	No recall
1	20 seconds
2	40 seconds
3	60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	**140 seconds**
8	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Notes   *Recall Treatment for Intercom Calls.*   Unanswered recalls for intercom calls
will ring indefinitely at the extension.

Attendant Transfer Recall Timer for Intercom Calls

Software Version: CPC-All (ail versions) and CPC-B Version 2.0 or higher
Address: FF1 3# 24# (0-12)#

Description   This timer determines how long an Attendant-transferred intercom call will ring at an extension before it recalls to the Attendant (20 seconds by default).

Programming

> **FF1 3# 24# (0-12)#**
>
> ↑
>
> Attendant Transfer Recall Timer setting for intercom calls
> Default: 1 (20 **seconds**) **(see** table below)

Table l-30. Attendant Transfer Recall Timer values for intercom calls

Setting	Value
0	No recall
1	20 **seconds**
2	40 seconds
3	I 60 seconds
4	80 seconds
5	100 seconds
6	120 seconds
7	140 seconds
8 ·	160 seconds
9	180 seconds
10	200 seconds
11	220 seconds
12	240 seconds

Related Programming

Attendant Transfer Recall Timer for CO Calls: FF1 3# 4# (0-12)#

Notes   *Call* Forward *Interaction.* If a call is transferred to an extension that has Call Forwarding turned on, the call will follow the call forwarding path if the Call Forward-No Answer Timer is less than the Recall Timer.

Extension Transfer Recall Timer for Intercom Calls

Software Version: CPC-All (all versions) and CPC-B Version 2.0 or higher
Address: FF1 3# 25# (0-12)#

Description   This timer determines how long a transferred intercom call will ring at
another extension before it recalls back to the transferring extension (140
seconds by default).

Programming

FF1 3# 25# (0-12)#

↑

Extension Transfer Recall Timer setting for intercom calls
Default: 7 **(140 seconds)** (see table below)

Table 1-31. Extension Transfer Recall Timer values for intercom `calls`

Setting	Value
0	No recall
1	*20* seconds
2	**40** seconds
3	*60* seconds
4	*80* seconds
5	I 100 **seconds**
6	120 seconds
7	**140 seconds**
8	160 seconds
9	180 seconds
10	*200* seconds
11	*220* seconds
12	*240* seconds

Related Programming

Extension Transfer Recall Timer for CO Calls: FF1 3# 5# (0- 12)#

Notes   ***Call Forward Interaction.***   If a call is transferred to an extension that has
Call Forwarding turned on, the call will follow the call forwarding path if the
Call Forward-No Answer Timer is less than the Recall Timer.

CO Delayed Ring Timer
Software Version: CPC-All (all versions) and CPC-B Version 3.1 or higher
Address: FF1 3# 26# (0-15)#

Description   CO Delayed Ringing allows a second extension to ring when an incoming
trunk call is not answered at the first extension. This timer determines how
long a CO trunk call will ring at the first extension before it begins ringing at
the second extension. (When the second extension begins ringing, the first
extension will stop ringing.)

Programming

```
        FF1   3#   26#   (0-15)#
                          ↑
                          |
        CO Delayed Ring Timer setting
        Default: 2 (after 12 seconds) (see table below)
```

Table l-32. CO Delayed Ring Timer values

Setting	Value
0	After 4 seconds
1	After 8 seconds
2	**After 12 seconds**
3	After 16 seconds
4	After 20 seconds
5	After 24 seconds
6	After 28 seconds
7	After 32 seconds
8	After 34 seconds
9	After 36 seconds
10	After 44 seconds
11	After 48 seconds
12	After 52 seconds
13	After 56 seconds
14	After 60 seconds
15	After 64 seconds

Related Programming

Delayed Ring: FF1 2# 1# 21# (0 or 1)#

CO Delayed Day Ring Assignments : FF4 5# (ExtPort)# (Trunk)#

CO Delayed Day Ring Assignments for Hunt Groups: FF4 5# (HuntGrp)# (Trunk)#

CO Delayed Night 1 Ring Assignments: FF4 6# (ExtPort)# (Trunk)#

CO Delayed Night 1 Ring Assignments for Hunt Groups: FF4 6# (HuntGrp)# (Trunk)#

CO Delayed Night 2 Ring Assignments: FF4 9# 2# (ExtPort)# (Trunk)#

CO Delayed Night 2 Ring Assignments for Hunt Groups: FF4 9# 2# (HuntGrp)# (Trunk)#

Notes   *CO Delayed Ring Control in Older CPC-B Versions.*   In CPC-B versions prior to 3.1, CO delayed ringing is controlled by the Call Forward-No Answer Timer (FF1 3# 19# 0-15#).

Extension (DSS/BLF) Delayed Ring Timer
Software Version: CPC-All (all versions) and CPC-B Version 3.1 or higher
Address: FF1 3# 27# (0-15)#

Description   Extension Delayed Ringing allows a second extension to ring when an intercom call is not answered at the first extension. This timer determines how long the intercom call will ring at the first extension before it begins ringing at the second extension. (When the second extension begins ringing, the first extension will stop ringing.)

Note: The covering station needs a DSS/BLF key.

Programming

FF1 3# 27# (0-15)#

Extension Delayed Ring Timer setting
Default: **2 (after 12 seconds) (see** table below)

Table l-33. Extension Delayed Ring Timer values

Setting	Value
0	After 4 seconds
1	After 8 seconds
2	After 12 seconds
3	After 16 seconds
4	After 20 seconds
5	After 24 seconds
6	After 28 seconds
7	After 32 seconds
8	After 34 seconds
9	After 36 seconds
10	After 44 seconds
11	After 48 seconds
12	After 52 seconds
13	After 56 seconds
14	After 60 seconds
15	After 64 seconds

Related Programming

Extension (BLF) Delayed Ring: FF1 2# 1# 30# (0 or 1)#

Extension Delayed Ring Table: FF4 8# (ExtPort)# (ExtPort)# (0 or 1)#

Notes   ***Extension Delayed Ring Control in Older CPC-B Versions.*** ***In*** CPC-B versions prior to 3.1, extension delayed ringing is controlled by the Call Forward-No Answer Timer (FF1 3#19# 0-15#).

Hunt Group No Answer Timer

Software Version: CPC-All (all versions) and CPC-B Version 3.1 or higher
Address: FF1 3# 28# (0-15)#

Description   If a call has entered a hunt group and the first extension to ring is not
answered, this timer determines how long the extension will ring before the
next idle extension in the hunt group begins ringing (12 seconds by default).

Programming

```
                         FF1 3# 28# (0-15)#
                                    ▲
                                    |

                         Hunt Group No Answer Timer setting
                         Default: 2 (after 12 seconds) (see table below)
```

Table 1-34. Hunt Group No Answer Timer values

Setting	Value
0	After 4 seconds
1	After 8 seconds
2	**After 12 seconds**
3	After 16' seconds
4	After 20 seconds
5	After 24 seconds
6	After 28 seconds
7	After 32 seconds
8	After 34 seconds
9	After 36 seconds
10	After 44 seconds
11	After 48 seconds
12	After 52 seconds
13	After 56 seconds
14	After 60 seconds
15	After 64 seconds

Notes   ***Extension Delayed Ring Control in Older CPC-B Versions.*** *In* CPC-B
versions prior to 3.1, extension delayed ringing is controlled by the Call
Forward-No Answer Timer (FF1 3# 19# 0- 15#).

Automatic Day Mode Start Time
Software Version: CPC-All (all versions) and CPC-B Version 4.0 or higher
Address: FF1 3# 29# HHMM#

Description   Setting the Automatic Day Mode Start Time allows the DBS to switch from
Night mode to Day mode automatically.

You can program trunks to ring incoming calls at different extensions during
Day or Night mode (see FF4 addresses). And different TRS types can be
programmed for use in each mode (see FF8 addresses).

To set the automatic start time for Night mode, use FF1 3#1# HHMM. A
second Night mode is also available in Version 7.0 or higher of CPC-AII or
CPC-B -- see FF1 3# 30# HHMM.

Programming

To set the Automatic Day Mode Start Time . . .

Enter the time using the 24-hour format. The following example sets the time
to 8:30 a.m.:

```
                          FF1 3# 29# 0830#
                                   ↑
                                   |
                          Time Setting (8:30 a.m.)
                          (in 24-hour format)
```

To clear the Start Time (disable Day Mode) . . .

```
                          FF1 3# 29# CONF ON/OFF
```

Related Programming

Time Setting: FF1 1# 2# HHMM#

Automatic Night Mode Start Time: FF1 3# 1# HHMM#

Automatic Night 2 Mode Start Time: FF1 3# 30# HHMM#

CO Ring Assignments: FF4 addresses

Toll Restriction: FF8 addresses

Notes

System *Clock.* The Automatic Day Mode start time depends on the DBS system clock being set correctly.

NIGHT Key Operation. If only one of the Auto Mode Start Ties is set, the Attendant NIGHT key can be used to manually switch to another mode. For instance, if Night mode has been activated automatically, the Attendant can press the NIGHT key to go into Day mode. (However, the Attendant must wait at least 3 minutes after the mode is automatically activated, before using the NIGHT key to switch the mode again.)

In CPC-AII/B versions prior to 7.0, if both Auto Day and Auto Night Mode Start Times are set, the Attendant NIGHT key cannot be used to manually switch modes. (However, it will work in Version 7.0 or higher; or press #520 to toggle between Day, Night and Night 2 modes.)

> **SUGGESTION** (for versions prior to 7.0): Set only the Auto Night Mode Start Time, so that the DBS will automatically switch to Night mode each night -- and each morning the Attendant phone can press the NIGHT key to manually switch to Day mode.

Required Intervals Between Auto Day and Night Modes. If you set both Auto Mode Start Times. it is recommended that the start times differ by at least 1 hour.

Automatic Night 2 Mode Start Time

Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF1 3# 30# HHMM#

Description   In this address, you can activate a second Night mode by setting the
Automatic Night 2 Mode Start Time. This allows the DBS to switch from
Night to Night 2 mode automatically at the time set in this address.

You can program trunks to ring incoming calls at different extensions during
Day or Night mode (see FF4 addresses). And different TRS types can be
programmed for use in each mode (see FF8 addresses).

To set the automatic start time for Night mode, use FF1 3# 1# HHMM. To set
the Automatic Day Mode Start Time, use FF1 3# 29# HHMM.

Programming

To set the Automatic Night 2 Mode Start Time . . .

```
            FF1 3#  30#  (0000-2359)#
                           ↑
                    Night 2 Mode Start Time
                    (in 24-hour format)
```

To clear the start. time (disable Night 2 Mode) . . .

```
            FF1 3# 30# CONF ON/OFF
```

Related Programming

Time Setting: FF1 1# 2# HHMM#

Automatic Day Mode Start Time: FF1 3# 29# HHMM#

Automatic Night 1 Mode Start Time: FF1 3# 1# HHMM#

CO Ring Assignments: FF4 addresses

Toll Restriction: FF8 addresses

Notes   System *Clock.   The* automatic start time for Night 2 depends on the DBS
system clock being set correctly.

NIGHT Key *Operation.*   If only one of the Auto Mode Start Times is set, the Attendant NIGHT key can be used to manually switch to another mode. For instance, if Night mode has been activated automatically, the Attendant can press the NIGHT key to go into Day mode. (However, the Attendant must wait at least 3 minutes after the mode is automatically activated, before using the NIGHT key to switch the mode again.)

In CPC-AII/B versions prior to 7.0, if both Auto Day and Auto Night Mode Start Times are set, the Attendant NIGHT key cannot be used to manually switch modes. (However, it will work in Version 7.0 or higher; or press #520 to toggle between Day, Night and Night 2 modes.)

> **SUGGESTION (for versions prior to 7.0):** Set only the Auto Night Mode Start Time, so that the DBS will automatically switch to Night mode each night -- and each morning the Attendant phone can press the NIGHT key to manually switch to Day mode.

Required Intervals Between Auto Day and Night Modes.   If you set both Auto Mode Start Times, it is recommended that the start times differ by at least 1 hour.

Programming and DISA Codes

Remote Programming ID Code
Software Version: All Versions
Address: FF1 4# (0000-9999)#

Description   The Remote Programming ID Code allows you to enter the terminal
programming mode. This programming mode is used to enter programming
commands from a remote PC or a local PC connected directly to the SMDR
port (CN6).

You can enter the remote programming mode through any of these three
methods:

- By dialing into the system through a direct DISA trunk
- By dialing into the system through a regular CO trunk, then requesting the
operator to enter the Remote Programming ID Code
- By using a local PC and communications package to connect directly to
the DBS serial port.

For more information on the terminal programming mode. see Appendix B.

Programming

To set the Remota Programming ID Code . . .

```
            FF1  4#  (0000-9999)#
                         ▲
                         |
                         |
                    4-Digit ID Code
```

To reset the ID Code to the default (9999)...

```
            FF1 4# CONF ON/OFF
```

DISA Inbound Call ID Code
Software Version: All Versions
Address: FF1 5# (0000-9999)#

Description   Use this address to set a valid ID code for inbound DISA (Direct Inward System Access) callers. By default, no ID code is defined. which means a caller who dials a DISA trunk will receive intercom dial tone immediately without entering an ID code.

If you define a DISA Inbound Call ID Code in this address, callers dialing in on the DISA trunk will receive a fast-busy tone. The caller must then dial the DISA Inbound Call ID Code to receive the intercom dial tone.

Programming

To set the DISA ID Code . . .

```
                    FF1 5# (0000-9999)#
                              ↑
                              |
                    J-Digit DISA Inbound ID Code
                    (Default: ****)
```

To clear the DISA ID Code . . .

```
                    FF1 5# CONF ON/OFF
```

Related Programming

DISA Outbound Call ID Code 1: FF1 6# 1# (0000-9999)#

DISA Outbound Call ID Code 2: FF1 6# 2# (0000-9999)#

DISA Start lime: FF2 (Trunk)# 19# HHMM#

DISA End Time: FF2 (Trunk)# 20# HHMM#

DISA Auto Answer: FF2 (Trunk)# 1 1# HHMM#

DISA Outbound Call ID Code 1

Software Version: All Versions
Address: FF1 6# 1# (0000-9999)#

Description   Once a caller has dialed in on the DISA trunk and accessed intercom dial tone, he/she can access a trunk line by dialing #7, then the ID code set in this address (1111 by default), then 9 or 81-86 to access the MCO trunk.

Programming

To set DISA Outbound ID Code 1 . . .

```
              FF1  6#  1#  (0000-9999)#
                            ▲
                            |
                            |
                  4-Digit DISA Outbound ID Code 1
                  (Default: 1111)
```

To reset DISA Outbound ID Code 1 to default "1111" . . .

```
              FF1  6#  1#  CONF  ON/OFF
```

Related Programming

DISA Auto Answer: FF2 (Trunk)# 11# (0 or 1)#

DISA Inbound Call ID Code: FF1 5# (0000-9999)#

DISA Outbound Call ID Code 2: FF1 6# 2# (0000-9999)#

DISA Start Time: FF2 (Trunk)# 19# (HHMM)#

DISA End Time: FF2 (Trunk)# 20# (HHMM)#

Notes   *DISA Limitations --*

 1) A 16-second timer is set between the dialing of the DISA Outbound ID Code. If a time-out results, the DISA call is treated as a normal call.

 2) The DBS supports up to two valid 4-digit DISA Outbound ID Codes, so that you can track two different groups of DISA callers on SMDR reports.

 3) Accessing trunks via DISA can take place only on trunk (MCO) groups.

 4) LCR (Least Cost Routing) is not supported on DISA trunks.

 5) Trunk calling with DISA will override all TRS.

DISA Outbound Call ID Code 2

Software Version: All Versions
Address: FF1 6# 2# (0000-9999)#

Description   Once a caller has dialed in on the DISA trunk and accessed intercom dial
tone, he/she can access a trunk line by dialing #7, then the ID code set in this
address (9999 by default), then 9 or 81-86 to access the MCO trunk.

Programming

To set DISA Outbound Call ID Code 2 . . .

```
              FF1 6# 2# (0000-9999)#
                           ▲
                           |
                    4-Digit DISA Outbound ID Code 2
                    (Default: 9999)
```
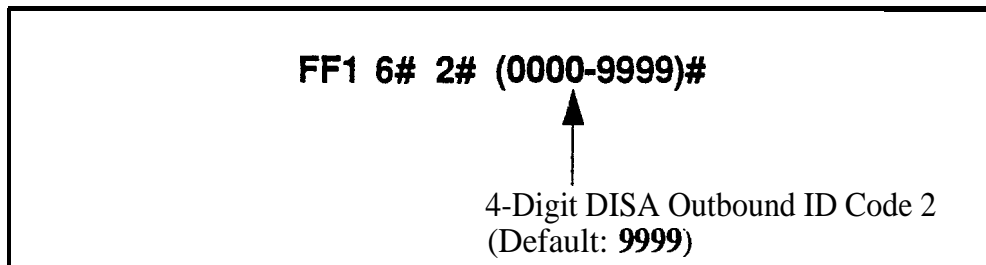
To reset DISA Outbound ID Code 2 to default "9999" . . .

```
              FF1 6# 2# CONF ON/OFF
```

Related Programming

DISA Auto Answer: FF2 (Trunk)# 11# (0 or 1)#

DISA Inbound Call ID Code: FF1 5# (0000-9999)#

DISA Outbound Call ID Code 1: FF1 6# 1# (0000-9999)#

DISA Start Time: FF2 (Trunk)# 19# (HHMM)#

DISA End Time: FF2 (Trunk)# 20# (HHMM)#

Notes   *DISA Limitations --*

1) A 16-second timer is set between the dialing of the DISA Outbound ID
   Code. If a time-out results, the DISA call is treated as a normal call.

2) The DBS supports up to two valid 4-digit DISA Outbound ID Codes, so
   that you can track two different groups of DISA callers on SMDR reports.

3) Accessing trunks via DISA can take place only on trunk (MCO) groups.

4) LCR (Least Cost Routing) is not supported on DISA trunks.

5) Trunk calling with DISA will override all TRS.

ID Code For System Programming
Software Version: All Versions
Address: FF1 7# (0000-9999)#

Description   This program assigns an ID code that can be dialed from a non-Attendant phone to enter the programming mode (9999 by default).

Non-Attendant extensions enter the programming mode by dialing #98 and then the ID Code entered in this address.

Programming

To assign the ID Code for system programming . . .

```
            FF1 7# (0000-9999)#
                         ▲
                         |
              4-Digit ID Code for System Programming
                       (Default: 9999)
```
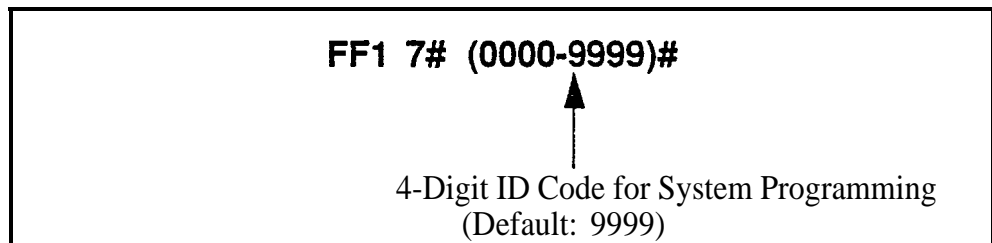
To reset the ID Code to default "9999" . . .

```
            FF1 7# CONF ON/OFF
```

Notes   *Entering the Programming Mode.*   Oniy one extension can be in programming mode at a particular time.

New **Function Reset**

New Function Reset

Software Version: CPC-B Only, Version 4.0 or higher
Address: FF1 8# 1# (0 or 1)# (to select the reset)
FF1 8# 2# (0 or 1)# (to complete the reset)

Description   Perform this address if you are upgrading CPC-B software to a new release
(such as from 5.0 to 6.0). However, it is not necessary if you are upgrading to
a "point" release (such as 6.0 to 6.1). New Function Reset should be
performed immediately after changing-out the EPROM chips on the CPC-B
card.

New Function Reset initializes SRAM (Static Random Access Memory). It
clears unused registers and adds new programs, but retains all current DBS
program settings. ***Exception:*** If you are upgrading from a CPC-B version
prior to 3.1, New Function Reset will clear existing DID numbers (which are
extension-based -- see FF3 ExtPort# 35#). Beginning with Version 3.1, DID
numbers are stored in the 'Inbound DID Numbers" table (see FF1 8# 3#
address). New Function Reset will erase extension-based DID numbers, but
it will not erase the Inbound DID Numbers table.

Prdgramming

```
                    FF1 8# 1# (Oor 1)#
                              ▲
                              |
                    0=Do not perform New Function Reset.
                    1=Perform New Function Reset.

        NOTE: If you enter "1" (to reset), the following displays:

        ┌─────────────────┐
        │ CONFIRM         │
        │ 0:NO    1:YES   │
        └─────────────────┘

        This is to confirm that you want to reset the data before the DBS
        actually performs the reset. Press one of the following:

                    0=Do not complete the reset.
                    1=Complete the reset.
```

Related Programming

CO Ring Assignments: FF4 addresses

CO Ring Cycle Detection Timer: FF1 3# 15# (0-3)#

DID/DNIS and T1 Settings

Inbound DID Dial Numbers
Software Version: CPC-B Version 3.1 or higher
Address: FF1 8# 3# (0000-9999)# (IO-69 or 100-699)#

Description   Use this address to assign DID number(s) to extension(s).

- Up to 500 DID numbers can be assigned.

- One DID number can be assigned to multiple extensions (this will take up only one entry in the 500 available entries).

- One extension can have multiple DID numbers assigned to it. (The number of entries taken up is equal to the number of DID numbers assigned to the extension.)
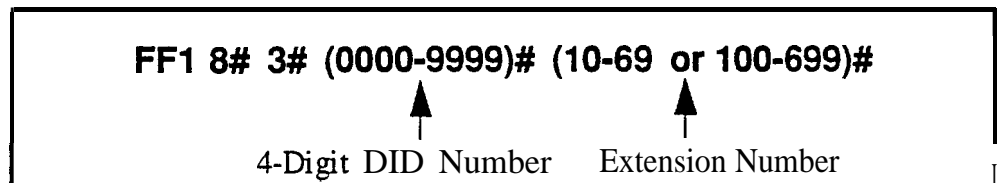
Programming

```
FF1 8# 3# (0000-9999)# (10-69 or 100-699)#
              ↑                  ↑
        4-Digit DID Number    Extension Number
```

Related Programming

Multiple DID/DNIS: FF1 2# 1# 32# (0 or 1)#

DID/DNIS (enabling trunks for): FF1 8# 4# 6# (Trunk)# 2# (0-2)#

DID Flexible Ringing Assignments: FF1 8# 5# (DIDNo.)# (ExtNo.)#
    (0000[00]-1111[11])#   .

DID Immediate or Wink Start: FF2 (Trunk)# 22# (0 or 1)#

Wink Start Timer: FF2 (Trunk)# 23# (0-15)#

Time Out for Dialed DID Digits: FF2 (Trunk)# 24# (0-15)#

DID Interdigit Timeout: FF2 (Trunk)# 25# (0-15)#

Extension Numbers: FF3 (ExtPort)# 1# (ExtNo.)#

Notes   ***DID Number Assignment in Older CPC-B Version.***   In CPC-B Version 2.0, DID numbers were stored with extension port settings, rather than in a separate table (see FF3 ExtPort# 35# for more information).

DID Hardware and Power Requirements. The DID trunk card is required
(each DID card provides 8 ports). The DID trunk card requires an external,
-48V power supply. Also, SCC-B Card Version 1.2 or higher is required. See
Section 300-Installation for cabling instructions.

Dial Pulse Requirement. The DID trunk card requires dial-pulse dialing.

Digit Length Requirement. *The* DBS only supports 4-digit DID numbers.

DID Ring Control. Ringing for the DID number at the assigned extension(s)
is controlled by the DID Flexible Ringing Assignments address (FF1 8# 5#).

System Configuration
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 1# 1# (0-8)#

Description   Use this address to identify the DBS system configuration in which the T1 interface is installed (DBS 40 by default).

This is one of the required addresses to make T1 operational. See **"Minimum T1 Programming"** below for more information.

Programming

```
                    FF1  8#  4#  1#  1#  (0-8)#
                                        ▲
                                        |
                                   System Configuration
                                   Default: 0 (DBS 40)
                                   (see table below)
```
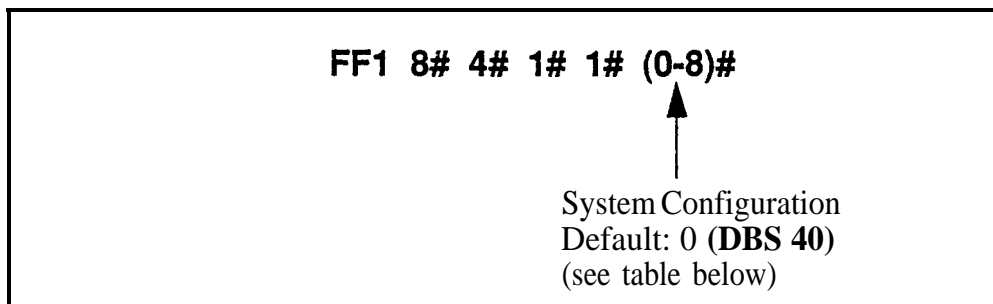
Table l-35. System Configuration for T1 installation

Setting	Value	Notes
0	**DBS40**	
1	DBS 72	
2	DBS 96	
3	DBS 40 + DBS 40	T1 must be in slave cabinet
4	DBS 72 + DBS 40	T1 is not supported
5	DBS 72 + DBS 72	T1 must be in slave cabinet
6	DBS 96 + DBS 40	
7	DBS 96 + DBS 72	
8	CBS 96 + DBS 96	

Notes   ***Power-Cycling Requirement.***   For changes to this parameter to take effect, the system must be turned off, then back on.

Minimum T1 Programming.   The following table (see next page) lists the programs that need to be set in order to make T1 operational. Default settings appear in bold. In most cases, you do not have to change the defaults for any remaining T1 programs.

Table l-36. Minimum Tl programming (default settings appear in bold)

STEP 1 -- NEW FUNCTION RESET

Address:	FF1 8# 1# (0 or 1)# (to select the reset) FF1 8# 2# (0 or 1)# (to complete the reset)
Description:	Must be performed if you are installing T1 while upgrading to a new CPC-B release (e.g., from 6.2 to 7.0). Not needed if you are upgrading to a "point" release (e.g., from 6.0 to 6.2).
Options:	**0=Do** not reset l=Reset

STEP 2 -- SYSTEM CONFIGURATION

Address:	FF1 8# 4# 1# 1# (0-8)#
Description:	Enter the DBS cabinet configuration.
Options:	**0=DBS** 40 l=DBS 72 2=**DBS** 96 3=**DBS** 40 + DBS 40 (T1 must be in slave cabinet) 4=**DBS** 72 + DBS 40 (T1 is not supported) 5=**DBS** 72 + DBS 72 (T1 must be in slave cabinet) 6=**DBS** 96 + DBS 40 7=**DBS** 96 + DBS 72 8=**DBS** 96 + DBS 96

STEP 3 -- SYNC SOURCES

Address:	FF1 8# 4# 1# 2# (1-3)# for Sync Source 1 FF1 8# 4# 1# 3# (0-3)# for Sync Source 2 FF1 8# 4# 1# 4# (0-3)# for Sync Source 3
Description:	Assign the sync sources. The Sync Card (installed on the CPC-B) provides a method of synchronizing the DBS with the public network. If the first sync source fails, the DBS will switch to the second sync source, and will then attempt to return to the first source based on the "Network Re-Sync Timer" value. If the second source fails and the first source is not working, the system will switch to the third source. The DBS considers a clock source to have failed when the 'Slip Rate Error Counter" is exceeded within a 24-how period. (continued)

Address: continued)	FF1 8# 4# 1# 2# (1-3)# for Sync Source 1 FF1 8# 4# 1# 3# (0-3)# for Sync Source 2 FF1 8# 4# 1# 4# (0-3)# for Sync Source 3
Description: continued)	The "Free run" setting is the only setting that can be entered for more than one sync source. One of the three sync sources should be set to "Free run", so that the T1 can provide its own clocking if the network clock fails. For changes to this parameter to take effect, the system must be Powered down. then powered back up.
Options:	0=None (default for Sync Sources 2 and 3) 1=T1 of the master cabinet 2=T1 of the slave cabinet 3=Free run (internal clocking) (default for Sync Source 1)

Examples:	In most cases, the sync sources should be set as follows for these system configurations:
	
	T1 in a Single Cabinet, or T1 in a Master Cabinet:
	    Sync Source 1 = 1 (T1 of the master cabinet)
	    Sync Source 2 = 3 (Free run)
	    Sync Source 3 = 0 (None)
	
	T1 in a Slave Cabinet:
	    Sync Source 1 = 2 (T1 of the slave cabinet)
	    Sync Source 2 = 3 (Free run)
	    Sync Source 3 = 0 (None)
	
	Tls in the Master and Slave Cabinets:
	    Sync Source 1 = 1 (T1 of the master cabinet)
	    Sync Source 2 = 2 (T1 of the slave cabinet)
	    Sync Source 3 = 3 (Free run)

STEP 4 -- TRUNK CONFIGURATION

Address:	FF1 8# 4# 4# 1# 1# (0 or 1)# for Master Cabinet FF1 8# 4# 5# 1# 1# (0 or 1)# for Slave Cabinet
Description:	Specify the trunk configuration.
Options:	0=Analog only 1=T1 and analog trunks

STEP 5 -- NUMBER OF T1 CHANNELS

Address:	FF1 8# 4# 4# 1# 2# (0-24)# for Master Cabinet FF1 8# 4# 5# 1# 2# (0-24)# for Slave Cabinet
Description:	Specify the number of T1 channels used when "Fractional T1" is needed (using only a portion of the 24 available channels on the T1 card).
Options:	0 = None (no T1 channels are used) 1 thru 24 = Number of Tl channels used

STEP 6 -- FRAME FORMAT

Address:	FF1 8# 4# 4# 1# 3# (0 or 1)# for Master Cabinet FF1 8# 4# 5# 1# 3# (0 or 1)# for Slave Cabinet
Description:	Specify the framing format used by the T1. Be sure to match the framing format ordered from the CO. In most cases, SF (SuperFrame; also known as D4) is used. SF consists of 12 frames, with each frame including 192 information bits. ESF (Extended SuperFrame) can also be selected. ESF consists of 24 frames, and supports monitoring and maintenance capabilities not available in the SF format. For changes to this parameter to take effect, the system must be powered down, then powered back up.
Options:	0 = SF (D4) 1 = ESF

STEP 7 -- LINE CODING (CLEAR CHANNEL) FORMAT

Address:	FF1 8# 4# 4# 1# 4# (0 or 1)# for Master Cabinet FF1 8# 4# 5# 1# 4# (0 or 1)# for Slave Cabinet
Description:	Specify the clear channel format used by the T1 for line coding. Be sure to match the clear channel format ordered from the CO. In most cases, AM1 (Alternate Mark Inversion) is used. B8ZS (Binary 8-Zeros Suppression) can also be selected. For changes to this parameter to take effect, the system must be powered down, then powered back up.
Options:	0 = AMI 1 = B8ZS

STEP 8 -- TRUNK CIRCUIT TYPE

Address:	FF2 (1-64)# 21# (0-4)#
Description:	Specify which trunk channels are used for T1.
	When assigning trunks as circuit type "3" (T1), start from the highest-numbered trunk port in the DBS cabinet structure, and move down sequentially from there.
	If Fractional T1 is used, make sure that the number of trunks assigned to circuit type "3" (T1) matches the "Number of T1 Channels" setting (**see STEP 5** above). Also, if your CPC-B version is 5.0 to 6.02, make sure the remaining trunk ports on the TRK card are opened for analog usage in the "T1 Trunk Closure" address (see FF18# 7# in this DBS Manual).
	For changes to this parameter to take effect, the system must be powered down, then powered back up.
Options:	**0 = Loop Start** 1 = Ground Start 2 = Analog DID **3 = T1** **4** = Caller ID (loop start) (available only with CPC-B Version 6.1 or higher)

STEP 9 -- T1 TRUNK TYPE EMULATION

Address:	FF1 8# 4# 6# (1-64)# 1# (0-3)#
Description:	Specify the type of trunk signaling that each T1 channel emulates.
	Be sure to match the signaling ordered from the CO. If your system uses T1 COP Version 1.1 or 1.2 and you wish to use the "Ground Start" setting, it must be upgraded to Version 1.4 or higher.
	For changes to this parameter to take effect, the system must be powered down, then powered back up.
Options:	**0 = Loop Start emulation** 1 = (reserved for future use) 2 = Ground Start emulation **3 = E&M**

STEP 10 -- OUTGOUNG SIGNALING TYPE

Address:	FF1 8# 4# 6# (1-64)# 3# (0-2)#
Description:	Specify the outgoing signaling type used by the T1. Be sure to match the signaling ordered from the CO. For changes to this parameter to take effect, the system must be powered down, then powered back up.
Options:	0 = Immediate Start 1 = Wink Start 2 = Dial Tone Start

STEP 11 -- INCOMING SIGNALING TYPE

Address:	FF1 8# 4# 6# (1-64)# 4# (0 or 1)#
Description:	Specify the incoming signaling type used by the T1. Be sure to match the signaling ordered from the CO. For changes to this parameter to take effect, the system must be powered down, then powered back up.
Options:	0 = Immediate Start/Ringdown 1 = Wink Start

Sync Source 1

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 1# 2# (1-3)#

Description   The Sync Card (installed on the CPC-B) provides a method of synchronizing
the DBS with the public network. This address determines the first clocking
source for network synchronization (internal clocking by default).

If the first clocking source fails, the system will switch to the second source.
The system will attempt to go back to the first source based on the Network
Re-Sync Timer setting (see FF1 8# 4# 2# 1# 0-25#).

The system considers a clock source to have failed when the Slip Counter is
exceeded within a 24-hour period. See FF1 8# 4# 4/5# 3# 2# (0-9000)# for
instructions on setting the Slip Counter.

Typically, Sync Source 1 is T1 of the master cabinet. See **"Notes"** below for
a list of typical sync source settings for single- and double-cabinet systems.

Programming

FF1 8# 4# 1# 2# (1-3)#

                                          ▲

1=T1 of the master cabinet
2=T1 of the slave cabinet
3=Free run (internal clocking)

Note: Settings 1 and 2 synchronize
T1 clocking with the public network.

Notes   *Typical Sync Settings.* In most cases, sync sources should be set as follows
for these configurations:

T1 in a Single Cabinet -- or -- T1 in a Master Cabinet
    Source 1:   1 (T1 of the master cabinet)
    Source 2:   **3** (Free run)
    Source 3:   0 (None)

T1 in a Slave Cabinet
    Source 1:   2 (T1 of the slave cabinet)
    Source 2:   3 (Free run)
    Source 3:   0 (None)

T1s in the Master and Slave Cabinets
    Source 1:   1 (T1 of the master cabinet)
    Source 2:   2 (T1 of the slave cabinet)
    Source 3:   3 (Free run)

Restriction on Duplicate Sync Settings. "Free run" is the only setting that can be entered for more than one sync source.

Power-Cycling Requirement. For changes to this parameter to take effect, the system must be turned off, then back on.

Sync Source 2
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 1# 3# (0-3)#

Description   Determines the source of clocking for the second sync source, which is used
                    if the first sync source fails.

                    If the second sync source is used, the DBS system will attempt to switch back
                    to the first source based on the value set for the Network Re-Sync Timer (see
                    FF1 8# 4# 2# 1# 0-25#). If the second source fails and the first source is not
                    working, the system will switch to the third source.

                    In most cases, a system with one T1 has the second sync source set to "3"
                    (Free run). Systems with two Tls normally have the second sync source set
                    to "2" (T1 of the slave cabinet).

                    NOTE: One of the three sync sources should be set to "3" (Free run), so that
                    the T1 can provide its own clocking if the network clock fails.

                    See the **Sync Source** 1 address for an introduction to T1 clocking, and a list
                    of typical sync source settings in single-cabinet and double-cabinet systems.

Programming

```
        FF1 8# 4# 1# 3# (0-3)#
                            ↗

                O=None  (default)
                1=T1 of the master cabinet
                2=T1 of the slave cabinet
                3=Free run (internal clocking)

        Note: Settings 1 and 2 synchronize
        T1 clocking with the public network.
```

Notes   *Restriction on Duplicate Sync Settings.*   "Free run" is the only setting that
                    can be entered for more than one sync source.

                    Power-Cycling Requirement.   For changes to this parameter to take effect,
                    the system must be turned off, then back on.

Sync Source 3

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 1# 4# (0-3)#

Description   Determines the source of clocking for the third sync source, which is used if both the first and second sources fail.

If the third sync source is used, the DBS system will attempt to switch back to the first source based on the value set for the Network Re-Sync Timer (see **FF1 8# 4# 2# 1# 0-25#**).

In most cases, a system with one Tl has the third sync source set to "0" (None). Systems with two Tls normally have the third sync source set to "3" (Free run).

NOTE: One of the three sync sources should be set to "3" (Free run), so that the T1 can provide its own clocking if the network clock fails.

See the **Sync Source** 1 address for an introduction to T1 clocking, and a list of typical sync source settings in single-cabinet and double-cabinet systems.

Programming

```
                    FF1 8# 4# 1# 4# (0-3)#
                                    ↗
                           0=None(default)
                           1=T1 of the master cabinet
                           2=T1 of the slave cabinet
                           3=Free run (internal clocking)

              Note: Settings 1 and 2 synchronize
              T1 clocking with the public network.
```

Notes   ***Restriction on Duplicate Sync Settings.***   "Free run" is the only setting that can be entered for more than one sync source.

Power-Cycling Requirement.   For changes to this parameter to take effect, the system must be turned off, then back on.

Network Re-Sync Timer
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 1# (0-25)#

Description   If one clock source fails, the system will switch to another clock source. The Network Re-Sync Timer determines how many times (once an hour) the system attempts to return to the original clock source.

For example, if the first clocking (sync) source fails, the system will switch to the second source, and then will attempt to return to the first source once an hour for the number of times set in Network Re-Sync Timer. Likewise, if the system switches to the third source (after the first and second sources fail), the Network Re-Sync Timer determines how many times the system will attempt to return to the original clocking source.

Programming

```
FF1 8# 4# 2# 1# (0-25)#
                       ↗

       O=Immediate (DBS attempts to return
           to first sync source immediately).
     1-24=Number of hours the DBS attempts
           to return to first sync source (once
           an hour).
       25=No retries (DBS does not attempt
           to switch to first sync source).
```

Disconnect Timer
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 2# (0-12)#

Description   Determines how long the DBS waits before sending a disconnect signal from the Tl to the CO (200 ms by default).

NOTE: The CO Disconnect Timer (FF2 Trunk# 18# 0-15#) determines how long the system waits to *receive* a disconnect signal from the CO.

Programming

FF1 8# 4# 2# 2# (0-12)#

Disconnect Timer setting
Default: **1 (200 ms)** **(see** table below)

Table 1-37. T1 Disconnect Timer values

Setting	Value
0	150 ms
1	I 200 ms
2	250 ms
3	300 ms
4	400 ms
5	500 ms
6 1000	ms
7	1500 ms
8	2000 ms
9	2500 ms
10	3000 ms
11	3500 ms
12	Off (DBS does not automatically send a disconnect signal)

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Guard Timer

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 3# (0-15)#

Description   Determines how long the system guards a T1 circuit (1200 ms by default).
When the DBS "guards" a circuit, it holds the circuit after it has been released
to make sure the previous call is properly disconnected. This means the
channel cannot be used for another call until the Guard Timer has expired.

Programming

FF1 8# 4# 2# 3# (0-15)#

Guard Timer setting
Default: 6 (1200 ms) (see table below)

Table l-38. Tl Guard Timer values

Setting	Value
0	200 ms
1	300 ms
2	400 ms
3	500 ms
4	800 ms
5	1000 ms
6	**1200 ms**
7	1400 ms
8	1600 ms
9	1800 ms
10	2000 ms
11	2200 ms
12	2400 ms
13	2600 ms
14	2800 ms
15	3000 ms

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect,
the system must be turned off, then back on.

Release Acknowledge Timer
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 4# (0-15)#

Description   Determines how long the DBS waits for the CO to acknowledge a disconnect signal (240 seconds by default).

Once this timer expires, the DBS will abandon the call even if the CO has not acknowledged the disconnect. This allows the DBS to disconnect idle T1 trunks if the CO is not signaling properly.

Programming

```
FF1 8# 4# 2# 4# (0-15)#
                      ▲
        Release Acknowledge Timer setting
     Default: 9 (240 seconds) (see table below)
```

Table l-39. Release Acknowledge Timer values

Setting	Value
0	1 second
1	2 seconds
2	5 seconds
3	10 seconds
4	20 seconds
5	30 seconds
6	60 seconds
7	90 seconds
8	120 seconds
9	240 **seconds**
10	480 seconds
11	960 seconds
12	1,080 seconds
13	1,420 seconds
14	1,920 seconds
15	An infinite number of seconds

Outpulse Delay Timer

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 5# (0-8)#

Description   Determines how long the system waits before outpuising dialed digits to the
network (500 ms by default).

Programming

FF1 8# 4# 2# 5# (0-8)#

Outpulse Delay Timer setting
Default: 2 **(500 ms)** (see table below)

---

*Table l-40. **Outpulse** Delay Timer values*

Setting	Value
0	100 ms
1	300 ms
2	**500 ms**
3	700 ms
4	1000 ms
5	1200 ms
6	1500 ms
7	1700 ms
8	2000 ms

Wink Timeout Timer
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 6# (0-15)#

Description   When wink-start signaling is used, the DBS waits for a wink signal from the
CO when an extension user goes off-hook. Once a wink signal is received,
the DBS sends CO dial tone to the extension.

This timer determines how long the DBS waits for a wink signal once an
extension user goes off-hook (5500 ms by default). If the DBS does not
receive a wink signal before the timer expires, the DBS disconnects the T1
channel and returns busy tone to the user.

Programming

```
FF1 8# 4# 2# 6# (0-15)#
                    ↑
         Wink Timeout Timer setting
         Default: 15 (5500 ms) (see table below)
```

Table 1-41. Wink Timeout Timer values

Setting	Value
0	150 ms
1	250 ms
2	500 ms
3	750 ms
4	1000 ms
5	1250 ms
6	1500 ms
7	1750 ms
8	2000 ms
9	2500 ms
10	3000 ms
11	3500 ms
12	4000 ms
13	4500 ms
14	5000 ms
15	**5500 ms**

Incoming Detection Timer
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 7# (0-15)#

Description   Once an incoming call seizes a DBS T1 trunk, this timer determines how long the DBS waits before recognizing the seizure as an incoming call (90 ms by default). The purpose of this timer is to prevent false incoming ringing.

This parameter only applies when E&M signaling is used.

Programming

```
FF1 8#  4#  2#  7#  (0-15)#
                          ↗
         Incoming Detection Timer setting
      Default: 7 (90 ms) (see table below)
```

Table l-42. Incoming Detection Timer values

Setting	Value
0	20 ms
1	30 ms
2	40 ms
3	50 ms
4	60 ms
5	70 ms
6	80 ms
7	90 ms
8	100 ms
9	110 ms
10	120 ms
11	130 ms
12	140 ms
13	150 ms
1 4	160 ms
15	170 ms

Answer Supervision Timer

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 8# (0-8)#

Description When the DBS generates a call over the T1, answer supervision is provided to
determine if the call is actually answered. This timer determines how long
the offhook signal from the called party must last before the DBS treats the
offhook signal as an answer.

Programming

```
                    FF1 8# 4# 2# 8# (0-8)#
                                    ↖
                          Answer Supervision Timer setting
                          Default: 3 (600 ms) (see table below)
```

Table l-43. Answer Supervision Timer values

Setting	Value
0	50 ms
1	100 ms
2	200 ms .
3	**600 ms**
4	1000 ms
5	2000 ms
6	3000 ms
7	4000 ms
8	10,000 ms

Immediate Glare Timer

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 9# (0-15)#

Description   "Glare" occurs when both ends of the same trunk are seized simultaneously, resulting in connection between an incoming call and a DBS phone user attempting to access an outside line.

Use this address to prevent glare when immediate-start signaling is used. This timer determines how long the DBS will search for an incoming call on a trunk channel before connecting a DBS extension user to it (60 ms by default). The timer begins when the extension goes off-hook.

Programming

```
            FF1 8# 4# 2# 9# (0-15)#
                            ↑
              Immediate Glare Timer setting
              Default: 3 (60 ms) (see table below)
```

Table 1-44. Immediate Glare Timer values

Setting	Value
0	The DBS does not check for glare
1	20 ms
2	40 ms
3	**60 ms**
4	80 ms
5	100 ms
6	120 ms
7	140 ms
8	160 ms
9	180 ms
10	200 ms
11	250 ms
12	300 ms
13	350 ms
14	400 ms
15	450 ms

Wink Glare Timer
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 2# 10# (0-15)#

Description   "Glare" occurs when both ends of the same trunk are seized simultaneously, resulting in connection between an incoming call and a DBS phone user attempting to access an outside line.

Use this address to prevent glare from occurring when wink-start signaling is used. This timer determines how long the DBS will search for an incoming call on a trunk channel before connecting a DBS extension user to it (60 ms by default). The timer begins when a wink is received.

Programming

```
FF1 8# 4# 2# 10#  (0-15)#
                      ↑
                Wink Glare Timer setting
                Default: 3 (60 ms) (see table below)
```

Table l-45. Wink Glare Timer values

Setting	Value .
0	The DBS does not check for glare
1	20 ms
2	40 ms
3	**60 ms**
4	80 ms
5	100 ms
6	1 2 0 m s
7	140 ms
8	160 ms
9	180 ms
10	200 ms
11	250 ms
12	300 ms
13	350 ms
14	400 ms
15	450 ms

Digital Pad Settings
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 3# (1-12)# (1-12)# (0-30)#

Description   Adjusts the volurne of connections made via the T1. Default volume levels
are included for connections between different types of terminals or circuits.
For example, a KTel-to-T1 connection may use one volume setting, while an
SLT-to-T1 connection may use another.

The volume settings are controlled by changing a pad number, which in turn
changes the loss or gain of the connection. In most cases, the default pad
settings do not need to be changed.

If the volume level of a connection is unsatisfactory, include the Receiving
and Sending circuit types in this program, and then adjust the volume by
assigning a new pad number.

Programming

```
         FF1 8#  4#  3#  (1-12)#  (1-12)#  (0-30)#


                          Receiving       Sending       Pad No.
                         Circuit Type   Circuit Type   (see table, .
                         ("To" Side)    ("From" Side)    next page)
                               (see table below)
```
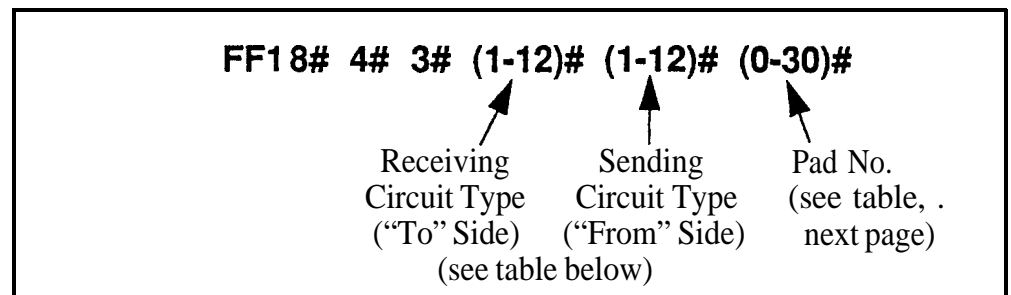
Table l-46. Digital Pad Settings - circuit types

Circuit Type Setting	Value	Notes
1	K-Tel	
2	SLT	
3	Data	Reserved for future use.
4	Analog CO Trunk	
5	T1 master	
6	T1 slave	
7	Option 1	Can be used to assign unique pad levels to circuits that require special volume levels.
8	Option 2	
9	DTMF	Reserved for future use.
10	CONF (SCC)	Reserved for future use.
11	Tone 1 (MFR 1)	Reserved for future use.
12	Tone 2 (MFR 2)	Reserved for future use.

Table 1-47. Digital Pad Settings - pad numbers and related dB levels

Pad No.	dB Level	Pad No.	dB Level
0	0 dB	16	-2 dB
1	+2 dB	17	-4 dB
2	+4 dB	18	-6 dB
3	+6 dB	19	-8 dB
4	+8 dB	20	-10 dB
5	+10 dB	21	-12 dB
6	+12 dB	22	-14 dB
7	+14 dB	23	-16 dB
8	+16 dB	24	-18 dB
9	+18 dB	26	-20 dB
10	+20 dB	27	-22 dB
11	+22 dB	28	-24 dB
12	+24 dB	29	-26 dB
13	+26 dB	30	-28 dB
14	+28 dB		
15	+30 dB		

Table 1-48. Digital Pad Settings - default values

From	To	Setting	Value
T1 master	K-Tel	16	-2 dB
T1 slave	K-Tel	16	-2 dB
T1 master	SLT	16	-2 dB
T1 slave	SLT	16	-2 dB
K-Tel	T1 master	16	-2 dB
K-Tel	T1 slave	16	-2 dB
SLT	T1 master	16	-2 dB
SLT	T1 slave	16	-2 dB

Related Programming

Trunk Port Class: FF2 (Trunk)# 26# (4-8)#

Station Port Class: FF3 (ExtPort)# 37# (1-2 or 7-8)#

Notes   *Example Digital Pad Adjustment.* If calls to SLTs via a master T1 have low
                   volume levels, the pad level for connections from the master T1 to all SLTs
                   can be changed.

                   By default, the pad level for connections from the master T1 to all SLTs is 16
                   (or -2 dB). To raise the volume by 2 dB, change the pad value to 0 (or 0 dB)
                   by programming the following:

                   FF1 8# 4# 3# 2# 5# 0#

                   where: 2% is the circuit type for SLTs;
                                   5# is the circuit type for T1 in the master cabinet; and
                                   0# is the pad number for 0 dB loss/gain.

Trunk Configuration

Software Version: CPC-B Versions 4.0 to 6.02
Address: Master Cabinet: FF1 8# 4# 4# 1# 1# (0 or 1)#
**   Slave Cabinet: FF1 8# 4# 5# 1# 1# (0 or 1)#**

Description   Specifies the trunk combinations used in the DBS system (analog trunks only
by default).

Setting this address to "T1 and Analog trunks" tells the DBS system that T1
and analog trunks are being used in the same cabinet. (Each T1 channel uses
up one trunk port on the analog trunk card.)

Programming

FF1 8# 4# (4 **or 5)# 1# 1#** (0 **or 1)#**

                    ↑   ↑
           4=Master Cabinet   **0=Analog trunks only.**
           5=Slave Cabinet   1=T1 and Analog trunks.
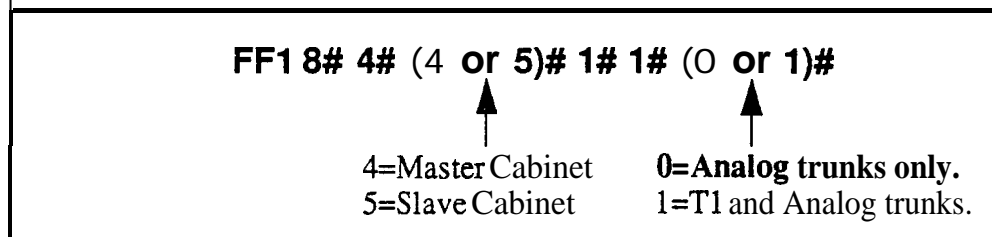
Related Programming

Number of T1 Channels: FF1 8# 4# (4 or 5)# 1# 2# (0-24)#

T1 Trunk Closure: FF1 8# 7# (1 or 2)# (1-4)# (1-8)# (0 or 1)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0-3)#

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect,
the system must be turned off, then back on.

CPC-B Versions Beginning With 6.03.   **The Trunk Configuration address**
is no longer present -- simply use the **Trunk Circuit Type** address to assign
trunk ports as Loop-Start, Ground-Start, DID or T1 trunks.

Number of T1 Channels

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: **FF1 8# 4# 4# 1# 2#** (0-24)#
            Slave Cabinet: **FF1 8# 4# 5# 1# 2# (0-24)#**

Description   This program determines how many T1 channels will be used in the DBS system. This address provides "Fractional T1" capability -- using only a portion of the 24 available channels on the T1 card.

Since each T1 channel used will need one analog trunk port dedicated to it, this setting will decrement the number of available analog trunk ports -- in other words, each T1 channel used will subtract from the total number of trunk ports available for analog usage.

In CPC-B 4.x versions (prior to 5.0), the entry for Number of T1 Channels must be in increments of 8. This is because the entire analog trunk card (all 8 trunk ports on the same card) must be dedicated to T1, even if only some of the ports are used for T1 channels. In other words, the remaining (unused) ports on the card are not available for use as analog trunks.

In CPC-B Version 5.0 and above, those remaining ports *can* be used as analog trunks. Make sure the Number of T1 Channels setting equals the number of trunks programmed for T1 in Trunk Circuit Type (FF2 Trunk# 21#).

Programming

FF1 8# 4# (4 or 5)# 1# 2# (0-24)#

                  ▲   ▲

         4=Master Cabinet   Number of T1 Channels Used
         5=Slave Cabinet

NOTE: In CPC-B versions prior to 5.0, this setting must be an increment of "8" (0, 8, 16 or 24).

Related Programming

Trunk Configuration: FF1 8# 4# (4 or 5)# 1# 1# (0 or 1)#

T1 Trunk Closure: FF1 8# 7# (1 or 2)# (1-4)# (1-8)# (0 or 1)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0-3)#

Notes   Power-Cycling *Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Closing Analog Trunk Ports for T1 Usage.   In CPC-B Versions 5.0 to 6.02; make sure the trunk ports reserved for T1 are "closed" from loop-start usage in the T1 Trunk Closure address (FF1 8# 7#).

Frame Format

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 1# 3# (0 or 1)#
            Slave Cabinet: FF1 8# 4# 5# 1# 3# (0 or 1)#

Description   Selects the framing format used by the T1. Either "Superframe" (SF) or
                "Extended Super-frame" (ESF) can be selected.

                The SF consists of 12 frames, with each frame including 192 information bits
                and 1 framing bit. The ESF consists of 24 frames (double the length of the SF
                format). ESF also supports monitoring and maintenance capabilities that are
                not available with the SF format.

Programming
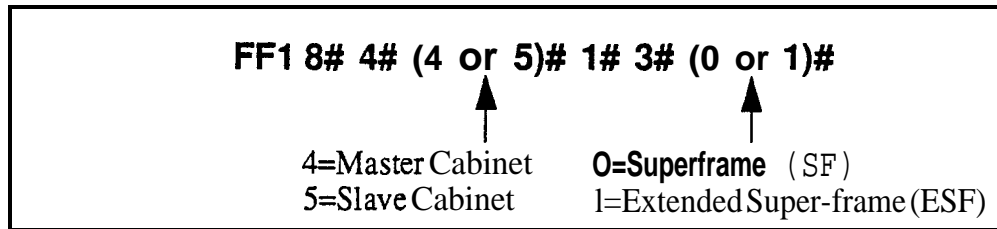
```
FF1 8# 4# (4 or 5)# 1# 3# (0 or 1)#
                   ↑              ↑

          4=Master Cabinet    O=Superframe (SF)
          5=Slave Cabinet     l=Extended Super-frame (ESF)
```

Notes   *Central Office Requirement.*   The framing format must match what is
            ordered from the CO.

            Power-Cycling Requirement.   For changes to this parameter to take effect,
            the system must be turned off, then back on.

Line Coding

Software Version: CPC-B Version 4.0 or higher.
Address: Master Cabinet: FF1 8# 4# 4# 1# 4# (0 or 1)#
Slave Cabinet: FF1 8# 4# 5# 1# 4# (0 or 1)#

Description   Selects the line coding format used by the T1. Either "B8ZS" (binary 8-zeros suppression) or "AMP (Alternate Mark Inversion) can be selected. In most cases (and by default), AMI is used.

Programming

FF1 8# 4# (4 or 5)# 1# 4# (0 or 1)#

4=Master Cabinet   0=AMI (Alternate Mark Inversion)
5=Slave Cabinet   1=B8ZS (binary 8-zeros suppression)

Notes   *Central Office Requirement.* *The* framing format must match what is ordered from the CO.

Power-Cycling Requirement. For changes to this parameter to take effect, ·the system must be turned off. then back on.

Failure Mode

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 1# 5# (0 or 1)#
**   Slave Cabinet: FF1 8# 4# 5# 1# 5# (0 or 1)#**

Description   Determines the way the system responds to alarms. By default, the system
will continue to operate even if errors are detected.

Programming

FF1 8# 4# (4 **or** 5)# 1# 5# (0 **or** 1)#

4=Master Cabinet   0=Mode 1 (the T1 continues to
5=Slave Cabinet   operate even if errors
                                    are detected)
                    1=Mode 2 (the T1 shuts down if
                                    errors are detected)

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect,
the system must be turned off, then back on.

Remote **Loopback**

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 1# 6# (0 or 1)#
**   Slave Cabinet: FF1 8# 4# 5# 1# 6# (0 or 1)#**

Description   This address is reserved for future use.

Yellow Alarm Send

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 1# 7# (0 or 1)#
**   Slave Cabinet: FF1 8# 4# 5# 1# 7# (0 or 1)#**

Description   Determines whether the DBS sends a yellow alarm signal to the CO.

A yellow alarm is sent to the distant end of the T1 link to indicate that a red alarm has occurred. If a red alarm occurs at the CO, the CO sends a yellow alarm to the DBS. If a red alarm occurs at the DBS, the DBS sends a yellow alarm to the CO.

Programming

```
          FF1 8# 4# (4 or 5)# 1# 7# (0 or 1)#
                         ↑                  ↑
                  4=Master Cabinet      0=No
                  5=Slave Cabinet       1=Yes
```
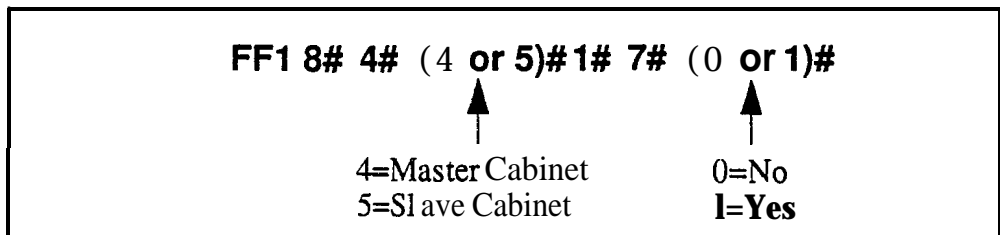
Related Programming

Yellow Alarm Detection: FF1 8# 4# (4 or 5)# 2# 2# (0-15)#

Yellow Alarm Recovery: FF1 8# 4# (4 or 5)# 2# 3# (0-15)#

Yellow Alarm Counter: FF1 8# 4# (4 or 5)# 3# 6# (0-15)#

Yellow Alarm Relay: FF1 8# 4# (4 or 5)# 4# 1# (0-15)#

Yellow Alarm FF Key: FF5 (ExtPort)# (Key)# CONF (107# or 127#)#

Flash Key Operation

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 1# 8# (0 or 1)#
**   Slave Cabinet: FF1 8# 4# 5# 1# 8# (0 or 1)#**

Description   In the current version of DBS T1, a "switchhook flash" releases and reseizes the T1 line.

Programming

```
FF1 8# 4# (4 or 5)# 1# 8# (0 or 1)#
                    ↑                    ↑
            4=Master Cabinet    0=Release and reseize
            5=Slave Cabinet     1=Reserved for future use
```

Red Alarm Detection

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 2# 1# (0-5)#
              Slave Cabinet: FF1 8# 4# 5# 2# 1# (0-5)#

Description   The default value for this parameter is determined by network specifications.
It should **not** be changed.

If a red alarm occurs, the "CFA" LED on the T1 card lights. Also, if the **Red
Alarm Relay** (FF1 8# 4# 4/5# 4# 2#) is enabled, the alarm relay on the T1
MDF card closes.

Programming

```
FF1 8# 4# (4 or 5)# 2# 1# (0-5)#
            ▲                ▲
            |                |
     4=Master Cabinet      0=4
     5=Slave Cabinet       1=6
                           2=8
                           3=10
                           4=12
                           5=14
```
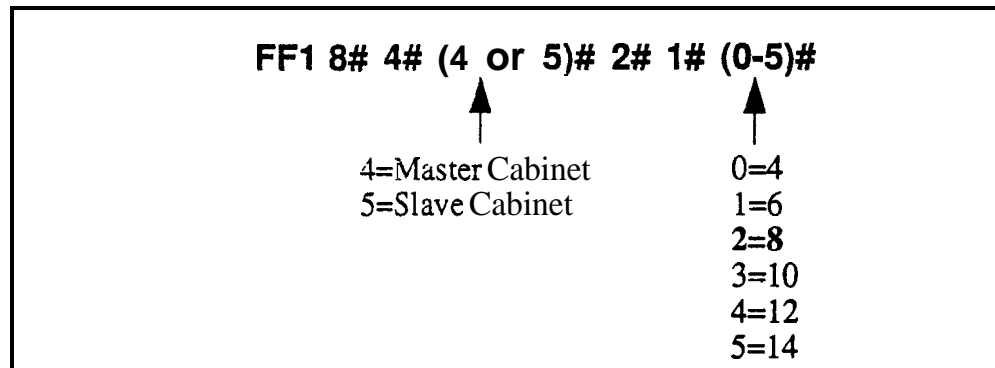
Related Programming

Red Alarm Counter: FF1 8# 4# (4 or 5)# 3# 3# (0-9000)#

Red Alarm Relay: FF1 8# 4# (4 or 5)# 4# 2# (0 or 1)#

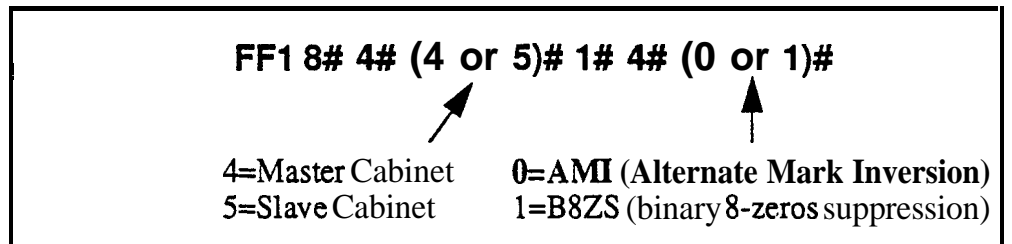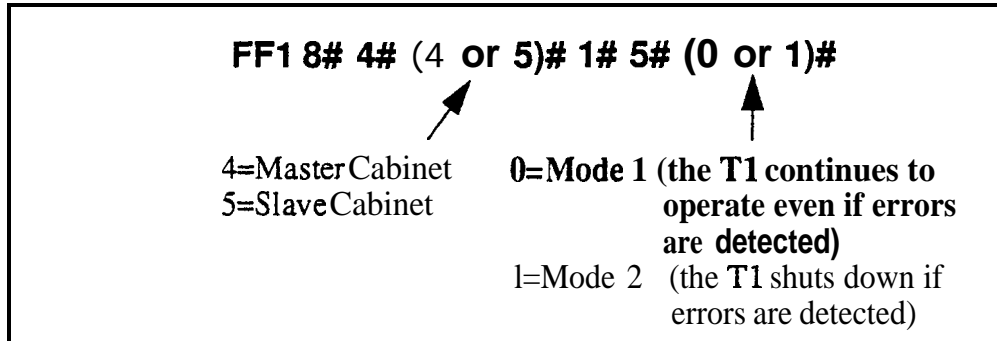Red Alarm FF Key: FF5 (ExtPort)# (Key)# CONF (103# or 123#)#

Yellow Alarm Detection

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 2# 2# (0-15)#
         Slave Cabinet: FF1 8# 4# 5# 2# 2# (0-15)#

Description   Determines how long a yellow alarm signal must be on before the system
                    detects a yellow alarm. When a yellow alarm occurs, the "YEL" LED on the
                    T1 **card** lights. Also, if the Yellow Alarm Relay (FF18# 4# 4/5# 4#1#) is
                    enabled, the alarm relay on the T1 MDF card closes.

Programming

FF1 8# 4# '4 or 5)# 2# 2# (0-15)#

4=Master Cabinet   Yellow Alarm Detection timer setting
5=Slave Cabinet   Default: 1 (50 ms) (see table below)
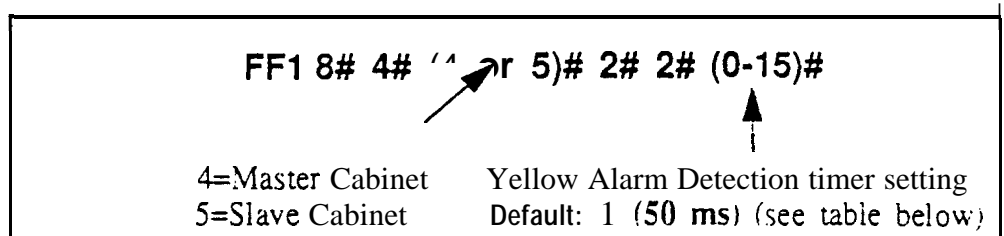
Table I-49. Yellow Alarm Detection timer values

I Setting	Value
0	0 ms
1	**50 ms**
2	100 ms
3	150 ms
4	**200** ms
5	250 ms
6	300 ms
7	350 ms
8	400 ms
9	450 ms
10	**500** ms
11	**550ms**
12	**600** ms
13	**650** ms
14	**, 700** ms
15	**750ms**

Related Programming

Yellow Alarm Send: FF1 8# 4# (4 or 5)# 1# 7# (0 or 1)#

Yellow Alarm Recovery: FF1 8# 4# (4 or 5)# 2# 3# (0-15)#

Yellow Alarm Counter: FF1 8# 4# (4 or 5)# 3# 6# (0-9000)#

Yellow Alarm Relay: FF1 8# 4# (4 or 5)# 4# 1# (0 or 1)#

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Yellow Alarm Recovery

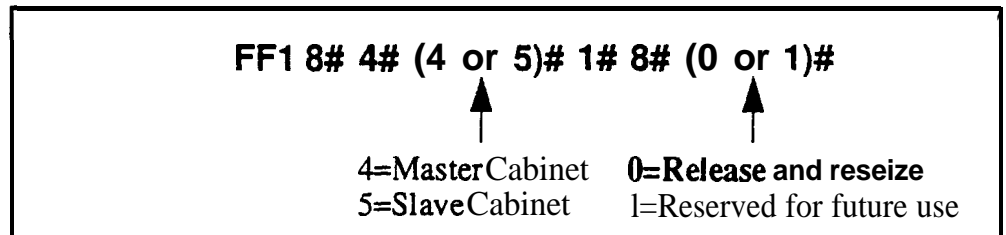**Software Version: CPC-B Version 4.0 or higher**
Address: Master Cabinet: FF1 8# 4# 4# 2# 3# (0-15)#
         Slave Cabinet: FF1 8# 4# 5# 2# 3# (0-15)#

Description   Determines how long the DBS tries to recover from a yellow alarm before it
re-syncs the T1 trunk.

Programming

FF1 8# 4# (4 or **5)# 2# 3# (0-15)#**

4=Master Cabinet   Yellow Alarm Recovery timer setting
5=Slave Cabinet   Default: 1 **(10 ms)** (see table below)
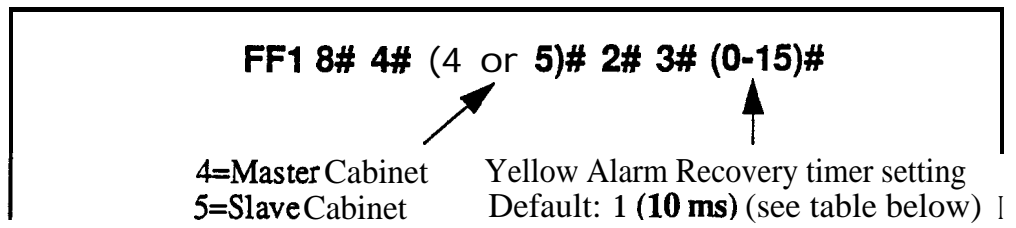
Table 1-50. Yellow Alarm Recovery timer values

Setting	Value
0	0 ms
1	**10 ms**
2	20 ms
3	30 ms
4	40 ms
5	50 ms
6	60 ms
7	70 ms
8	80 ms
9	90 ms
10	110 ms
11	120 ms
12	130 ms
13	140 ms
14	150 ms
15	160 ms

Related Programming

Yellow Alarm Send: FF1 8# 4# (4 or 5)# 1# 7# (0 or 1)#

Yellow Alarm Detection: FF1 8# 4# (4 or 5)# 2# 2# (0-15)#

Yellow Alarm Counter: FF1 8# 4# (4 or 5)# 3# 6# (0-9000)#

Yellow Alarm Relay: FF1 8# 4# (4 or 5)# 4# 1# (0 or 1)#

Notes   ***Power-Cycling Requirement.***   For changes to this parameter to take effect, the system must be turned off, then back on.

Other Alarms Detection

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 2# 4# (0-15)#
**   Slave Cabinet: FF1 8# 4# 5# 2# 4# (0-15)#**

Description   Determines how long an out-of-frame (OOF), loss of signal, sync loss, or AIS
signal must be on before the system generates an alarm.

If an OOF, Sync Loss, or AIS alarm occurs, a corresponding LED on the T1
card lights. (Sync Loss alarms light the "SLIP" LED.)

The alarm relay on the T1 MDF card will also close if the corresponding relay
parameter is enabled.

Programming

FF1 8# 4# (4 **or 5)# 2# 4# (0-15)#**

4=Master Cabinet   Other Alarms Detection timer setting
5=Slave Cabinet   Default: 1 (250 ms) (see table below)

Table l-51. Other Alarms Detection timer values

Setting	Value
0	Oms
1	I 250ms
2	I 500 ms
3	I 750 ms
4	1000 ms
5	1250 ms
6	I 1500 ms
7	I 1750ms
8	2000 ms
9	2500 ms
10	3000 ms
11	3500 ms
12	4000 ms
13	4500 ms
14	5000 ms
15	5500 ms

Related Programming

Other Alarms Recovery: FF1 8# 4# (4 or 5)# 2# 5# (0-15)#

Notes   ***Power-Cycling Requirement.***   For changes to this parameter to take effect, the system must be turned off, then back on.

Other Alarms Recovery

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 2# 5# (0-15)#
**   Slave Cabinet: FF1 8# 4# 5# 2# 5# (0-15)#**

Description   Determines how long the DBS tries to recover from an Out-Of-Frame (OOF), Loss of Signal, Sync Loss, or AIS alarm before it re-syncs the T1 trunk.

Programming

FF1 8# 4# (4 or 5)# 2# 5# (0-15)#

4=Master Cabinet   Other Alarms Recovery timer setting
5=Slave Cabinet   Default: **1 (250 ms) (see** table below)

Table I-52. Other Alarms Recovery timer values

Setting	Value
0	Oms
1	*250 ms*
2	*500* ms
3	*750* ms
4	1000 ms
5	*1500* ms
6	*2000* ms
7	*2500* ms
8	*3000* ms
9	*4000* ms
10	*5000* ms
11	*6000* ms
12	*7000* ms
13	8000 ms
14	9000 ms
15	10000 ms

Related Programming

Other Alarms Detection: FF1 8# 4# (4 or 5)# 2# 4# (0-15)#

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Frame Loss Counter

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 3# 1# (0-9000)#
**   Slave Cabinet: FF1 8# 4# 5# 3# 1# (0-9000)#**

Description   Determines how many frame losses occur before a Frame Loss Alarm FF key is lit. The FF key lights when the counter exceeds the specified number within a 24-hour period.

For instructions on programming T1 alarm keys, see the *T1 Reference Manual (Section 500).*

Programming

FF1 8# 4# (4 or 5)# 3# 1# (0-9000)#

4=MasterCabinet
5=SlaveCabinet

Number of Frame Losses that occur within a 24-hour period before a Frame Loss Alarm FF key is lit
Default: 9000

Related Programming

Frame Loss Relay: FF1 8# 4# (4 or 5)# 4# 4# (0 or 1)#

Slip Counter

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 3# 2# (0-9000)#
**   Slave Cabinet: FF1 8# 4# 5# 3# 2# (0-9000)#**

Description   Determines how many slips occur before a Slip Alarm FF key is lit. ("Slips" are losses of data bits due to framing errors.) The FF key lights when the counter exceeds the specified number within a 24-hour period.

This parameter also determines the number of slips that can occur before the system switches to the next clock source, at which time **the slip error counter for the first clock source is reset, and all phone calls in progress are disconnected.** It takes 20 seconds for the T1 to reboot.

For instructions on programming T1 alarm keys, see the *T1 Reference Manual (Section 500).*

Programming

FF1 8# 4# (4 or 5)# 3# 2# (0-9000)#

4=Master Cabinet   Number of Slips that must occur
5=Slave Cabinet   within a 24-hour period before a
                          Slip Alarm FF key is lit
                          Default: 9000

Related Programming

Sync Source 1: FF1 8# 4# 1# 2# (1-3)#

Sync Source 2: FF1 8# 4# 1# 3# (0-3)#

Sync Source 3: FF1 8# 4# 1# 4# (0-3)#

Slip FF Key: FF5 (ExtPort)# (Key)# CONF (102# or 122#)#

Red Alarm Counter

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 3# 3# (0-9000)#
**   Slave Cabinet: FF1 8# 4# 5# 3# 3# (0-9000)#**

Description   Determines how many red alarms occur before a Red Alarm FF key is lit.
The FF key lights when the counter exceeds the specified number within a
24-hour period.

For instructions on programming T1 alarm keys, see the *T1 Reference Manual (Section 500).*

Programming

FF1 8# 4# (4 or 5)# 3# 3# (0-9000)#

4=MasterCabinet   Number of Red Alarms that must occur
5=SlaveCabinet   within a 24-hour period before a
                   Red Alarm FF key is lit
                   Default: 9000

Related Programming

Red Alarm Relay: FF1 8# 4# (4 or 5)# 4# 2# (0 or 1)#

Red Alarm Detection: FF1 8# 4# (4 or 5)# 2# 1# (0 or 1)#

Red Alarm FF Key: FF5 (ExtPort)# (Key)# CONF (103# or 123#)#

Loss of Signal Counter

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 3# 4# (0-9000)#
**   Slave Cabinet: FF1 8# 4# 5# 3# 4# (0-9000)#**

Description   Determines how many instances of loss of signal must occur before a Signal
Loss Alarm FF key is lit. Signal loss occurs when the incoming T1 signal is
not received for more than 150 ms. The FF key lights when the counter
exceeds the specified number within a 24-hour period.

For instructions on programming T1 alarm keys, *see the T1 Reference
Manual (Section 500).*

Programming

```
        FF1 8# 4# (4 or 5)# 3# 4# (0-9000)#

                    ↗                    ↑

          4=Master Cabinet    Instances of Signal Loss that must occur
          5=Slave Cabinet     within a 24-hour period before a
                              Signal Loss Alarm FF key is lit
                              Default: 9000
```

Related Programming

Red Alarm Relay: FF1 8# 4# (4 or 5)# 4# 2# (0 or 1)#

Red Alarm Detection: FF1 8# 4# (4 or 5)# 2# 1# (0 or 1)#

Sync Loss Counter

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 3# 5# (0-9000)#
**   Slave Cabinet: FF1 8# 4# 5# 3# 5# (0-9000)#**

Description   Determines how many instances of sync loss must occur before a Sync Loss Alarm FF key is lit. The FF key lights when the counter exceeds the specified number within a 24-hour period.

For instructions on programming T1 alarm keys, see the *T1 Reference Manual (Section 500).*

Programming

FF1 8# 4# (4 or 5)# 3# 5# (0-9000)#

&Master Cabinet   Instances of Sync Loss that must occur
5=Slave Cabinet   within a 24-hour period before a
                     Sync Loss Alarm FF key is lit
                     Default: 9000

Related Programming

Sync Loss Relay: FF1 8# 4# (4 or 5)# 4# 3# (0 or 1)#

Yellow Alarm Counter

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 3# 6# (0-9000)#
**   Slave Cabinet: FF1 8# 4# 5# 3# 6# (0-9000)#**

Description   Determines how many yellow alarms must occur before a Yellow Alarm FF
                    key is lit. The FF key lights when the counter exceeds the specified number
                    within a 24-hour period.

                    For instructions on programming T1 alarm keys, see the *T1 Reference*
                    Manual (Section 500).

Programming

```
              FF1 8#  4#  (4 or 5)# 3# 6#  (0-9000)#


         4=Master Cabinet   Number of Yellow Alarms that must
         5=Slave Cabinet    occur within a 24-hour period before
                            a Yellow Alarm FF key is lit
                            Default: 9000
```

Related P ogramming

Yellow Alarm Send: FF1 8# 4# (4 or 5)# 1# 7# (0-15)#

Yellow Alarm Detection: FF1 8# 4# (4 or 5)# 2# 2# (0-15)#

Yellow Alarm Recovery: FF1 8# 4# (4 or 5)# 2# 3# (0-15)#

Yellow Alar-n-t Relay: FF1 8# 4# (4 or 5)# 4# 1# (0-15)#

Yellow Alarm FF Key: FF5 (ExtPort)# (Key)# CONF (107# or 127#)#

Yellow Alarm Relay

Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 4# 1# (0 or 1)#
Slave Cabinet: FF1 8# 4# 5# 4# 1# (0 or 1)#

Description   Determines whether the system closes the alarm relay on the T1 MDF card in
the event of yellow alarms.

The alarm relay can be connected to an external alarm device such as a
buzzer. (This device must be purchased separately; it is not provided with the
DBS T1.)

The Yellow Alarm Detection address (FF1 8# 4# 4/5# 2# 2# 0-15#)
determines how many yellow alarms occur before the relay closes.

Programming

```
          FF1 8# 4# (4 or 5)# 4# 1# (0 or 1)#


     4=Master Cabinet      0=Off (Yellow Alarm relay does not close)
     5=Slave Cabinet       1=On (Yellow Alarm relay closes)
```

Related, Programming

Yellow Alarm Send: FF1 8# 4# (4 or 5)# 1# 7# (0-15)#

Yellow Alarm Detection: FF1 8# 4# (4 or 5)# 2# 2# (0-15)#

Yellow Alarm Recovery: FF 1 8# 4# (4 or 5)# 2# 3# (0- 15)#

Yellow Alarm Counter: FF1 8# 4# (4 or 5)# 3# 6# (0-15)#

Yellow Alarm FF Key: FF5 (ExtPort)# (Key)# CONF (107# or 127#)#

Red Alarm Relay

Software Version: CPC-B Version 4.0 or higher.
Address: Master Cabinet: FF1 8# 4# 4# 4# 2# (0 or 1)#
**   Slave Cabinet: FF1 8# 4# 5# 4# 2# (0 or 1)#**

Description   Determines whether the system closes the alarm relay on the T1 MDF card in
the event of red alarms. A red alarm indicates that a loss of frame (OOF) or
loss of signal has continued for more than 2.5 seconds.

The alarm relay can be connected to an external alarm device such as a
buzzer. (This device must be purchased separately; it is not provided with the
DBS T1.)

The Red Alarm Detection address (FF1 8# 4# 4/5# 2# 1# 0-5#) determines
how many red alarms occur before the relay closes.

Programming

FF1 8# 4# (4 or 5)# 4# 2# (0 or 1)#

4=Master Cabinet   **O=Off (Red Alarm relay does not close)**
5=Slave Cabinet   1=On (Red Alarm relay closes)

Related Programming

Red Alarm Detection: FF1 8# 4# 4/5# 2# 1# (0-15)#

Red Alarm Counter: FF1 8# 4# 4/5# 3# 3# (0-9000)#

Sync Loss Relay

Software Version: CPC-B Version 4.0 or higher
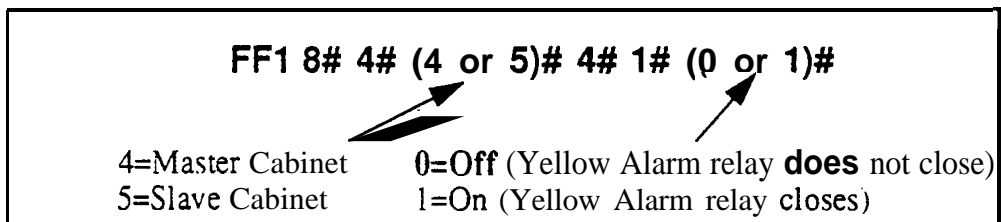**Address: Master Cabinet: FF1 8# 4# 4# 4# 3# (0 or 1)#**
Slave Cabinet: FF1 8# 4# 5# 4# 3# (0 or 1)#

Description   Determines whether the system closes the alarm relay on the T1 MDF card in the event of sync loss alarms, which result from clocking errors.

The alarm relay can be connected to an external alarm device such as a buzzer. (This device must be purchased separately; it is not provided with the DBS T1.)

Programming

```
           FF1 8# 4# (4 or 5)# 4# 3# (0 or 1)#


        4=Master Cabinet        0=Off (Sync Loss relay does not close)
        5=Slave Cabinet         1=On (Sync Loss relay closes)
```

Related Programming

Sync Loss Counter: FF1 8# 4# 4/5# 3# 5# (0-9000)#

Frame Loss Relay

Software Version: CPC-B Version 4.0 or higher
Address:. Master Cabinet: FF1 8# 4# 4# 4# 4# (0 or 1)#
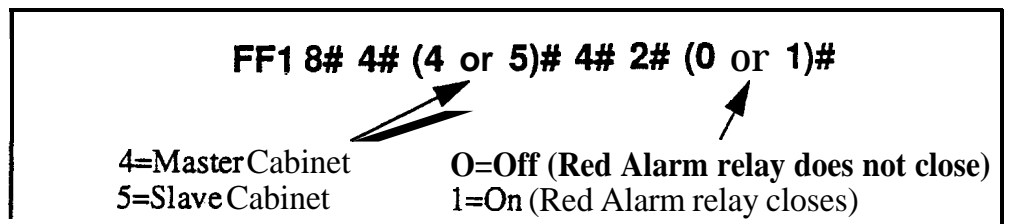**   Slave Cabinet: FF1 8# 4# 5# 4# 4# (0 or 1)#**

Description   Determines whether the system closes the alarm relay on the Tl MDF card in the event of frame loss alarms.

The alarm relay can be connected to an external alarm device such as a buzzer. (This device must be purchased separately: it is not provided with the DBS T1.)

Programming

```
              FF1 8# 4# (4 or 5)# 4# 4# (0 or 1)#


         4=MasterCabinet         O=Off (Frame Loss relay does not close)
         5=SlaveCabinet          1=On (Frame Loss relay closes)          I
```

Related Programming

Frame Loss Counter: FF1 8# 4# 4/5# 3# 1# (0-9000)#

AIS Relay

Software Version: CPC-B Version 4.0 or higher
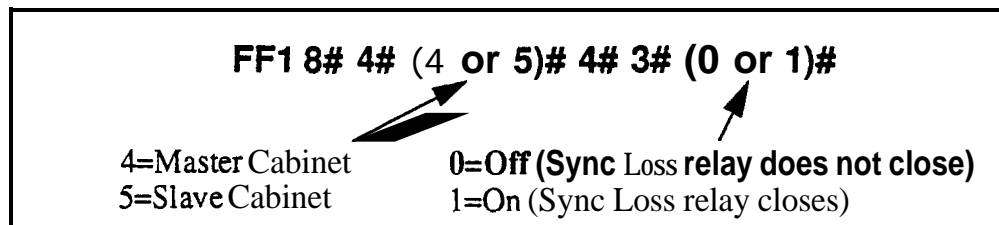**Address: Master Cabinet: FF1 8# 4# 4# 4# 5# (0 or 1)#**
**   Slave Cabinet: FF1 8# 4# 5# 4# 5# (0 or 1)#**

Description   Determines whether the system closes the alarm relay on the T1 MDF card in
the event of Alarm Indication Signals (AIS), which are comprised of all 1's
and are unframed.

The alarm relay can be connected to an external alarm device such as a
buzzer. (This device must be purchased separately; it is not provided with the
DBS T1.)

Programming

FF1 8# 4# (4 or 5)# 4# 5# (0 or 1)#

4=Master Cabinet-   O=Off (AIS relay does not close)
5=Slave Cabinet   1=On (AIS relay closes)

Related Programming

Other Alarms Detection: FF1 8# 4# 4/5# 2# 4# (0-15)#

Other Alarms Recovery: FF1 8# 4# 4/5# 2# 5# (0-15)#

Relay Reset
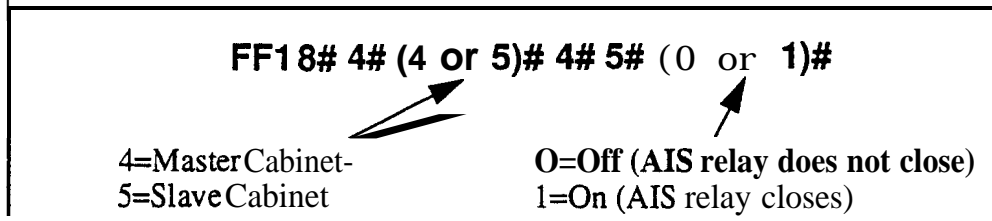
Software Version: CPC-B Version 4.0 or higher
Address: Master Cabinet: FF1 8# 4# 4# 4# 6# (0 or 1)#
Slave Cabinet: FF1 8# 4# 5# 4# 6# (0 or 1)#

Description   Determines whether the T1 alarm relay is cleared (opened) automatically or
manually.

- If cleared automatically, the relay is opened approximately one second
  after the alarm condition ceases.

- If cleared manually, the relay can be opened by entering the Alarm Relay
  Clear code:

  - First, enter the programming authorization code --

    #98 **9999**

  - Then enter one of the following codes:
    ON/OFF **#94** 8 (for Master Cabinet)
    ON/OFF **#95** 8 (for Slave Cabinet)

Programming

FF1 8# _____)r 5)# 4# 6# (0/)r 1)#

4=MasterCabinet   **0=Automatically cleared**
5=SlaveCabinet   1=Must be manually cleared

Related Programming

Yellow Alarm Relay: FF1 8# 4# 4/5# 4# 1# (0-15)#

Red Alarm Relay: FF1 8# 4# 4/5# 4# 2# (0-15)#

Sync Loss Relay: FF1 8# 4# 4/5# 4# 3# (0-15)#

Frame Loss Relay: FF1 8# 4# 4/5# 4# 4# (0-15)#

AIS Relay: FF1 8# 4# 4/5# 4# 5# (0- 15)#

T1 Trunk Type Emulation
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 1# (0-3)#

Description   Determines the type of trunk signaling that each T1 channel emulates (E&M by default).

Programming

```
                    FF1 8# 4# 6# (1-64)# 1# (0-3)#
                              ↗              ↑

                  Trunk Number (l-64)       0=Loop start
                                            1=(reserved for-future use)
                                            2=Ground Start (used for
                                              ground start emulation)
                                            3=E&M
```

Notes   ***Power-Cycling Requirement.***   For changes to this parameter to take effect, the system must be turned off, then back on.

Ground Start Requirement.   If your system uses T1 COP (Central Office Protocol) Version 1.1 or 1.2, it must be upgraded to Version 1.4 or higher if you wish to use the "Ground Start" setting.

DID/DNIS

Software Version: CPC-B Version 4.0 or higher

Address: FF1 8# 4# 6# (Trunk)# 2# (0-2)#

Description   Use this address to enable trunks for DID or DNIS calls.

. **If DID** is **selected,** the system will use the DID Numbers Table (see **FF1
8# 3#)** to **determine** which extension(s) will receive the DID call.

. **If DNTS is selected (available only with T1 interface), the system will**
use the DNIS Numbers Table (see **FF1 8# 4# 7#)** to determine which
extension(s) will receive the **DNIS** call.

The DID Numbers Table can be used for **DID** or **DNIS.** Therefore, **if all** 500
entries in the DNIS Numbers Table are filled, **a T1** channel can be set to DID,
and **DNIS** service can still be used.

Programming

FF1 8# 4# 6# (1-64)# 2# (0-2)#

Trunk Number (l-64)   **0=Neither DID nor DNIS
is used.**
1=DID is used.
2=DNIS is used.

Related Programming

Inbound DID **Dial Numbers: FF1 8# 3# (DIDNo.)# (ExtNo.)#**

DNIS Number Setting: **FF1 8# 4# 7# (DNISNo.)# (ExtNo.)#**

DID/DNIS Flexible Ringing Assignments: **FF1 8# (5# or 6#) (DID/DNIS
No.)# (ExtNo.)# (0000[00]-1111[1 1])#**

Notes   *Digit Length Requirement.   The* DBS **only** supports 4digit **DID/DNIS**
numbers.

CO Requirement   When the CO sends a **DID/DNIS** call to the DBS, it first
receives a "wink" **signal from** the DBS before sending the digits. Once the
wink is received, the CO should wait at least 200 **ms before** sending the
digits.

Power-Cycling Requirement.   For changes to **this** parameter to take effect,
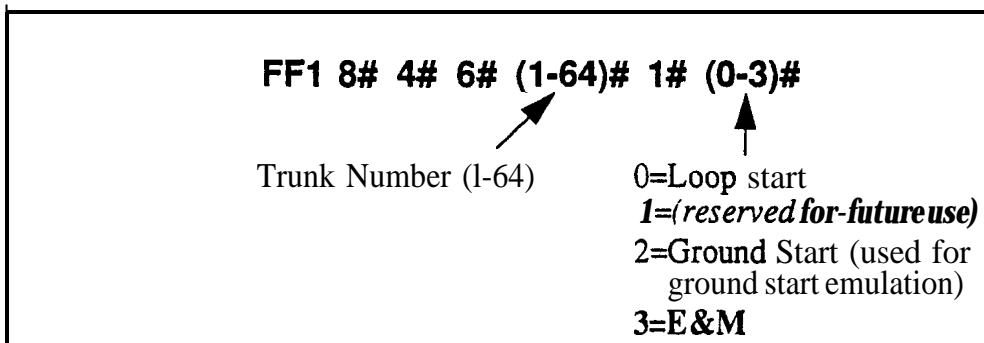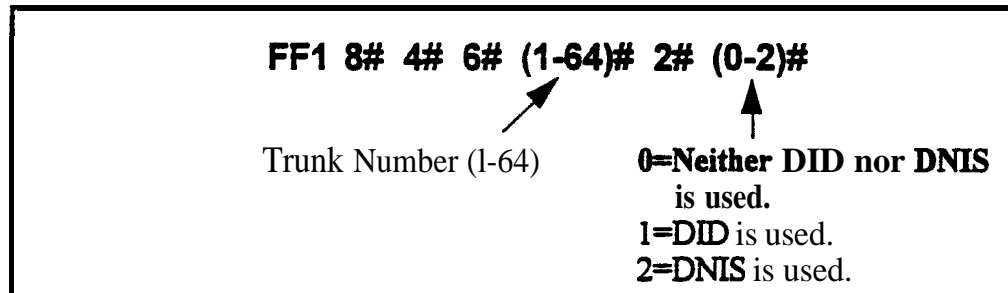the system must be tumed off, then back OIL

Outgoing Signaling Type

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 3# (0-2)#

Description   Determines the signaling class used by T1 channels on outgoing calls
(Immediate Start by default).

Programming

FF1 8# 4# 6# (1-64)# 3# (0-2)#

Trunk Number (1-64)   0=**Immediate Start.**
1=**Wink** start.
2=**Dial** Tone Start.

Notes   ***CO Requirement.*** ***The*** Outgoing Type setting must match what is ordered
from the CO.

Power-Cycling Requirement. For changes to this parameter to take effect,
the system must be turned off, then back on.

Incoming Signaling Type

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 4# (0 or 1)#

Description   Determines the signaling class used by T1 channels on incoming calls
                    (Immediate Start/Ringdown by default).

Programming

```
          FF1 8# 4# 6# (1-64)# 4# (0 or 1)#

              Trunk Number (l-64)     O=Immediate Start/
                                         Ringdown.
                                      l=Wink Start.
```

Notes   *CO Requirement.*   The Incoming Type setting must match what is ordered
              from the CO.

              Power-Cycling Requirement.   For changes to this parameter to take effect,
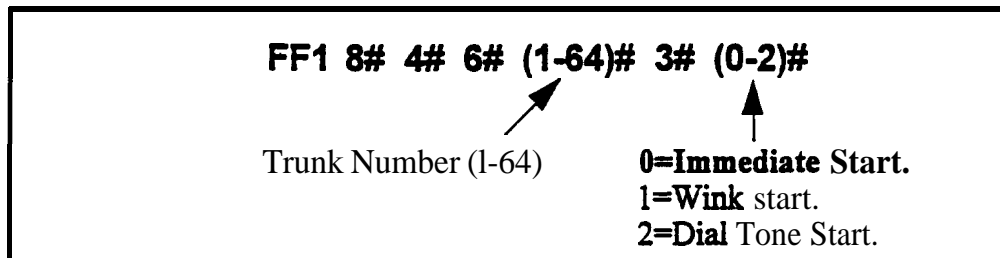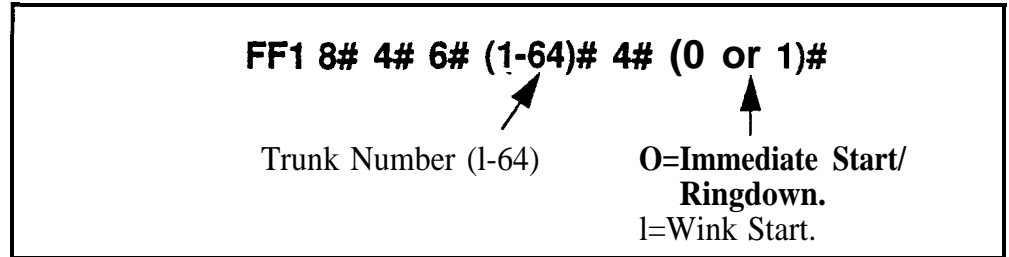   the system must be turned off, then back on.

Trunk Mode

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 5# (0 or 1)#

Description   Determines whether T1 channels are used for only outgoing calls, or for both incoming and outgoing calls.

Programming

```
FF1 8# 4# 6# (1-64)# 5# (0 or 1)#
```

Trunk Number (l-64)   0=Incoming and Outgoing.
                        l=Outgoing only.

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Robbed Bit Setting
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 6# (0 or 1)#

Description   The Robbed Bit Setting determines if AB or ABCD signaling is used.

AB/ABCD signaling robs bits from the T1 channels, and uses those bits to transmit signaling information. SF (SuperFrame) normally uses AB signaling; ESF (Extended SuperFrame) normally uses ABCD signaling.

Programming

FF1 8# 4# 6# (1-64)# 6# (0 or 1)#

Trunk Number (1-64)

O=Robbed Bit Off
(AB/ABCD signaling not used)
**1=Robbed Bit On
(AB/ABCD signaling is used)**

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Incoming Dialing Method
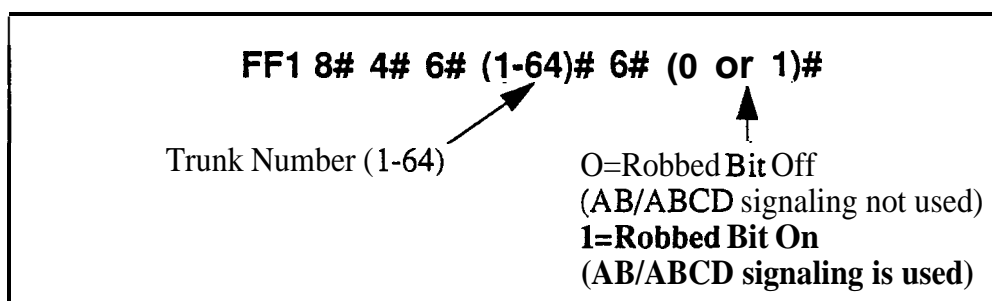**Software Version: CPC-B Version 4.0 or higher**
Address: FF1 8# 4# 6# (Trunk)# 7# (0 or 1)#

Description   Determines whether the system expects dial-pulse or DTMF digits for
incoming DID or DNIS calls over the T1.

Programming

```
        FF1 8# 4# 6# (1-64)# 7# (O or 1)#
                        ↗              ↑
            Trunk Number (l-64)     0=Dial-Pulse (10 PPS)
                                    1=DTMF
```

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect,
the system must be turned off..then back on.

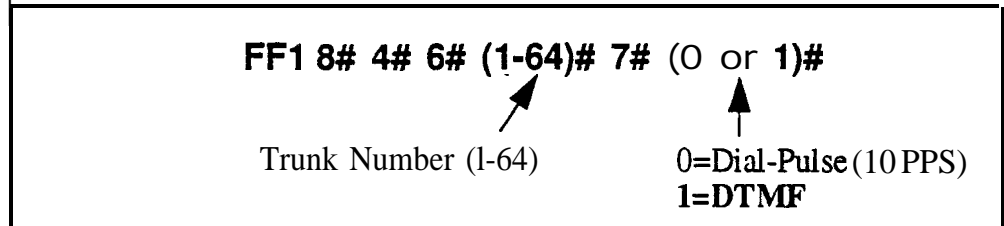*Hardware Requirement.*   An MFR card is required for DID/DNIS if DTMF
signaling is used.

Dial Tone Transmission

Software Version: CPC-B Version 4.0 or higher.
Address: FF1 8# 4# 6# (Trunk)# 8# (0 or 1)#

Description   This address is reserved for future use.

Busy Tone Transmission

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 9# (0 or 1)#

Description   This address is reserved for future use.

Dial Tone Receive

Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 10# (0 or 1)#

Description   Determines whether dial tone is transmitted from the DBS T1 channel to DBS stations.

Set this address to "On" only if the far end does not provide T1 dial tone.

Programming

```
            FF1 8# 4# 6# (1-64)# 1 0# (0 or 1)#
                          ↗              ↑
                 Trunk Number (1-64)        0=Off
                                            1=On
```

Notes   ***Or&ring Tones From Carrier.***   If a carrier is supplying T1 services, always order Dial Tone and Ringback Tones from the carrier.
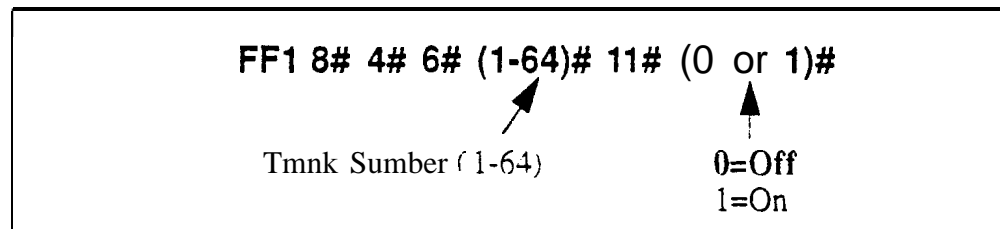
Ringback Tone Transmission
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 6# (Trunk)# 11# (0 or 1)#

Description   Determines whether ringback tone is transmitted from the DBS T1 channel to
the CO.

Set this address to "On" only if the far end does not provide ringback tone.

Programming

```
FF1 8# 4# 6# (1-64)# 11# (0 or 1)#
                      ↑                    ↑
            Tmnk Sumber (1-64)          0=Off
                                        1=On
```

Notes   **Or&ring Tones From Currier.**   If a carrier is supplying T1 services, always
order Dial Tone and Ringback Tones from the carrier.

DNIS Number Setting
Software Version: CPC-B Version 4.0 or higher
Address: FF1 8# 4# 7# (DNISNo.)# (ExtNo.)#

Description   Use this address to assign DNIS number(s) to extension(s).

- Up to 500 different DNIS numbers can be assigned.

- One DNIS number can be assigned to multiple extensions (this takes up only one entry in the 500 available entries).

- One extension can have multiple DNIS numbers assigned to it. (The number of entries taken up is equal to the number of DNIS numbers assigned to the extension.)
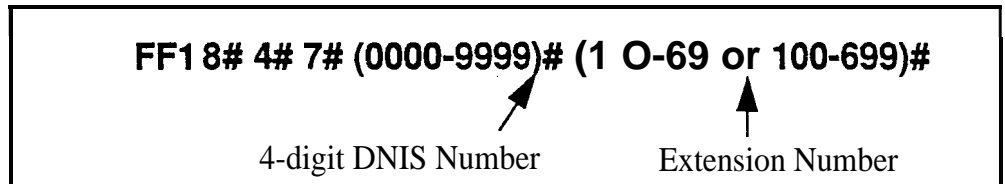
Programming

```
FF1 8# 4# 7# (0000-9999)# (1 O-69 or 100-699)#

              4-digit DNIS Number        Extension Number
```

Related Programming .

Multiple DID/DNIS: FF1 2# 1# 32# (0 or 1)#

DID/DNIS (enabling trunks for): FF1 8# 4# 6# (Trunk)# 2# (0-2)#

DNIS Flexible Ringing Assignments: FF1 8# 6# (DNISNo.)# (ExtNo.)# (0000[00]-1111[11])#

Extension Numbers: FF3 (ExtPort)# 1# (ExtNo.)#

Notes   ***DNIS Requirement.*** DNIS is available only with the T1 interface.

Digit Length Requirement. The DBS supports 4-digit DNIS numbers with either dial pulse or DTMF transmission.

DNIS Ring Control. Ringing for the DNIS number at the assigned extension(s) is controlled by the next address (FF1 8# 6#).

DID/DNIS Flexible Ringing Assignments

Software Version: CPC-B Version 5.0 or higher
Address: for DID: FF1 8# 5# (DIDNo.)# (ExtNo.)# (0000[00]-1111[11])#
for DNIS: FF1 8# 6# (DNISNo.)# (ExtNo.)# (0000[00]-1111[11])#

Description   This address allows you to enable or disable ringing for specific DID/DNIS numbers during Day, Night and Night 2 modes. This also applies to delayed ringing.

Note: The DID/DNIS number must already be assigned to an extension number before you can assign it for flexible ringing. See FF1 8# 3# (for DID) and FF1 8# 4# 7# (for DNIS).
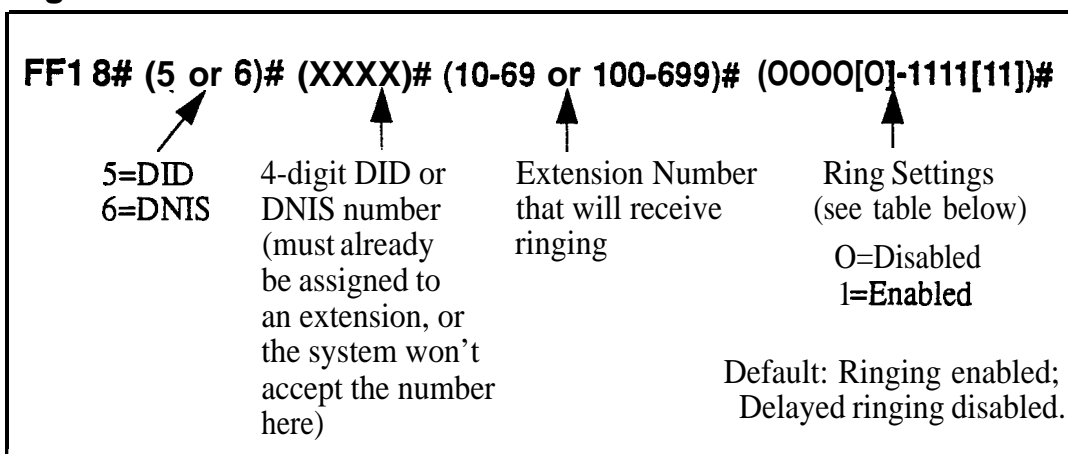
Programming

FF1 8# (5 or 6)# (XXXX)# (10-69 or 100-699)# (OOOO[O]-1111[11])#

5=DID	4-digit DID or	Extension Number	Ring Settings
6=DNIS	DNIS number (must already be assigned to an extension, or the system won't accept the number here)	that will receive ringing	(see table below)
			O=Disabled
			1=Enabled
			Default: Ringing enabled; Delayed ringing disabled.

Table l-53. DIDIDNIS Flexible Ring settings in different CPC-B versions

Ring Control for each digit setting	CPC-B Version 5.0 to 6.1	CPC-B Version 7.0 or higher
1st digit	Day ring	Day ring
2nd digit	Night ring	Night ring
3rd digit	Delayed Day ring	Night 2 ring
4th digit	Delayed Night ring	Delayed Day ring
5th digit	[not available]	Delayed Night ring
6th digit	[not available]	Delayed Night 2 ring
Default Setting:	**1100**	**111000**

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

Inbound DID Dial Numbers: FF1 8# 3# (DIDNo.)# (ExtNo.)#

DID/DNIS (enabling trunks for): FF1 8# 4# 6# (Trunk)# 2# (0-2)#

DNIS Number Setting: FF1 8# 4# 7# (DNISNo.)# (ExtNo.)#

Notes   *Delayed Ring Timing.*   Timing for DID/DNIS delayed ringing is controlled
                     by the CO Delayed Ring Timer (FF1 3# 26# O-l%).

T1 Trunk Closure

Software Version: CPC-B Versions 5.0 to 6.02
Address: Master Cabinet: FF1 8# 7# 1# (1-4)# (1-8)# (0 or 1)#
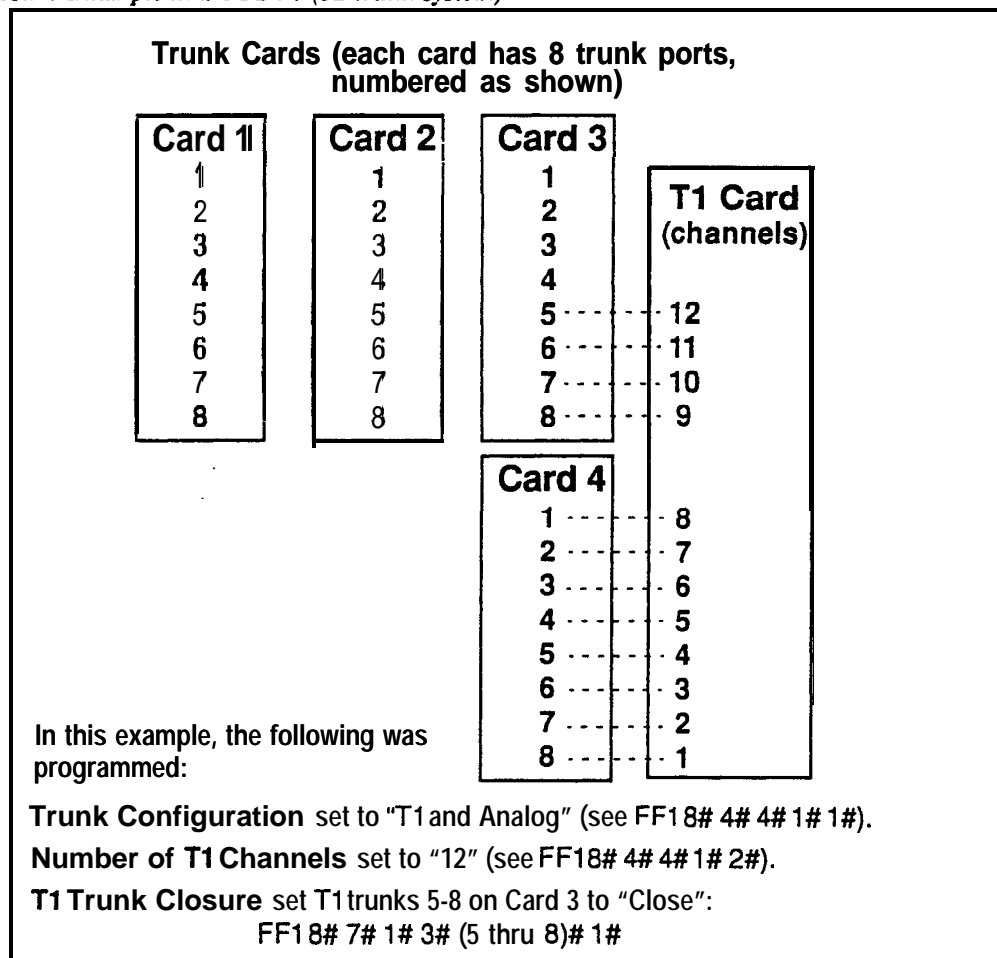**   Slave Cabinet: FF1 8# 7# 2# (1-4)# (1-8)# (0 or 1)#**

Description   In CPC-B Versions 5.0 to 6.02, use this address to facilitate Fractional T1, where not all of the 24 available channels on the T1 card are used.
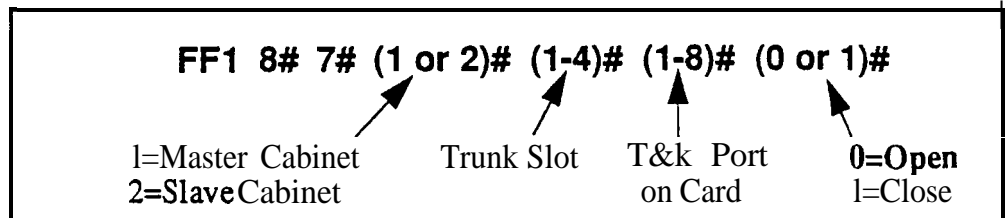
If the trunk ports on the highest-numbered analog trunk card are divided between T1 and analog, use this address to close the trunk ports dedicated to T1 -- and open the trunks to be used for analog. (see illustration below for an example)

Use the **"Number of T1 Channels"** address (FF1 8# 4# 4/5# 1# 2#) to tell the system how many channels you want to use. The system will automatically assign one analog trunk port for each T1 channel used. Channel #1 automatically uses the highest-numbered port on the highest-numbered trunk card; Channel #2 uses the next highest port; etc.

Figure 1-3. Trunk Closure Example in a DBS 96 (32-trunk system)

Trunk Cards (each card has 8 trunk ports, numbered as shown)

In this example, the following was programmed:

Trunk Configuration set to "T1 and Analog" (see FF1 8# 4# 4# 1# 1#).

Number of T1 Channels set to "12" (see FF1 8# 4# 4# 1# 2#).

T1 Trunk Closure set T1 trunks 5-8 on Card 3 to "Close":
FF1 8# 7# 1# 3# (5 thru 8)# 1#

Programming

FF1 8# 7# (1 or 2)# (1-4)# (1-8)# (0 or 1)#

1=Master Cabinet   Trunk Slot   T&k Port   0=Open
2=Slave Cabinet   on Card   1=Close

Related Programming

Trunk Configuration: FF1 8# 4# (4 or 5)# 1# 1# (0 or 1)#

Number of T1 Channels: FF1 8# 4# (4 or 5)# 1# 2# (0-24)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0-3)#

Notes   *Loop-Start Card Version Requirement.* This **T1 Trunk Closure** address can only be used with the VB-435 10A or VB-43511A versions of the loop-start card.

CPC-B Versions Beginning With 6.03. The **T1 Trunk Closure** address is no longer present. Instead, simply **use** the **Trunk Circuit Type** address (FF2 Trunk# 21#) to assign trunk ports as Loop Start, Ground Start, DID or T1.

2. Trunk Programming (FF2)

Use the FF2 programming addresses in this chapter to set parameters for the CO trunks of the DBS system.

Most of these FF2 addresses require a trunk number and/or extension port entry. The acceptable range of trunks/extension ports varies according to the configuration of your DBS system. In this chapter, the range used for trunks is l-64. which is the maximum available number of trunks in a DBS 96 + DBS 96 system with a CPC-B card. The range used for extension ports is 1-144, which is also the maximum in a DBS 96 + DBS 96 with CPC-B. For more information, *see Section 300-Installation.*

This chapter covers the following FF2 program addresses:

| FF Key Address	Topic	Page
FF2 (Trunk)# 1# (0-1)#	Trunk Port Operation	2-3
FF2 (Trunk)# 2# (0-1)#	DTMF/Pulse Dialing for Trunks	2-4
FF2 (Trunk)# 3# (0-1)#	Pooled Trunk Access for Group "9"	2-5
FF2 (Trunk)# 4# thru 9# (0-1)#	Pooled Trunk Access for Groups "81-86"	2-6
FF2 (Trunk)# 10# (1-2)#	Trunk Port Type	2-7
FF2 (Trunk)# 11# (0-1)#	DISA Auto Answer	2-8
FF2 (Trunk)# 12# (ExtPort)#	Private Trunk Line	I 2-9
FF2 (Trunk)# 13# (0-1)#	Automatic Pause for PBX Line	2-10
FF2 (Trunk)# 14# (0-1)#	Dial Tone Detection	2-11
FF2 (Trunk)#15# (1-3)#	Outbound DTMF Signal Duration for Auto-Dialed Digits	2-12
FF2 (Trunk)# 16# (0-1)#	Unsupervised Trunk Conference	2-13
FF2 (Trunk)# 17# (0-1)#	Inbound Ring Pattern	2-14
FF2 (Trunk)# 18# (0-15)#	Trunk Disconnect Detection Timer	2-15
FF2 (Trunk)# 19# HHMM#	DISA Start Time	2-16
FF2 (Trunk)# 20# HHMM#	DISA End Time	2-17
FF2 (Trunk)# 21# (0-4)#	Trunk Circuit Type (CPC-AII/B)	2-18
FF2 (Trunk)# 22# (0-1)#	DID Immediate or Wink Start (CPC-B only)	2-21
FF2 (Trunk)# 23# (0-15)#	Wink Start Timer (CPC-B only)	2-22
FF2 (Trunk)# 24# (0-15)#	Time Out for Dialed DID Digits (CPC-B only)	2-23
FF2 (Trunk)#25# (0-15)#	DID Interdigit Timeout (CPC-B only)	2-24
FF2 (Trunk)# 26# (4-8)#	Trunk Port Class (CPC-B only)	2-25

Trunk Port Operation
Software Version: All Versions
Address: FF2 (Trunk)# 1# (0 or 1)#

Description   Use this feature to put a CO trunk in service or "busy it out".

Programming

FF2 (1-64)# 1# (0 or 1)#

Trunk Nuniber   **0=Place trunk in service.**
                  l=Busy-out the trunk.
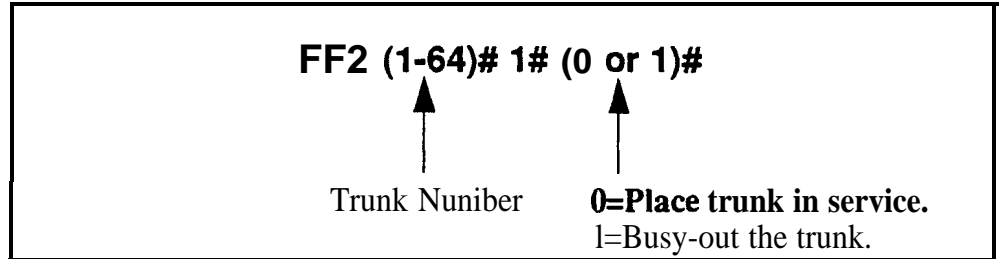
Notes   *Precaution on Putting Lines Out* of *Service.*   If you busy-out a trunk, an
              incoming caller on that trunk will still hear ringing, even though the trunk is
              not functional.

DTMF/Pulse Dialing for Trunks
Software Version: All Versions
Address: FF2 (Trunk)# 2# (0 or 1)#

Description   Use this feature to set a trunk for DTMF or pulse dialing (10 pulses per second).

Programming

FF2 (1-64)# 2# (0 or 1)#

Trunk Number   0=DTMF
                    1=Pulse dialing (10 pps)
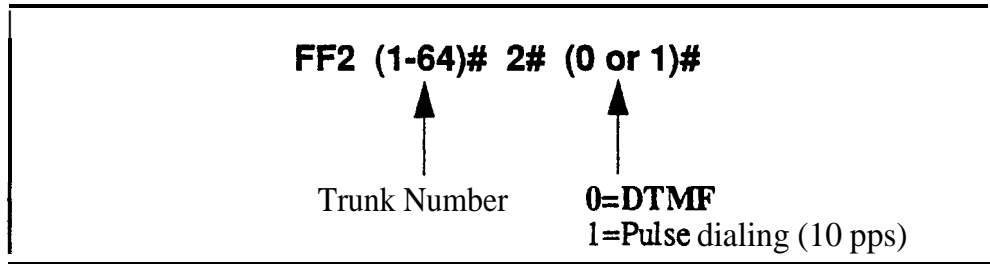
Notes   ***Door Box Adapter Setting.***   CO trunk ports used for Door Box Adapter Sensors should be set for "Pulse dialing".

Pooled Trunk Access for Group "9"
Software Version: All Versions
Address: FF2 (Trunk)# 3# (0 or 1)#

Description   Use this feature to place a trunk in a group from which trunks are automatically chosen for outbound dialing. When you dial "9" from an SLT or digital extension, or press an FF key that is set as a pooled trunk key, any available trunk in the group will be accessed.

The trunk selection is made from the *highest* trunk number in the group to the *lowest.*

Programming

FF2 (1-64)# 3# (0 or 1)#

Trunk Num bkr   O=Trunk is not included in access group "9".
                   1=Trunk is included in access group "9".
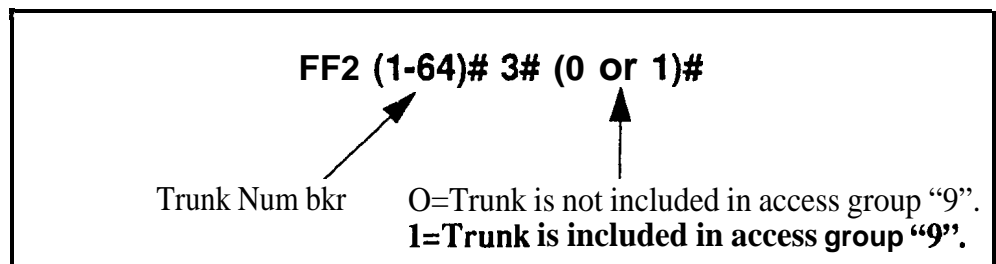
Related Programming

LCR Access: FF1 2# 1# 3# (0 or 1)#

Notes   Interaction *with LCR.*   Set the "LCR Access" option (address FF1 2# 1# 3#) so that dialing "9" indicates a Pooled Trunk call. If this option is set so that dialing "9" indicates an LCR call, trunk selection will default to pooled trunk line access group 9 if all lines that could be used for LCR access are busy.

Required Hardware Setting. To use pooled trunks, Strap S 1 on the CPC card must be *cut.   See Section 300-Installation* for instructions.
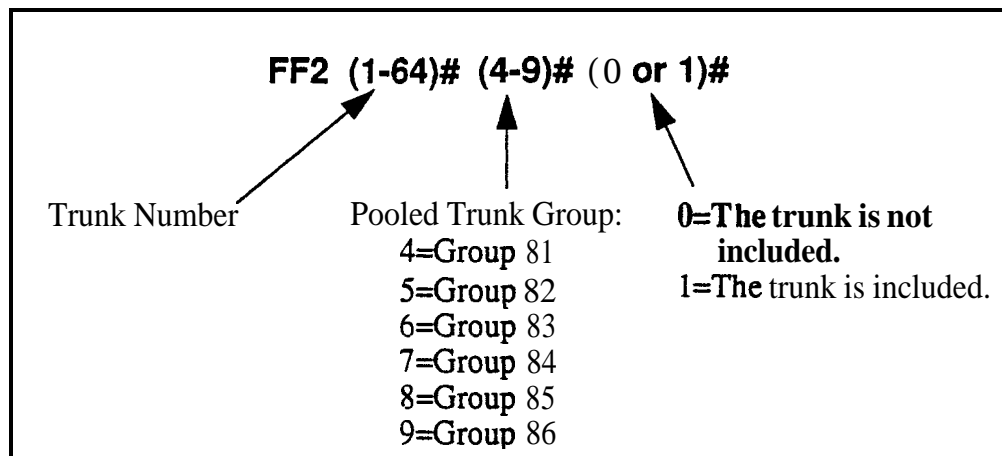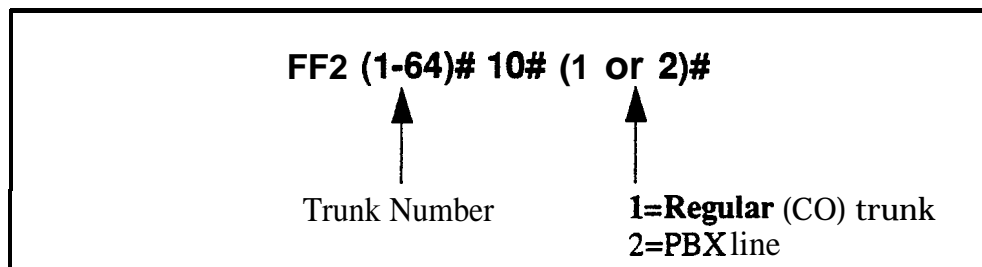
Pooled Trunk Access for Groups "81-86"

Software Version: All Versions
Address: FF2 (Trunk)# **(4-9)#** (0 or **1)#**

Description   Use this feature to place a trunk in a group from which trunks are
automatically chosen for outbound dialing. When you dial 81, 82, 83, 84, 85,
or 86 from an SLT or digital extension, or press an **FF** key that is set as a
pooled trunk key, any available trunk in the group will be accessed.

The trunk selection in a particular group is made from the highest available
trunk number to the lowest available trunk number.

Programming

```
            FF2  (1-64)#  (4-9)#  (0 or 1)#


   Trunk Number          Pooled Trunk Group:     0=The trunk is not
                            4=Group 81              included.
                            5=Group 82            1=The trunk is included.
                            6=Group 83
                            7=Group 84
                            8=Group 85
                            9=Group 86
```

Notes   ***Placing Trunks In More Than One Group.***   The same trunks may appear in
more than one pooled trunk group, including trunk group 9.

Required Hardware Setting.   To use pooled trunks, Strap S 1 on the CPC
card must be *cut. See Section 300-Installation* for instructions.

Trunk Port Type
Software Version: All Versions
Address: FF2 (Trunk)# 10# (1 or 2)#

Description   Each trunk port must be identified as a regular CO trunk or as a PBX line.

Programming

```
              FF2 (1-64)# 10# (1 or 2)#
                      ▲                ▲
                      |                |
              Trunk Number        1=Regular (CO) trunk
                                  2=PBX line
```

Related Programming

Auto Flash Redial: FF1 2# 1# 6# (0 or 1)#

PBX Access Codes: FF1 2# 3# (1-8)# (O-999 or 0* to 99*)#

Automatic Pause Position for PBX Access Codes: FF1 2# 3# (9-18)# (1-3)#

Automatic Pause Timer: FF1 3# 12# (0- 15)#

PBX Flash Timer: FF1 3# 18# (0-10)#

Trunk Port Type: FF2 (1-64)# 10# (1 or 2)#

Automatic Pause For PBX Line: FF2 (1-64)# 13# (0 or 1)#

Notes   *Toll Restriction Interaction.* TRS settings (FF7 addresses) can be affected by this parameter.

DISA Auto Answer
Software Version: All Versions
Address: FF2 (Trunk)# 11# (0 or 1)#

Description
Use this feature to set a trunk(s) to automatically provide DISA tone upon connection with an inbound caller. (However, after hearing the DISA tone, the caller will still have to enter an ID code in order to use DISA.)

If a trunk is set to provide DISA tone, you can limit DISA operation on that trunk to a certain number of hours each day, using the DISA Start Time and DISA End Time addresses.

Programming

```
                    FF2 (1-64)# 11# (0 or 1)#

                      ↑                ↑
                      |                |
                 Trunk Number    0=DISA tone is not provided.
                                 1=DISA tone is urovided.
```
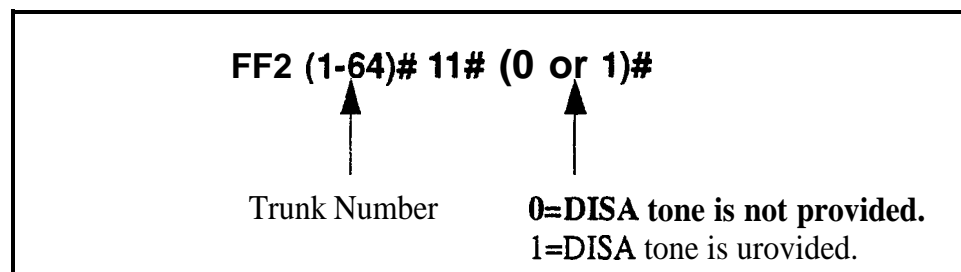
Related Programming

Caller ID Automatic DISA: FF1 2# 8# (1-10)# (PhoneNo.)#

Direct Inward System Access (DISA) ID Code: FF1 5# (0000-9999)#

DISA Outbound Call ID Code 1: FF1 6# 1# (0000-9999)#

DISA Outbound Call ID Code 2: FF1 6# 2# (0000-9999)#

DISA Start Time: FF2 (Trunk)# 19# (HHMM)#

DISA End Time: FF2 (Trunk)# 20# (HHMM)#

Notes
Caller ID Interaction. If your DBS system supports Caller ID, *do not* enable DISA on any trunk using this address. (Caller ID will automatically enable or disable DISA to the caller based on the phone number he is calling from.)

DZSA Hardware Requirement. An MFR card is required for DISA, so that the system can interpret DTMF tones entered via the DISA connection.

Private Trunk Line
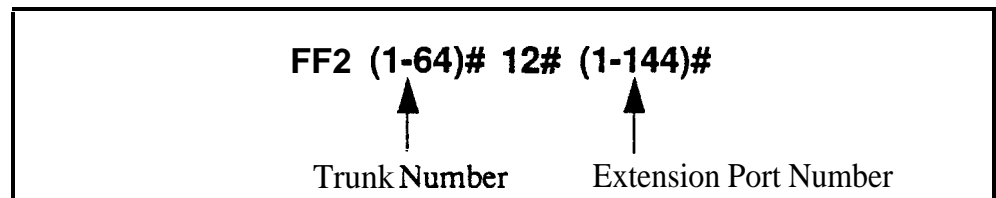**Software Version: All Versions**
Address: FF2 (Trunk)# 12# (ExtPort)#

Description   Use this address to assign a private trunk line to an extension. A number of private trunks can belong to one extension.

Once a private trunk is assigned to an extension, other extensions cannot make outbound calls or receive inbound calls on that trunk (the system will assign Toll Restriction Type 0 to the trunk on all other extensions). The system will assign TRS Type 7 (no restrictions) to the private trunk assigned to the extension.

Programming

To assign a Private Trunk Line(s) to an exterision . . .

```
              FF2 (1-64)# 12# (1-144)#
                      ▲              ▲
                      |              |
              Trunk Number      Extension Port Number
```

To cancel Private Trunk assignment(s) for an extension . . .

```
              FF2 (1-64)# 12# (1-144)# CONF ON/OFF
```

Related Programming

Day TRS Types O-7 for Trunks: FF7 7# (ExtPort)# (Trunk)# (0-7)#

Night TRS Types O-7 for Trunks: FM 8# (ExtPort)# (Trunk)# (0-7)#

Notes   *Reprogramming Toll Restrictions for Disabled Private Trunks.*   If a private trunk setting is enabled and then later disabled, the system will not automatically make that trunk available to other extensions. (TRS Type 0 will apply to that trunk on all extensions.) Therefore, the trunk's TRS type must be manually reprogrammed for each extension wishing to use that trunk (using addresses FF7 7# and FF7 8#).

Automatic Pause for PBX Line
Software Version: All Versions
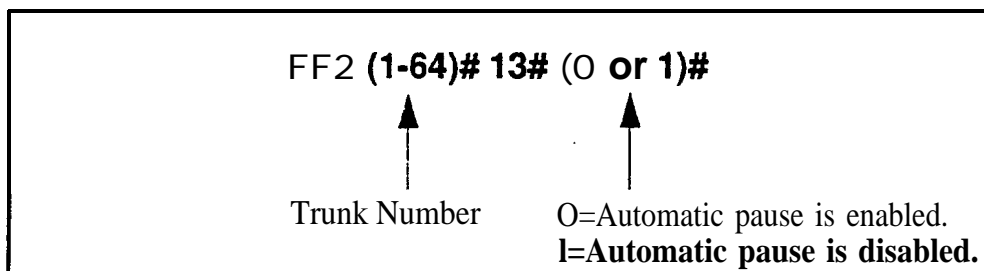**Address: FF2 (Trunk)# 13# (0 or 1)#**

Description   This address determines if a pause is automatically inserted during the dialing of a PBX access **code.**

If this address is enabled, the system will automatically pause after dialing the first, second, or third digit of the PBX access code. See the **PBX Access Code(s)** address (FF12# 3# 9-18# 1-3#) for more information.

If this address is disabled (default setting), the phone, user must manually insert a pause by pressing **REDIAL.** The length of the pause (whether inserted manually by the user or automatically by the system) is determined by the Automatic Pause Timer, which is·set at address FF1 3# 12#.

Note: Before assigning the automatic pause, you must first designate the trunk as a "PBX line" (FF2 Trunk# 10# 2#).

Programming

```
              FF2 (1-64)# 13# (0 or 1)#


                    ▲                    ▲
                    |                    |
              Trunk Number      O=Automatic pause is enabled.
                                l=Automatic pause is disabled.
```

Related Programming

Automatic Pause Position for PBX Access Codes: FF12# 3# (9-18)# (1-3)#

PBX Flash Timer: FF1 3# 18# (0-10)#

Trunk Port Type: FF2 (Trunk)# 10# (1 or 2)#

Dial Tone Detection

Software Version: All Versions
Address: FF2 (Trunk)# 14# (0 or 1)#

Description   This program determines when dialed digits are outpulsed -- either according to the Dial Pause Timer setting (FF1 3# 17#), or after the DBS detects dial tone.

Programming

FF2 **(1-64)# 14# (0 or 1)#**

Trunk Number   **0=Digits are outpulsed according to the Dial Pause Timer.**
1=Digits are outpulsed after dial tone is detected.
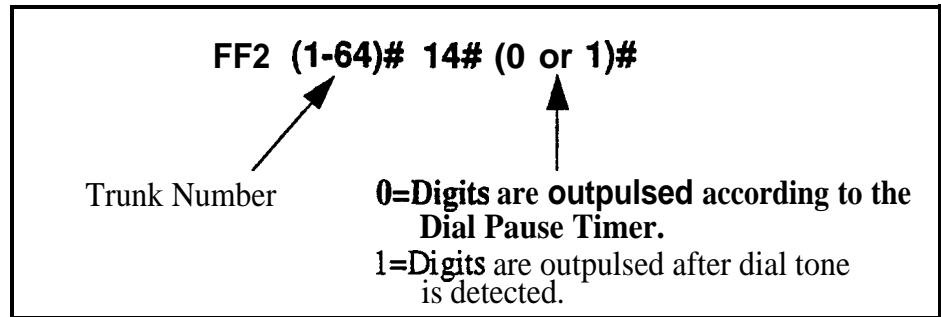
Related Programming

Dial Pause Timer: FF1 3# 17# (0-15)#

Outbound DTMF Signal Duration for Auto-Dialed Digits

Software Version: All Versions
Address: FF2 (Trunk)# 15# (1-3)#

Description   This address controls DTMF signal duration when digits are dialed
automatically by the system rather than the user.

Examples of DBS dialing include:

- Redial
- Saved Number Redial
- Speed Dialing
- Adding LCR digits

Programming

```
                    FF2  (1-64)#  15#  (1-3)#
                           ↑              ↑

                    Trunk Number    1=75 ms on/50 ms off
                                    2=125 ms on/125 ms off
                                    3=250 ms on/250 ms off
```
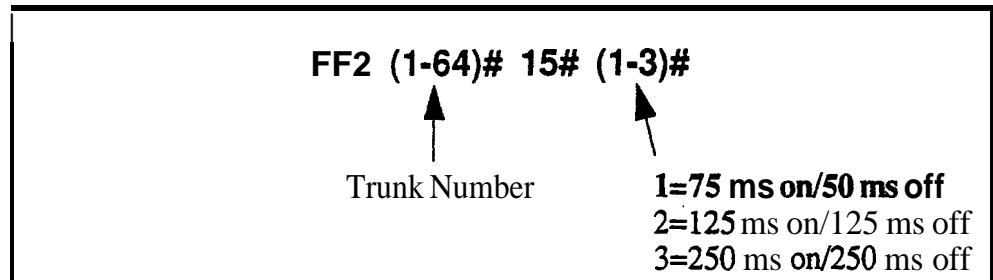
Notes   *DTMF Tone for Manual Dialing.*   If you dial manually (press a digit key),
the DTMF tone will emit until the button is released.

Unsupervised Trunk Conference
Software Version: All Versions
Address: FF2 (Trunk)# 16# (0 or **1)#**

Description   Use this feature to enable trunk(s) to be used in an unsupervised conference
call.

Programming

FF2 (1-64)# 16# (0 or 1)#

Trunk Number   0=The CO trunk cannot be used for
                     an unsupervised conference.

                   1=The CO trunk can be used for an
                     unsupervised conference.
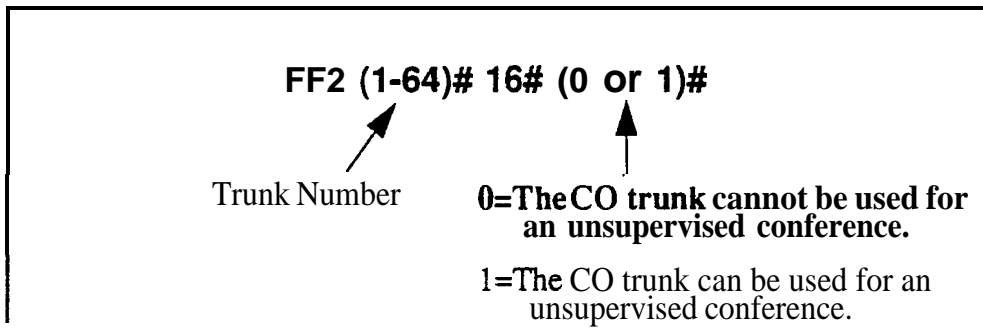
Related Programming

Unsupervised Conference Timer: FF1 3# 1 1# (0-15)#

Unsupervised Conference: FF3 (ExtPort)# 13# (0 or 1)#

Notes   *Unsupervised Conference Timer Operation.*   A conference call will be
automatically disconnected according to the Unsupervised Conference Timer
setting (FF1 3# 11# 0-15#).

Inbound Ring Pattern
Software Version: All Versions
Address: FF2 (Trunk)# 17# (0-9)#

Description   Each CO trunk can be assigned a distinctive ring pattern for easy recognition of the trunk during an incoming call. Up to 9 different ring patterns are available.

Programming

```
              FF2 (1-64)# 17# (0-9)#


         Trunk Number        Inbound Ring Pattern
                             Default: 0 (determined by CO)
                             (see the following table)
```
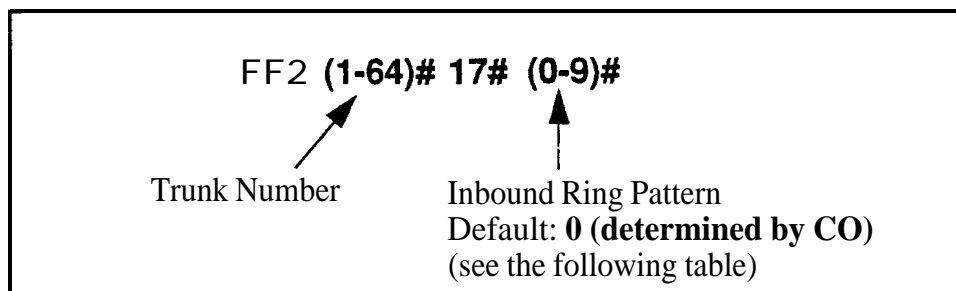
Table2-1.   RingPatterns for inbound trunk calls

Setting	Value
0	**Synchronize (ring pattern determined by CO)**
1	3 sec. on/1 sec. off
2	2 sec. on/2 sec. off
3	1 sec. on/l sec. off
4	1 sec. on/2 sec. off
5	1 sec. on/3 sec. off
6	.5 sec. on/.5 sec. off
7	.5 sec. on/.5 sec. off/.5 sec. on/2.5 sec. off.
8	.5 sec. on/3.5 sec. off
9	1 sec. on/7 sec. off

Notes   ***Transferred Calls.***   This setting does not affect transferred calls. The ring pattern for transferred calls can be set in the Transfer Ring Pattern address (FF1 2# 1# 31# 0-6#).

Precedence of Extension Ring Pattern Setting.   The ring pattern (if any) assigned to the extension (FF3 ExtPort# 39# Pattern#) will override this Inbound Ring Pattern for incoming trunk calls.

Trunk Disconnect Detection Timer
Software Version: All Versions
Address: FF2 (Trunk)# 18# (0-15)#

Description   When the trunk side of a CO call disconnects, the CO sends the DBS a disconnect signal by opening the loop (cutting voltage) for a specified length of time.

This timer determines how long the DBS expects the disconnect signal to last. By default, an open loop of 350 ms or more will be interpreted as a disconnect signal.

The standard range for CO disconnect signals is 350 to 600 ms.

Programming

```
                    FF2 (1-64)# 18# (0-15)#

              Trunk Number    Trunk Disconnect Detection Timer setting
                              Default: 7 (over 350 ms) (see table below)
```
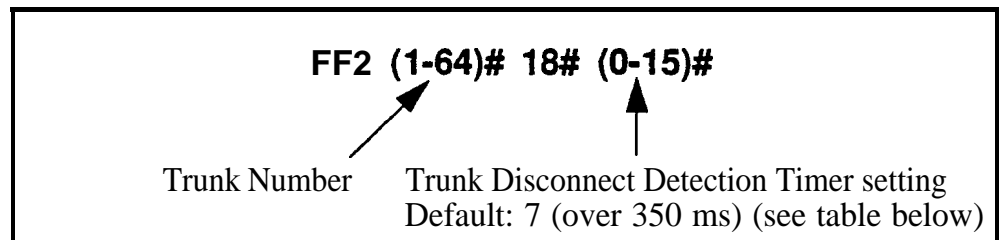
Table 2-2.   Trunk Disconnect Detection Timer values

Setting	Value
0	Ignore disconnect
1	Over 50 ms
2	Over 100 ms
3	Over 150 ms
4	Over 200 ms
5	Over 250ms
6	Over 300ms
7	Over 350 ms
8	Over 400 ms
9	Over 450 ms
10	Over 500 ms
11	Over 550 ms
12	Over 600 ms
13	Over 650 ms
14	Over 700 ms
15	Over 750 ms

DISA Start Time
Software Version: All Versions
Address: FF2 (Trunk)# 19# (HHMM)#

Description   Use this address to program a DISA trunk to begin DISA operation at a
specified time each day. Trunks are *enabled* for DISA using the DISA Auto
Answer address (FF2 Trunk# 1 1#). Use this DISA Start 'lime address, and
the DISA End Time address following, to limit DISA operation on a trunk to
a certain time period each day.

Programming

To set the DISA Start Time . . .

Enter the time using the 24-hour format. For example, enter 1515 to set the
time to 3:15 p.m.

```
              FF2 (1-64)# 19# (HHMM)#
                      ↑                ↑

              Trunk Number      Time Setting (24-hr. format)
                                Default: **** (not set)
```

To clear the DISA Start Time . . .

```
              FF2 (1-64)# 19# CONF ON/OFF
```

Related Programming

Time Setting: FF1 1# 2# (HHMM)#

DISA Inbound Call ID Code: FF1 5# (0000-9999)#

DISA Outbound Call ID Code 1: FF1 6# 1# (0000-9999)#

DISA Outbound Call ID Code 2: FF1 6# 2# (0000-9999)#

DISA Auto Answer: FF2 (Trunk)# 1 1# (0 or 1)#

DISA End Time: FF2 (Trunk)# 20# (HHMM)#

Notes   ***DISA Operation With Default Setting.***   If DISA Start Tiie is not set in this
address (left at default ****), DISA operation will be on all the time.

Caller ID Automatic DZSA.   This DISA Start Time setting does not affect
Automatic DISA operation with Caller ID (FF1 2# 8# 1-10# PhoneNo.#).

DISA End Time
Software Version: All Versions
Address: FF2 (Trunk)# 20# (HHMM)#

Description   Use this address to program a DISA trunk to stop DISA operation at a
specified time each day. Trunks are enabled for DISA using the DISA Auto
Answer address (FF2 Trunk# 1 1#). Use this DISA End Tiie address, and the
DISA Start Time address (previous page), to limit DISA operation on a trunk
to a certain time period each day.

NOTE: The DBS will disable DISA to the trunk one minute after the time
set in this address. (For example, if DISA End Time is set to 0815, DISA will
actually end when the system clock reaches 8: 16 am.)

Programming

To set the DISA End Time . . .

Enter the time using the 24-hour format. For example, enter 0815 to set the
time to 8:15 a.m. DISA will actually end when the system clock reaches
8: 16 a.m.

```
                    FF2 (1-64)# 20# (HHMM)#

                         ▲              ▲
                         |              |
                    Trunk Number    Time Setting (in 24-hr. format)
                                    Default: **** (not set)
```

To clear the DISA End Time . . .

```
                    FF2 (1-64)# 20# CONF ON/OFF
```

Related Programming

Time Setting: FF1 1# 2# (HHMM)#

DISA Inbound Call ID Code: FF1 5# (0000-9999)#

DISA Outbound Call ID Code 1: FF1 6# 1# (0000-9999)#

DISA Outbound Call ID Code 2: FF1 6# 2# (0000-9999)#

DISA Auto Answer: FF2 (Trunk)# 11# (0 or 1)#

DISA Start Time: FF2 (Trunk)# 19# (HHMM)#

Notes   ***Caller ID Automatic DZSA.***   This DISA End Time setting does not affect
Automatic DISA operation with Caller ID (program address FF12# 8# 1-10#
PhoneNo.#).

Trunk Circuit Type
Software Version: CPC-All and CPC-B (all versions)
Address: FF2 (Trunk)# 21# (Type)#

Description   This program determines the type of circuit for each trunk (Loop Start by default).

NOTE: The circuit types available in each system depend on the CPC card version. See **"Notes"** below for more information.

Programming

```
                    FF2  (1-64)#  21#  (0-4)#

                         Trunk Number        0=Loop Start
                                             1=Ground Start
                                             2=Analog DID
                                             3=T1
                                             4=Caller ID (loop start)
```
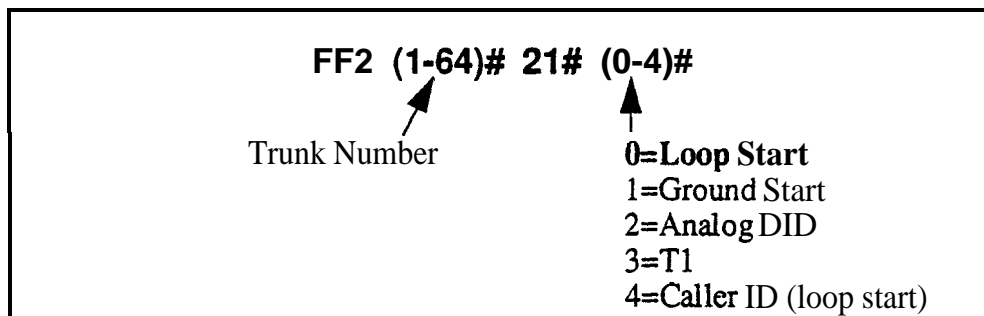
Related Programming

Call Duration Timer (for Caller ID): FF1 2# 1# 38# (0-2)#

Caller ID Automatic DISA Callers: FF1 2# 8# (1-10)# (PhoneNo.)#

T1 settings: FF1 8# 4# thru 7# addresses

Outbound Ground Start Detection Timer: FF1 3# 20# (1-8)#

Inbound Ground Start Detection Timer: FF1 3# 21# (1-8)#

DID Immediate or Wink Start: FF2 (Trunk)# 22# (0 or 1)#

Wink Start Timer: FF2 (Trunk)# 23# (0-15)#

Time Out for Dialed DID Digits: FF2 (Trunk)# 24# (0-15)#

DID Interdigit Timeout: FF2 (Trunk)# 25# (0-15)#

Notes   *Power-Cycling Requirement.* For changes to this parameter to take effect, the system must be turned off, then back on.

Loop Start Circuit Type Considerations:

1. Loop Start is the most common type of CO line.

2. If a Ground Start Trunk Card is used, individual trunk ports on that card can be set to "Loop Start".

Ground Start Circuit Type Considerations:

1. Not available with CPC-AIL

2. Ground Start lines perform similarly to Loop Start: however, in terms of positive disconnect signals, Ground Start lines provide the most reliable connection between the CO and the DBS, with the least possibility of call collision or "glare".

3. The Ground Start Trunk Card (VB-4353 1) is required for ground-start operation.

4. The Ground Start Trunk Card requires a -48 volt power supply, which must be properly connected to the DBS backplane terminals -- see *Section 300-Installation* for instructions. **Misconnection of the power supply can result in serious damage to DBS equipment.**

5. The FLASH and REDIAL features are not available on ground-start trunks.

Analog DID Circuit Type Considerations:

1. Not available with CPC-AIL

2. Available only with CPC-B Version 2.0 or higher.

3. Requires DID Trunk Card (VB-43541).

4. Requires SCC-B card Version 1.27 or higher.

5. DID (Direct Inward Dialing) lines are beneficial in that the CO can place multiple inbound trunk calls (with different phone numbers) over the same circuit. These numbers can also be programmed to appear on multiple DBS extensions.

6. DID circuits can only be used for inbound calls (not for outbound).

7. The DBS supports 4-digit DID numbers with either Dial Pulse or (more commonly) Wink Start

Tl Circuit Type Considerations:

1. Not available with CPC-AII.

2. Available only with CPC-B Version 4.0 or higher.

3. T1 requires the following cards:

   - T1 Interface (VB-43561)
   - T1 MDF Card (VB-43562)
   - T1 Sync Card (VB-43563)

4. When assigning trunks as Circuit Type "T1", you must start from the highest-numbered trunk port in the DBS cabinet structure, and move down sequentially from there. For more information, see the trunk assignment charts in *the T1 Reference Manual (Section 500).*

5. If Fractional T1 (using only a portion of the 24 available T1 channels) is implemented, make sure that the number of trunks set to Circuit Type "T1" matches the programmed **Number of Tl Channels** (FF1 8# 4# 4/5# 1# 2# 0-24#).

6. In CPC-B Versions 5.0 to 6.02, if trunk usage on an analog trunk card is divided between T1 and analog, make sure that the T1 trunks are closed from analog usage in the **T1 Trunk Closure** address (FF1 8# 7# 1-2# 1-4# 1-8# 0-l#).

Caller ID Circuit Type Considerations:

1. Available only with CPC-AII and CPC-B Version 6.1 or higher.

2. Caller ID requires the following cards:

   - 8-port Loop Start Trunk Card (VB-43511A)
   - Caller ID Card (VB-43551)
   - MFR Card (VB-43431) (if using Caller ID Automatic DISA)
   - CPC-B Card (VB-43411) or CPC-AII Card (VB-43412)

3. Caller ID refers to calling party information transmitted from a local CO to the DBS. Calling party information transmitted in ANI format from interexchange carriers (IXC's) is not supported by the DBS at this time.

4. Caller ID data is transmitted from the local CO to the DBS between the first and second rings. The Caller ID Card and the Loop Start Trunk Card collect the data and distribute it to the appropriate extension via the CPC Card. The extension displays the Caller ID information (if the phone has an LCD) for a programmable length of time.

5. *See Caller ID Installation and Operation (Section* 510) for complete instructions and ordering specs.

DID Immediate or Wink Start

Software Version: CPC-B Version 2.0 or higher
Address: FF2 (Trunk)# 22# (0 or 1)#

Description   This address determines the type of signaling used with DID trunks (Wink Start by default).

If "Wink Start" is selected, the **CO** seizes the DID trunk. Then the DBS sends a wink signal to the CO. At the end of the wink signal, the **CO** transmits the DID digits.

If "Immediate" is selected, the CO seizes the DID trunk. Then the DBS waits 65 milliseconds before accepting the digits of a dialed number.

Programming

```
                    FF2 (1-64)# 22# (0 or 1)#
                             ▲            ▲
                             |            |
                      Trunk Number    0=WinkStart
                                      1=Immediate Start
```
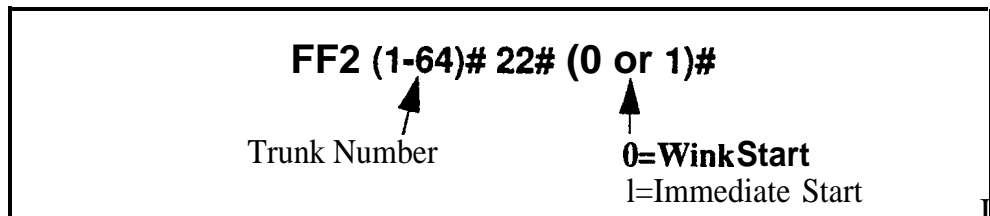
Related Programming

Multiple DID/DNIS: FF1 2# 1# 32# (0 or 1)#

DID/DNIS to a Voice Mailbox: FF1 2# 1# 36# (0-2)#

DID/DNIS Answer Code: FF1 2# 1# 37# (6 char.)#

DID/DNIS: FF1 8# 4# 6# (1-64)# 2# (0-2)#

DID Flexible Ringing Assignments: FF1 8# 5# (0000-9999)# ExtNo.)# (000000-111111)#

Trunk Circuit Type: FF2 (Trunk)# 21# (0-4)#

Wink Start Timer: FF2 (Trunk)# 23# (0-15)#

Time Out for Dialed DID Digits: FF2 (Trunk)# 24# (0-15)#

DID Interdigit Timeout: FF2 (Trunk)# 25# (0-15)#

Notes   *Power-Cycling Requirement.*   For changes to this parameter to take effect, the system must be turned off, then back on.

Wink Start Timer

Software Version: CPC-B Version 2.0 or higher
Address: FF2 (Trunk)# 23# (0-15)#

Description   This timer determines the duration of the "wink" that is sent to the CO
following the CO's seizure of a DID trunk (200 ms by default).

At the conclusion of the wink, the CO transmits the DID digits to the DBS.

Programming

FF2 (1-64)# 23# (0- 1 5)#

t
Trunk Number   Wink Start Timer setting
Default: 3 (200 ms)
(see table below)
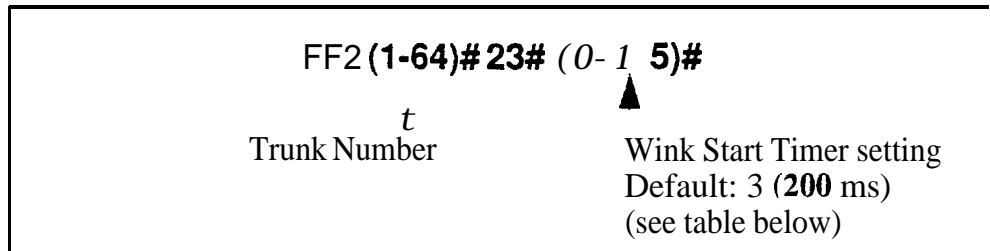
Table 2-3.   Wink Start Timer settings

Setting	Value
0	140 ms
1	160 ms
2	180 ms
3	200 ms
4	220 ms
5	240 ms
6	260 ms
7	280 ms
8	300 ms
9	320 ms
10	340 ms
11	360 ms
12	380 ms
13	400 ms
14	420 ms
15	440 ms

Time Out for Dialed DID Digits
Software Version: CPC-B Version 2.0 or higher
Address: FF2 (Trunk)# 24# (0-15)#

Description   This timer determines how long the DBS waits for DID digits, once CO
signaling has indicated that digits are to be transmitted (18 seconds by
default).

Programming

FF2 (1-64)# 24# (0-15)#

Trunk Number   Timeout setting for Dialed DID Digits
                            Default: 4 (18 **seconds)**
                            (see table below)
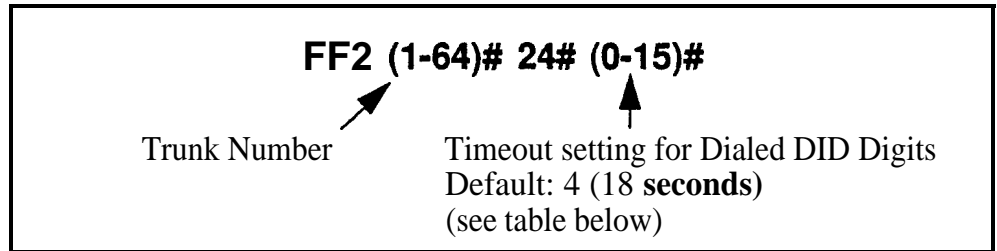
Table 2-4.   DID Dialed Digit Timer values

Setting	Value
0	No timeout
1	15 seconds
2	16 seconds
3	17 seconds
4	**18 seconds**
5	19 seconds
6	20 seconds
7	21 seconds
8	22 seconds
9	23 seconds
10	24 seconds
11	25 seconds
12	26 seconds
13	27 seconds
14	28 seconds
15	29 seconds

DID Interdigit Timeout
Software Version: CPC-B Version 2.0 or higher
Address: FF2 (Trunk)# 25# (0-15)#

Description   Once the CO begins to outpulse DID digits, this timer determines how much time is allowed between each digit (80 ms by default). If the timer is exceeded, the DBS returns the DID trunk to the idle state.

Programming

FF2 (1-64)# 25# (O-I 5)#

Trunk Number   DID Interdigit Timer setting
                      Default: 5 (80 ms)
                      (see table below)
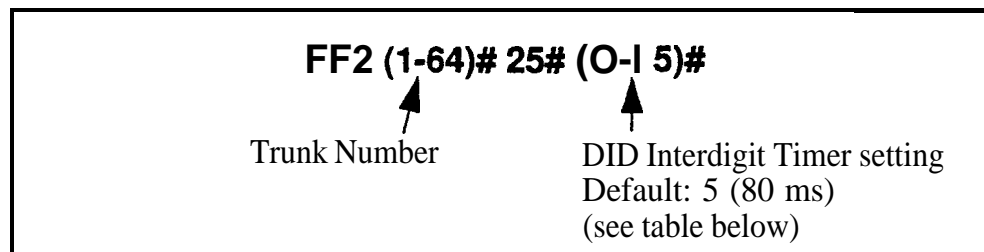
Table 2-5.   DID Interdigit Timer values

Setting	Value
0	30 ms
1	40 ms
2	50 ms
3	60 ms
4	70 ms
5	**80 ms**
6	90 ms
7	100 ms
8	110 ms
9	120 ms
10	130 ms
11	140 ms
12	150 ms
13	160 ms
14	170 ms
15	180 ms

Trunk Port Class

Software Version: CPC-B Version 4.0 or higher
Address: FF2 (Trunk)# 26# (4-8)#

Description   This parameter is provided in case a specific trunk or group of trunks needs a unique pad level. This will only work if the Sync unit (VB-43563) is installed piggyback on the CPC-B card.

By default, DBS trunks are assigned a circuit type, based on whether they are analog or T1. This circuit type is **used** in **the Digital Pad Settings address** (FF1 8# 4# 3#) to determine the loss/gain settings for connections to the T1.

For example, a T1 in a slave cabinet is assigned by default as circuit type "6" (see table below). However, if a specific T1 trunk in the slave has inadequate volume levels, the circuit type for the T1 trunk port could be changed to "8". Once the trunk port's circuit type is changed, you can change the pad levels for **circuit type 8** (in **Digital Pad Settings**) to provide the correct volume setting.

Programming

FF2 (1-64)# 26# (4-8)#

Trunk Number   Trunk Circuit Type
                      (see table below)

NOTE: This address will allow you to assign circuit types 1-12 to a trunk; however, types 4-8 are the only ones that should be used with trunks.

Table 2-6.   Trunk Port Class - circuit types

Setting	Value
4	Analog CO trunk
5	T1 trunk in the master cabinet
6	T1 trunk in the slave cabinet
7	Option 1 (see "Note" below)
8	Option 2 (see "Note" below)
NOTE: Circuit types 7-8 are used for assigning unique pad levels to circuits that require special volume levels. For example, if a specific analog trunk needs a higher volume level than other analog trunks, the analog trunk could be defined as an "Option 1" circuit type.	

Related Programming

Digital Pad Settings: FF1 8# 4# 3# (1-12)# (1-12)# (0-30)#

Station Port Class: FF3 (ExtPort)# 37# (1-2 or 7-8)#

Notes   *Extension Circuit Types.*   Circuit types can also be assigned to extension
ports. See the **Station Port Class** address for more information.

3. Extension Programming (FF3)

Use the **FF3** programming addresses in this chapter to set parameters for extensions.

All **FF3** addresses require an extension port entry. The acceptable range for extension ports depends on your DBS system's configuration. In this chapter, the range shown for extension ports is (1-144), which is the maximum available number of extension ports in a DBS 96 + DBS 96 system with a CPC-B card. With a CPC-AII card, the maximum range is (1-72) extension ports. For more information, *see Section 300-Installation.*

This chapter covers the following addresses:

FF3 Address	Topic	Page
FF3 (ExtPort)# 1# (ExtNo.)#	Extension Numbers	3-3
FF3 (ExtPort)# 2# (Type)#	Terminal Type	3-5
FF3 (ExtPort)# 3# (ExtPort)#	EM/24 Port Assignment	3-7
FF3 (ExtPort)# 4# (0 or 1)#	Forced Least Cost Routing	3-8
FF3 (ExtPort)# 5# (0 or 1)#	Forced Account Codes	3-9
FF3 (ExtPort)# 6# (Code)#	Extension Lockout Code	3-10
FF3 (ExtPort)# 7# (0 or 1)#	Offhook Signal (CO)	3-11
FF3 (ExtPort)# 8# (0 or 1)#	Call Waiting/OHVA	3-12
FF3 (ExtPort)# 9# (0 or 1)#	Busy Override Send	3-13
FF3 (ExtPort)# 10# (0 or 1)#	Busy Override Receive	3-14
FF3 (ExtPort)# 11# (0 or 1)#	Prime Line Pickup	3-15
FF3 (ExtPort)# 12# (0 or 1)#	Auto Pickup (Ringing Line)	3-16
FF3 (ExtPort)# 13# (0 or 1)#	Unsupervised Conference	3-17
FF3 (ExtPort)# 14# (0 or 1)#	Station Message Detail Recorder (SMDR) Report	3-18
FF3 (ExtPort)# 15# (0-4)#	Offhook Signal Volume	3-19
FF3 (ExtPort)# 16# (0 or 1)#	Offhook Signal Pattern	3-20
FF3 (ExtPort)# 17# (0 or 1)#	PSD Name Display on Large-Sized LCD Phones	3-21
FF3 (ExtPort)# 18# thru 25# (0 or 1)#	Page Group Extensions	3-22
FF3 (ExtPort)# 26# (0-39)#	Display When Idle	3-23
FF3 (ExtPort)# 27# (0-39)#	Display During Intercom Dial Tone	3-25
FF3 (ExtPort)# 28# (0-39)#	Display When Calling an Extension	3-27
FF3 (ExtPort)# 29# (0-39)#	Display When Accessing CO Dial Tone	3-29
FF3 (ExtPort)# 30# (0-39)#	Display When Conversing on a CO Trunk	3-31
FF3 (ExtPort)# 31# (0-39)#	Display When Receiving a Page	3-33
FF3 (ExtPort)# 32# (0-39)#	Display After Receiving a Call Waiting Tone	3-35
FF3 (ExtPort)# 33# (0-39)#	Display When Dialing a Busy Extension	3-37
FF3 (ExtPort)# 34# (0 or 1)#	Extension Directory Display (CPC-AII/B 2.0 or higher)	3 - 3 9
FF3 (ExtPort)# 34# (0 or 1)#	VAU Port Assignment (CPC-A) (see page 3-56)	

FF3 (ExtPort)# 3% (0-8)#	Extension Class of Service Assignment (CPC-AII/B 3.1 or higher)	3-40
FF3 (ExtPort)# 35# (0000-9999)#	Inbound DID Dial Numbers (CPC-B 2.0 only)	341
FF3 (ExtPort)# 35# (0 or 1)#	AEC Disconnect (CPC-A 3.3 or higher)	3-41
FF3 (ExtPort)# 36# (0-2)#	Ringback Tone From ML Keys (CPC-AII/B 2.0 or higher)	3-42
FF3 (ExtPort)# 37# (1-2 or 7-8)#	Station Port Class (CPC-B 4.0 or higher)	3-43
FF3 (ExtPort)# 38# (0 or 1)#	SLT Hookflash (CPC-B 3.1 or higher)	3-45
FF3 (ExtPort)# 39# (0-9)#	Extension Ring Pattern (CPC-AII 7.0 or higher; CPC-B 3.1 or higher)	3-46
FF3 (ExtPort)# 40# (0 or 1)#	Digital SLT Receiving Volume (CPC-AII/B 3.1 or higher)	3-48
FF3 (ExtPort)# 41# (0001-9999)#	Auto Set Relocation Code (CPC-AII/B 3.1 or higher)	3-49
FF3 (ExtPort)# 42# (0-3)#	Permanent Call Forward Type (CPC-AII/B 3.1 or higher)	3-51
FF3 (ExtPort)# 43# (ExtNo.)#	Permanent Call Forward Extension (CPC-AII/B 3.1 or higher)	3-52
FF3 (ExtPort)# 44# (0 or 1)#	ML/MCO Separation (CPC-AII/B 4.0 or higher)	3-53
FF3 (ExtPort)# 45# (0 or 1)#	VAU Hunting Priority (CPC-AII/B 5.0 or higher)	3-54
FF3 (ExtPort)# 46# (0 or 1)#	AEC Disconnect (CPC-AII/B 5.0 or higher)	3-55
FF3 (ExtPort)# 47# (0 or 1)#	VAU Port Assignment (CPC-AII/B 5.0 or higher)	3-56
FF3 (ExtPort)# 48# (0 or 1)#	Hot Dial Pad (CPC-AII/B 7.0 or higher)	3-57
FF3 (ExtPort)# 49# (0 or 1)#	Auto-Redial on Extensions (CPC-AII/B 7.0 or higher)	3-58

Extension Numbers

Software Version: All Versions
Address: FF3 (ExtPort)# 1# (10-69 or 100-699)#

Description   This program assigns an extension number to an extension port.

- An extension number is the 2-digit or 3-digit number that is dialed to reach the extension phone. Extension numbers are programmable and can be changed.
- An extension *port* is the physical location (RJ21x on the DBS connector) into which the phone is plugged. Extension ports have fixed numbers which can't be changed (you can't assign a different port number to the same port).

Programming

To assign an Extension Number . . .
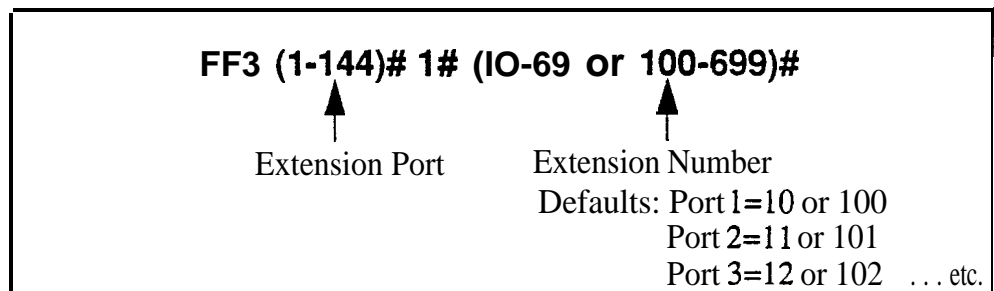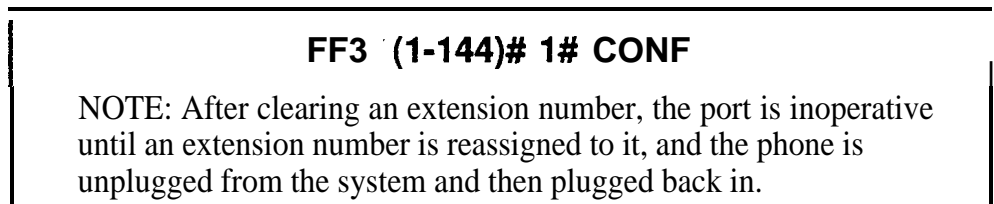
FF3 (1-144)# 1# (IO-69 or 100-699)#

Extension Port   Extension Number
Defaults: Port 1=10 or 100
Port 2=11 or 101
Port 3=12 or 102   . . . etc.

To clear an Extension Number . . .

FF3 (1-144)# 1# CONF

NOTE: After clearing an extension number, the port is inoperative until an extension number is reassigned to it, and the phone is unplugged from the system and then plugged back in.

Related Programming

Extension Number Digits: FF1 2# 1# 12# (0 or 1)##

Second Attendant Position: FF1 2# 1# 24# (11-69 or 101-699)#

Third Attendant Position: FF1 2# 1# 25# (11-69 or 101-699)#

Fourth Attendant Position: FF1 2# 1# 26# (11-69 or 101-699)#

Extension Names: FF6 1# (ExtPort)# CONF (Name)#

Notes

Primary Attendant Extension. The default extension number for the Primary Attendant is 10 or 100, assigned to port 1. It is not possible to change the Primary Attendant's extension number or port. The Primary Attendant phone must be a key telephone with an LCD display.

Second Attendant Extension. If a Second Attendant is assigned, its default extension number is 11 or 101, assigned to port 2. Although the Second Attendant assignment can be changed, it is recommended that you leave its extension number at the default 11 or 101 so that a DSS/BLF console can be used with it. (The Third and Fourth Attendants cannot use a DSS/BLF phone.) If extension 101 or 11 is cleared, the Alternate Attendant feature is canceled.

Clearing An Extension Number. Clearing an extension port of its extension number *does not return the number to a default value.* Instead, the port is inoperative until an extension number is reassigned to it and the phone is unplugged from the system, then plugged back in.

Re-Assigning An Extension Number. An extension number can be changed without clearing the old one first -- simply overwrite the old extension number using this program address. (The system will recognize the new extension number without requiring the phone to be unplugged and then plugged back in afterwards.)

Assigning An Extension Number Already In Use. If an extension number is already assigned to a port, and you assign the same number to another port, the system will automatically clear the first port of the extension number. The first port would then have to be re-assigned a new extension number, and the phone unplugged and then plugged back in again.

Changing The Extension Name. The assignment or re-assignment of extension numbers does not change the extension name. To change the extension name, use program address FF6 1# (ExtPort)# CONF (Name)#.

Finding Out the Port Number *of an Extension.* If an extension phone has an LCD display, you can display its port number by pressing **ON/OFF CONF #5*** on that phone. Or, from another extension with an LCD, press **ON/OFF CONF [ExtNo.]** (the dialed extension's port number will display).

Terminal Type
Software Version: All Versions
Address: FF3 (ExtPort)# 2# (ExtType)#

Description   Some DBS extensions are automatically configured when installed on an extension port. This address allows you to change default terminal assignments, or assign special equipment to extension ports.

Programming

FF3 (1-144)# 2# (1-48)#

Extension Port   Terminal Type (see table below)
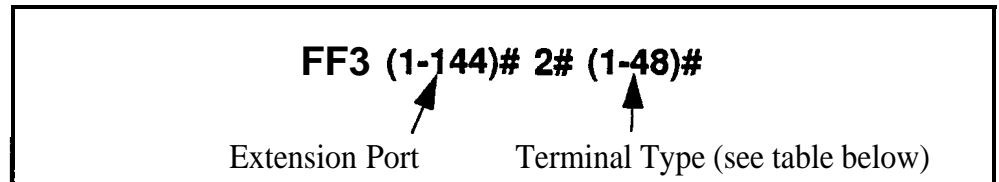
Table 3-1. Terminal Types

Note: If the configuration is "Auto", the system defaults to the phone type plugged into that port. If no phone is plugged in, the port defaults to "4" (34-button Key Phone).

Terminal Type	Description	Manual or Auto Configuration
1	Single-Line Telephone (SLT)	Auto
2	16-button Key Phone	Auto
3	22-button Key Phone	Auto
4	34-button Key Phone	Auto
5	(not currently used)	(N/A)
6	Digital Single-Line Telephone (DSLT)	Auto
7	EM/24	Auto
8	OPX Pulse Station	Manual
9	OPX DTMF Station -or- SLTA Phone	Manual (OPX) -or- Auto (SLTA)
10	Third-Party Voice Mail	Manual
11	DSS/72 #1 (for extension 10 or 100)	Manual
12	DSS/72 #2 (for extension 10 or 100)	Manual
13	DSS/72 #3 (for extension 11 or 101)	Manual
14	DSS/72 #4 (for extension 11 or 101)	Manual
15	Third-Party Voice Mail with OPX	Manual
16-19	Attendant Consoles 1-4	Manual
20	(not used)	N/A
21-28	Integrated ACD channels	Auto
29-30	(not used)	N/A

31-38	Integrated Auto Attendant channels	Auto
39-40	(not used)	N/A
41-48	Integrated DBS Voice Mail channels	Auto

Related Programming

API/AEC Slot Assignment: FF1 2# 1# 20# (2-9 or

Notes   ***Terminal Type 6 (DSLT).***   This terminal type is not available in CPC-A/B versions prior to 3.1.

Terminal Type IO (Third-Party Voice Mail).   Beginning with CPC-A Version 3.28 and CPC-B Version 4.07, when an analog port hookflashes to return to a held trunk, the DBS returns busy tone to Voice Mail if the trunk is abandoned. When Voice Mail receives the busy tone, it recognizes that the trunk has been abandoned, and consequently releases the called extension. (In previous versions, the DBS returned ringback tone, causing the extension to continue ringing.)

Terminal Types ll-I4 (DSSl72) and 16-19 (Attendant Consoles).   After manually setting any of these terminal types, disconnect the modular jacks from the devices, then reconnect them.

Terminal Types 16-19 (Attendant Consoles). This option requires the Attendant Feature Package, which is available only with CPC-B Version 2.0 to 4.0.

Terminal Types 30-48.   These options are available with CPC-AII/B Version 3.1 or higher.

VAU Port Assignments.   For later CPC versions, VAU ports are assigned in other addresses:

    CPC-A 3.3 or higher: FF3 (1-72)# 34# (0 or 1)#
    CPC-AII (all versions): FF3 (1-144)# 47# (0 or 1)#
    CPC-B 5.0 or higher: FF3 (1-144)# 47# (Oor 1)#

Call ***Forward ID Digits.***   Call Forward ID digits will only emit if the port is set for Terminal Type 10-15. Terminal Type 10 is the recommended setting for each Third-Party Voice Mail.

Console Port Assignments.   For all CPC versions, a DSS/72 console is assigned by setting the Terminal Type to 11-14. However, EM/24 ports are assigned in the next address, FF3 (ExtPort)# 3# (ExtPort)#.

EM/24 Port Assignment

Software Version: All Versions
Address: FF3 (ExtPort)# 3# (ExtPort)#

Description   This program assigns an EM/24 terminal to a key phone by associating the extension ports.

EM/24 terminals provide additional FF keys to a key phone. An EM/24 terminal needs its own extension port. This address therefore requires two port number entries -- one for the EM/24 terminal, and one for the key phone.

After the EM/24 is assigned to the key phone, the *key phone's* extension port should be used in other program addresses (for example, when including the phone in a hunt group or call coverage group).

Programming

To assign an EM/24 to a key phone . . .

```
            FF3  (1-144)#  3#  (1-144)#
                      ▲              ▲
                      |              |
                 EM/24 Port     Key Phone Port
```
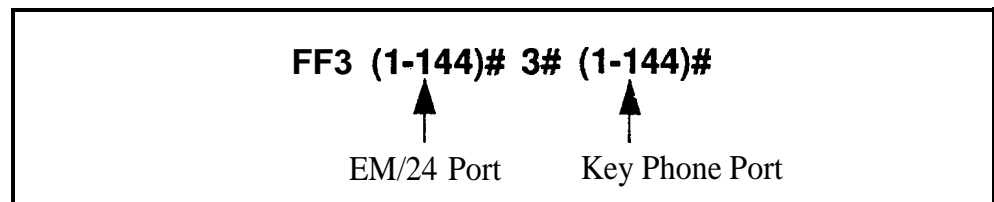
To clear an EM/24 assignment . . .

```
            FF3  (1-144)#  3#  CONF  ON/OFF
                      ▲
                      |
                 EM/24 Port
```
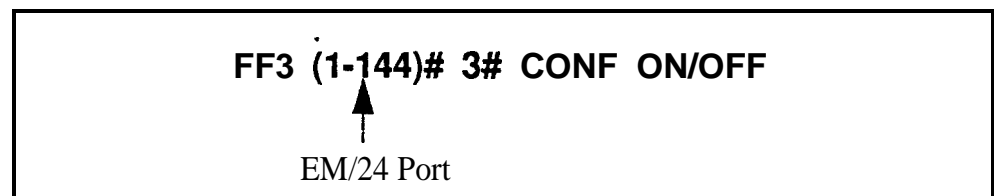
Notes   *Reconnection Requirement.*   After manually reprogramming the EM/24 terminal, disconnect its module jack, then reconnect it.

Changing Default Key Assignments in CPC-B Versions 2.01 *to* 2.04.   When you change default EM/24 key assignments in these versions, reprogram as follows:

1. Assign the EM/24 to a port.

2. Reset the EM/24 by unplugging then reconnecting it.

3. Program the keys using FF5 (ExtPort)# (FFkey)#.

Forced Least Cost Routing

Software Version: All Versions
Address: FF3 (ExtPort)# **4#** (0 or **1)#**

Description   Use this address to set individual extension(s) for forced Least Cost Routing
(LCR).

If an extension is set for forced LCR:

- every pooled key "9" is now an LCR key.
- stations cannot dial 8 l-86 to place an outside call.
- the caller will hear a dial tone generated by the DBS -- but the system will
  not access an outside line until the caller dials an area code and/or office
  code, after which the system selects the least expensive trunk based on
  time of day, carrier, and/or dialed number.

Programming

```
                 FF3 (1-144)# 4# (0 or 1)#

              Extension Port        0=Disabled (no forced LCR).
                                    l=Enabled (forced LCR).
```
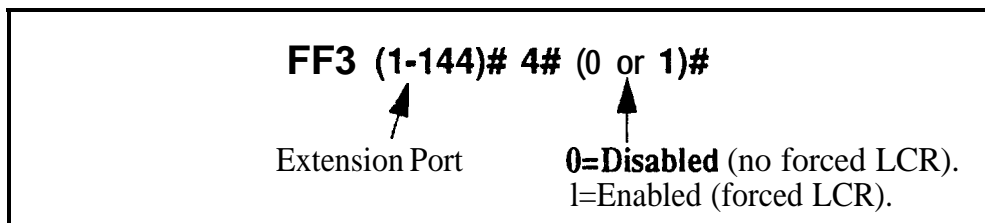
Related Programming

LCR Access: FF1 2# 1# 3# (0 or 1)#

Least Cost Routing: All FF8 programs

Notes   *Interaction With Call Forward-Outside.*   If Forced LCR is enabled, the
"Call Forward-Outside" feature cannot be used.

Forced Account Codes

Software Version: All Versions
Address: FF3 (ExtPort)# 5# (0-2)#

Description   Use this address to force extension users to enter an account code before
making an outside call.

- Beginning with CPC-AII/B Version 3.1, forced account codes will be
verified by the DBS system before allowing the call.

- Beginning with CPC-AII/B Version 6.0, forced account codes can be either
"verified" or "unverified" by the system.

Programming

> **FF3 (I-1 44)# 5# (0-2)#**
>
> Extension Port   **0=Account code usage is voluntary.**
>   1=Account codes (4-digit) are forced and verified,
>   2=Account codes (1- 10 digits) are forced but
>   unverified.
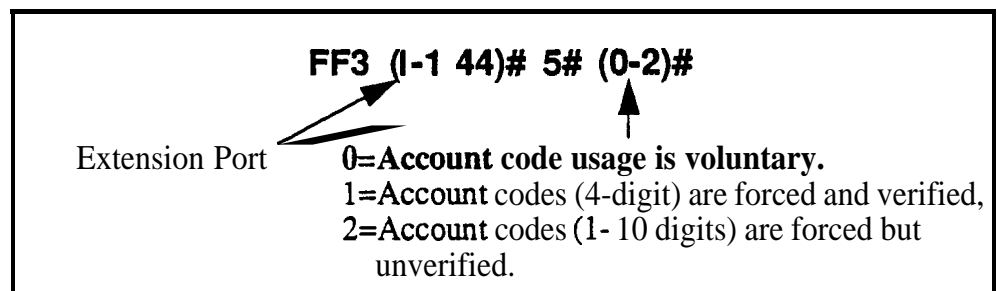
Related Programming

Verified Forced Account Codes: FF1 2# 6# (1-100)# 1# (0000-9999)#

Toll Restriction for Verified Forced Account Codes: FF1 2# 6# (1-100)#
2# (0-7)#

TRS Types Assigned to Trunks or Extensions: FF7 addresses

Notes   *Extensions Set to 0 ("Account code usage is voluntary").*   The extension
user can place outside calls without entering an account code. If the caller
does enter an account code, the DBS will include it in the SMDR record for
the call, but will not verify it.

*Extensions Set to 1 ("Account codes are forced and verified") (the
"verified" part of this option available in CPC-AII/B Version 3. 1 or
higher).*   The extension user cannot place an outside call without first
entering a valid account code. The DBS will verify it (in CPC-AII/B Version
3.1 or higher) and apply the account code's assigned TRS type to allow or
disallow the call.

*Extensions Set to 2 ("Account codes are forced but unverified") (this
option is available in CPC-AII/B Version 6.0 or higher). The* extension user
cannot place an outside call without first entering an account code. The DBS
will include the account code in the SMDR record but will not verify it.

Extension Lockout Code

Software Version: All Versions
Address: FF3 (ExtPort)# 6# (0000-9999)#

Description
Use this address to assign a **4-digit** Station Lockout code to an extension. This allows an extension user to "lock" the phone, preventing others from being able to place or receive outside calls on the phone while the extension user is away. However, the locked extension can be used for intercom calls.

NOTE: Assigning Station Lockout codes must be performed on an Attendant or key phone.

Programming

To assign a Station Lockout Code to an extension . . .
(must be performed on an Attendant or key phone)

```
              FF3 (1-144)# 6# (0000- 999)#
                     ↗                    3
            Extension Port      Extension Lockout Code
```

To clear a Station Lockout Code assignment . . .

```
              FF3 (1-144)# 6# CONF ON/OFF
                     ↗
    Extension Port-    CAUTION: Before clearing a lockout code,
                       make sure the extension is currently "unlocked" --
                       otherwise, the extension will remain locked until
                       another lockout code is assigned to it, and then
                       the new code is used to unlock the extension.
```

Notes
Lucking *An Extension.* To lock an extension, dial **"74"** plus the Station Lockout Code. Repeat to unlock it.

Using the **Station** Lockout Code. If an extension is "locked" with the Station Lockout Code, the extension phone will not allow incoming or outgoing trunk calls, including transferred trunk calls.

Offhook Signal (CO)

Software Version: All Versions
Address: FF3 (ExtPort)# 7# (0 or 1)#

Description   This program determines if the DBS sends a tone signal to busy extensions
when an additional trunk call arrives.

Programming

To activate the Offhook Signal . . .

FF3 (1-144)# 7# (0 or 1)#

```
         t                          |
 Extension Port        0=Disable Offhook Signaling.
                       l-Enable Offhook Signaling.

                       Note: Default for the Primary
                       Attendant is 1 ("Enable").
```

To reset the Offhook Signal to the default value . . .

FF3 (1-144)# 7# CONF ON/OFF

Related Programming

Offhook Signal Volume: FF3 (ExtPort)# 15# (0-4)#

Offhook Signal Pattern: FF3 (ExtPort)# 16# (0 or 1)#

Notes   *Conditions Under Which the Signal Is Not Sent.*   The system will not send
the Offhook Signal (even if enabled) during a conference call, while the
called extension is on hold, or during a call on a trunk that does not have a
dedicated line key on the phone.

Station Hunting Interaction.   If an extension is enabled for Offhook
Signaling, the extension will, be excluded from any hunt group setting that
may be enabled for it.

VAU Interaction.   If a Voice Announce Unit (VAU) is connected to the DBS,
disable Offhook Signaling (CO) to prevent VAU calls from being interrupted
by incoming trunk calls.

Call Waiting/OHVA
Software Version: All Versions
Address: FF3 (ExtPort)# 8# (0 or 1)#

Description   This setting determines if an extension can receive Call Waiting and Offhook Voice Announcement (OHVA).

Programming

```
                    FF3 (1-144)# 8# (0 or 1)#

            Extension Port            0=Disable Call Waiting/OHVA.
                                      1=Enable Call Waiting/OHVA.
```
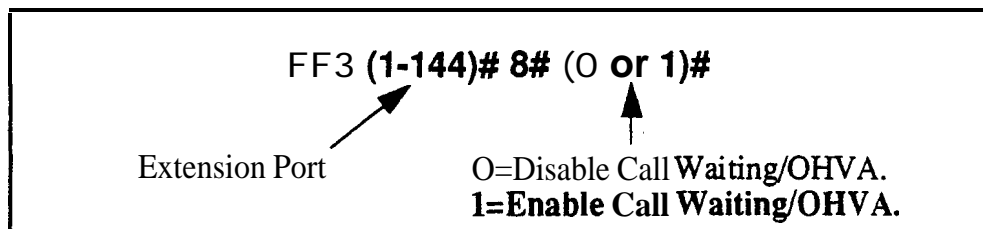
Notes   ***Conditions Under Which the Tone Is Not Sent.*** The Call Waiting notification tone cannot be sent to an extension that has an absence message, a call on hold, or is engaged in a conference call.

VAU Interaction. If a VAU (Voice Announce Unit) is used, disable Call Waiting/OHVA to prevent other extensions from breaking in on calls to the VAU.

Busy Override Send

Software Version: All Versions
Address: FF3 (ExtPort)# 9# (0 or 1)#

Description   Use this address to enable an extension to "barge into" calls that are in progress on other extensions. If the extension is enabled, the extension caller can join in on another extension's call -- all three parties will be able to hear each other.

Programming

FF3 (1-144)# 9# (0 or 1)#

Extension Port   0=Disable "Barge In" capability.
                        1=Enable "Barge In" capability.

Related Programming

Alert Tone for Busy Override & OHVA: FF1 2# 1# 17# (0 or 1)#

Busy Override Receive: FF3 (ExtPort)# 10# (0 or 1)#

Page Group Extensions: FF3 (ExtPort)# (18-25)# (0 or 1)#

Notes   ***Conditions That Restrict "Barge In."***   Extensions can be set to block barge-in calls with the next address (Busy Override Receive, FF3 ExtPort# 10# 0#). Also, a barge-in attempt will not work when the called extension is participating in a conference call.

Page Group Interaction.   Extensions enabled for Busy Override Send can only barge into calls on extensions within their own page group. For example, an extension in page group 1 cannot interrupt a call in page group 2. Page group 0 does not allow Busy Override.

Permanent Setting for Attendants in CPC-A and CPC-B Version 1.0.   Busy Override Send cannot be disabled on Attendant phones in these versions.

Busy Override Receive
Software Version: All Versions
Address: FF3 (ExtPort)# 10# (0 or 1)#

Description　　This address determines whether other extensions can "barge into" an extension while it is engaged in a call. By default, barge-ins from other extensions are allowed.

Programming ·
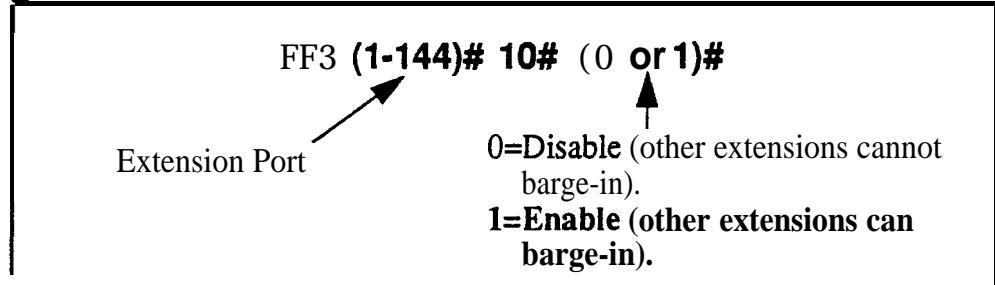
FF3 (1-144)# 10# (0 or 1)#

Extension Port

0=Disable (other extensions cannot barge-in).
1=Enable (other extensions can barge-in).

Related Programming

Alert Tone for Busy Override & OHVA:　FF1 2# 1# 17# (0 or 1)#

Busy Override Send: FF3 (ExtPort)# 9# (0 or 1)#

Page Group Extensions:　FF3 (ExtPort)# (18-25)# (0 or 1)#

Prime Line Pickup

Software Version: All Versions
Address: FF3 (ExtPort)# **11#** (0 or **1)#**

Description   Use this address to enable or disable the Prime Line Pickup feature, which allows the user to automatically pick up a trunk assigned to the FF1 key by simply picking up the receiver.

If the FF1 key is a pooled trunk key, an available trunk is accessed in numerical order, from the highest trunk number assigned to the key to the lowest.

Programming

FF3 (1-144)# 11# (0 or 1)#

Extension Port   0=**Disable** Prime Line Pickup.
                         1 =**Enable** Prime Line Pickup.
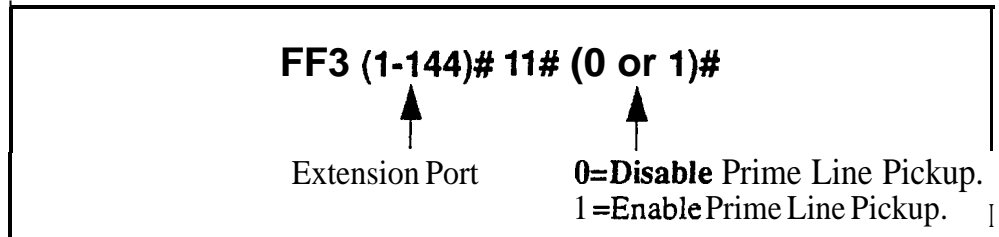
Notes   ***Providing for Intercom Calling.***   If Prime Line Pickup is enabled, intercom calls cannot be made from the extension unless an intercom call key is assigned to another FF key.

Auto Pickup (Ringing Line)

Software Version: All Versions
Address: FF3 (ExtPort)# 12# (0 or 1)#

Description   Use this program to enable Auto Pickup -- connecting with an incoming trunk
call, a hold recall, or a transferred call simply by picking up the ringing
extension's handset.

If Auto Pickup is disabled, you must pick up the handset *and* press the
appropriate FF key to connect to the call.

Programming

```
            FF3 (1-144)# 12# (0 or 1)#
                     ▲              ▲
                     ┆              ┆
              Extension Port   0=Disable Auto Pickup.
                               1=Enable Auto Pickup.
```
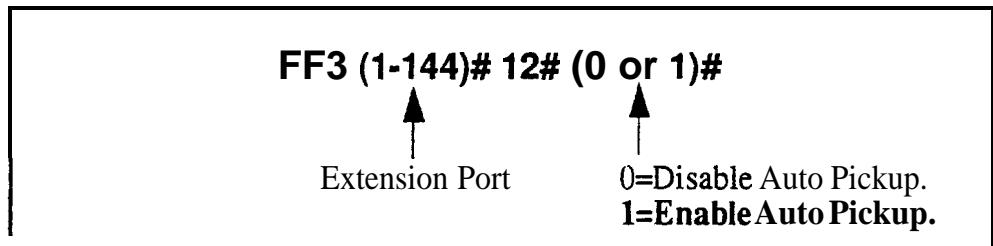
Notes   *VAU Interaction.*   If a VAU (Voice Announce Unit) is used, enable Auto
Pickup to allow the VAU to pick up CO calls.

Unsupervised Conference
Software Version: All Versions
Address: FF3 (ExtPort)# 13# (0 or 1)#

Description   Use this address to enable or disable the Unsupervised Conference feature on an extension. If enabled, the extension user can initiate a three-party conference between two trunks and the extension, then drop out of the call by pressing either of the trunk keys used to call the other parties.

Programming

FF3 (1-144)# 13# (0 or 1)#

Extension Port'

O=The extension cannot initiate
a three-party conference.
1=The extension can initiate
a three-party conference.
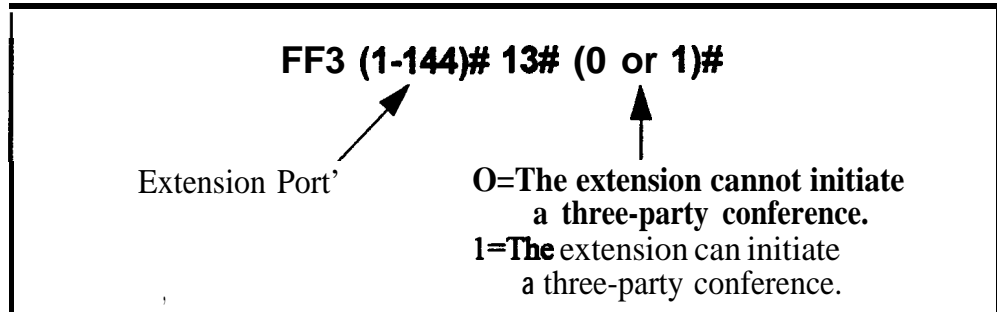
Related Programming

Unsupervised Conference Timer: FF 1 3# 9# (0- 15)#

Unsupervised Trunk Conference: FF2 (Trunk)# 16#

Notes   *Re-entering a Three-Party Conference.   The* user can re-enter the conference by pressing either of the two CO trunk keys used to initiate the conference.

Auto-Pam& Interaction.   If the DBS is behind a PBX, and an extension is enabled for Unsupervised Conference, **the Automatic Pause for PBX Line** address (FF2# Trunk#13#) cannot be used.

Station Message Detail Recorder (SMDR) Report
Software Version: All Versions
Address: FF3 (ExtPort)# 14# (0 or 1)#

Description   Any extension can be removed from the SMDR report, so that its call activity
will not be recorded.

Programming

```
                    FF3 (1-144)# 14# (0 or 1)#
```

Extension Port   O=The extension is not included in the
                            SMDR report.
                        1=The extension is included in the
                            SMDR report.
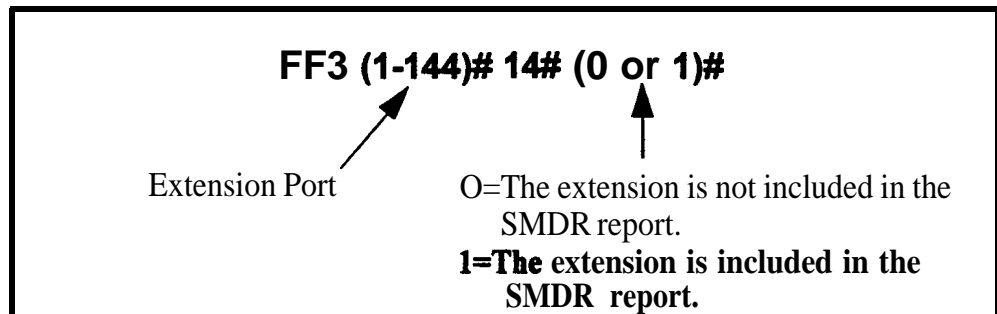
Related Programming

SMDR Display Start Tier for CO Calls: FF1 2# 1# 2# (0 or 1)#

Notes   *Checking Communication Parameters.* When you set this option, also
check the communications parameters in programs FF1 2# 2# 1# through 9#.

Offhook Signal Volume

Software Version: All Versions
Address: FF3 (ExtPort)# 15# (0-4)#

Description   The volume for offhook signaling can be set to one of five different levels.

Offhook signaling is a "beep-beep" tone heard every 6 seconds in the receiver of an offhook extension (already engaged in a call), indicating another trunk call is coming in.

The next address ("Offhook Signal Pattern") allows you to set the tone signal to be sent repeatedly, or only once, to an offhook extension user.

. **Programming**

```
                    FF3 (1-144)#  15#  (0-4)#

                         ↑            ↑

                    Extension Port   Volume Level
                                     O=lowest level (quietest)
                                     1=next lowest level
                                     2=mid-level
                                     3=next highest level
                                     4=highest level (loudest)
```
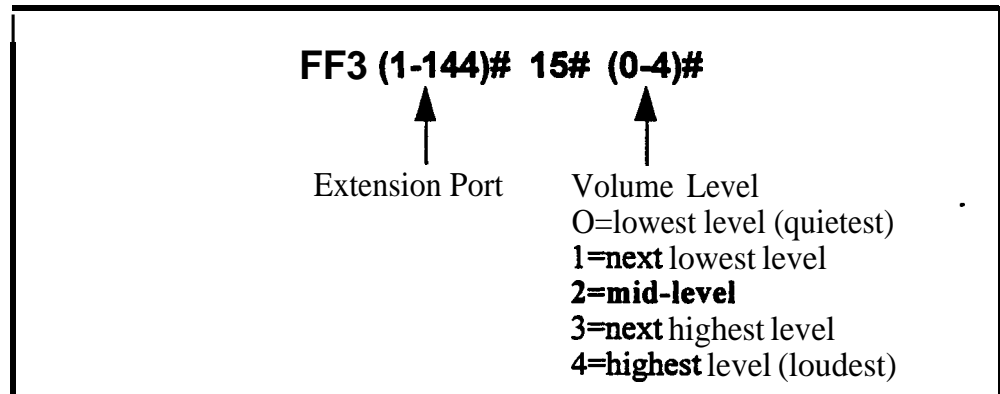
Related Programming

Alert Tone for Busy Override & OHVA: FF 1 2# 1# 17# (0 or 1)#

OffhookSignal: FF3 (ExtPort)# 7# (0 or 1)#

Offhook Signal Pattern: FF3 (ExtPort)# 16# (0 or 1)#

Notes   *Reset Requirement.*   If you change the volume level in this address, the extension phone must be unplugged, then plugged back in so that the change will take effect.

Offhoek Signal Pattern

Software Version: All Versions
Address: FF3 (ExtPort)# 16# (0 or 1)#

Description   The offhook signaling tone can be sent repeatedly or only once.

Offhook signaling is a "beep-beep" tone heard every 6 seconds in the receiver of an offhook extension (already engaged in a call), indicating another trunk call is coming in.

The previous address (**"Offhook Signal Volume"**) allows you to set the volume level of the tone signal.

Programming
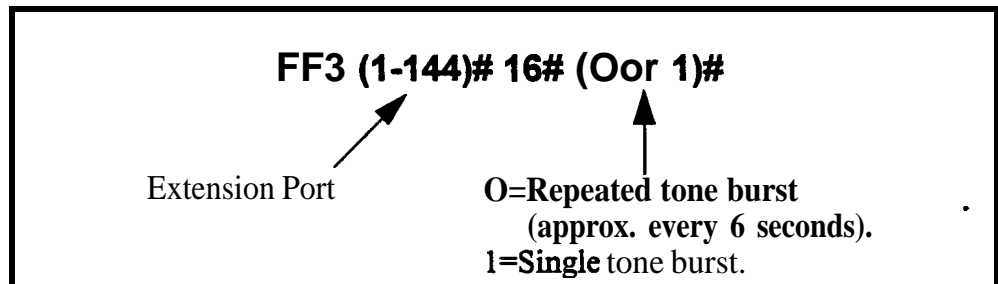
FF3 (1-144)# 16# (Oor 1)#

Extension Port   O=Repeated tone burst
                          (approx. every 6 seconds).
                        1=Single tone burst.

Related Programming

Offhook Signal: FF3 (ExtPort)# 7# (0 or 1)#

Offhook Signal Volume: FF3 (ExtPort)# 15# (0 or 1)#

PSD Name Display on Large-Sized LCD Phones
Software Version: All Versions
Address: FF3 (ExtPort)# 17# (0 or 1)#

Description   The large-screen phone can show either 5 or 10 personal speed dial names, depending on this setting.

Programming

FF3 (1-144)# 17# (0 or 1)#

Extension Port

0=5 PSD names display.
1=10 PSD names display.
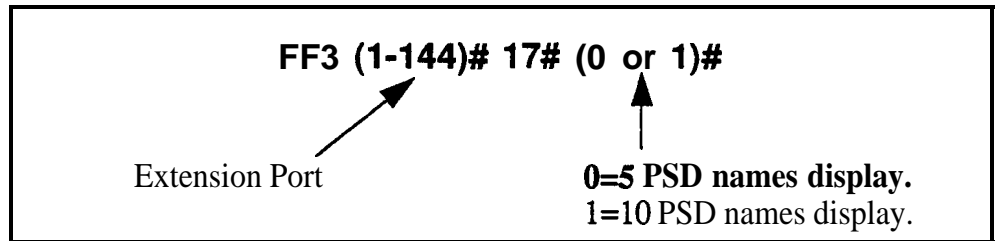
Related Programming

Personal Speed Dial Names: FF6 3# (ExtPort)# (PSD)#

Personal Speed Dial Numbers: FF10 2# (ExtPort)# (PSD)#

Notes   *Maximum Name Lengths.*   When the "10 PSD names display" option is chosen, the maximum length of the names is 7 characters. With the "5 PSD names display" option, the names can be 16 characters long.

Page Group Extensions

Software Version: All Versions
Address: **FF3** (ExtPort)# **(18-25)#** (0 **or 1)#**

Description　Use this address to include an extension in one or more of the eight page groups. If an extension is included in a page group, pages to that group will be heard on the extension phone's loudspeaker. Also, the extension will be able to pick up calls to other extensions in the page group using the Group Call Pickup feature.

Programming

```
              FF3  (1-144)# (18-25)# (0 or 1)#

         Extension Port    18=Page group 0    0=Exclude from group.
                           19=Page group 1    1=Include in group.
                           20=Page group 2
                           2 l=Page group 3
                           22=Page group 4
                           23=Page group 5
                           24=Page group 6
                           25=Page group 7
```
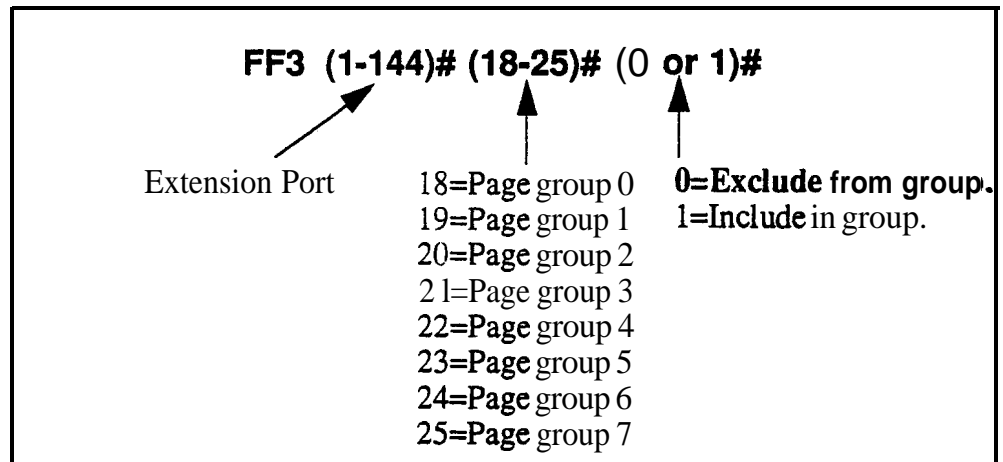
Notes　*Interaction with Group Call Pickup.* Page groups determine which extensions can use the Group Call Pickup (70) feature.

Interaction with Busy Override. Page group 0 does not allow Busy Override. In other words, if an extension is a member of page group 0, it cannot be overridden. Also, a Busy-Override-Send enabled extension can only override calls at extensions within its own page group. For example, an extension in page group 1 cannot override calls in page group 2.

Display When Idle

Software Version: All Versions
Address: FF3 (ExtPort)# 26# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed during "idle" mode on a large-display phone. While the menu is displayed, pressing a soft key will perform the assigned feature.

Programming ,

```
                    FF3 (1-144)# 26# (O-24 or 0-39)#
                          ▲                ▲
                          |                |
                    Extension Port    Soft Key Menu (see table below)
                                      Default: 0 (previous menu
                                               displays)
                                  Available Ranges: 0-24=CPC-A (all versions) and
                                                    CPC-B prior to 6.0
                                          0-39=CPC-AII and CPC-B
                                               Version 6.0 or higher
```

Table 3-2.   Soft key menus during idle mode

Setting	Value (menu) (see Appendix A for menu illustrations)
0	**No change (previous menu retained)**
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: FF1 2# 7# 1# thru 4#

Notes   *Initial Default.*   After a system initialization, the Main Menu will display during "idle" mode.

Display During Intercom Dial Tone
Software Version: All Versions
Address: FF3 (ExtPort)# 27# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed during intercom dial tone on a large-display phone. While the menu is displayed, pressing a soft key will perform the assigned feature.

Programming

```
              FF3 (1-144)# 27# (O-24 or 0-39)#

                   ▲                  ▲
                   |                  |

            Extension Port        Soft Key Menu (see table below)
                                  Default: 0 (previous menu
                                                  displays)
                    Available Ranges:  0-24=CPC-A (all versions) and
                                          CPC-B prior to 6.0
                                       0-39=CPC-AII and CPC-B
                                          Version 6.0 or higher
```
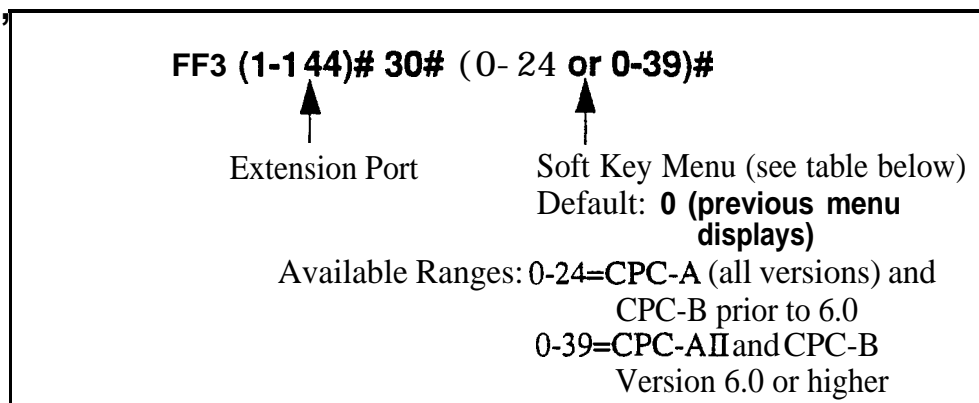
Table 3-3.   Soft key menus during intercom dial tone

Setting	Value (menu) (see Appendix A for menu illustrations)
0	No change (previous menu retained)
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: FF1 2# 7# 1# thru 4#

Display When Calling an Extension
Software Version: All Versions
Address: FF3 (ExtPort)# 28# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed while calling another extension on a large-display phone. While the menu is displayed, pressing a soft key will perform the assigned feature.

Programming

FF3 (1-144)# 28# (O-24 or 0-39)#

Extension Port   Soft Key Menu (see table below)
                      Default: **0 (previous menu**
                                  displays)
        AvailableRanges: 0-24=CPC-A (all versions) and
                              CPC-B prior to 6.0
                          0-39=CPC-AII and CPC-B
                              Version 6.0 or higher
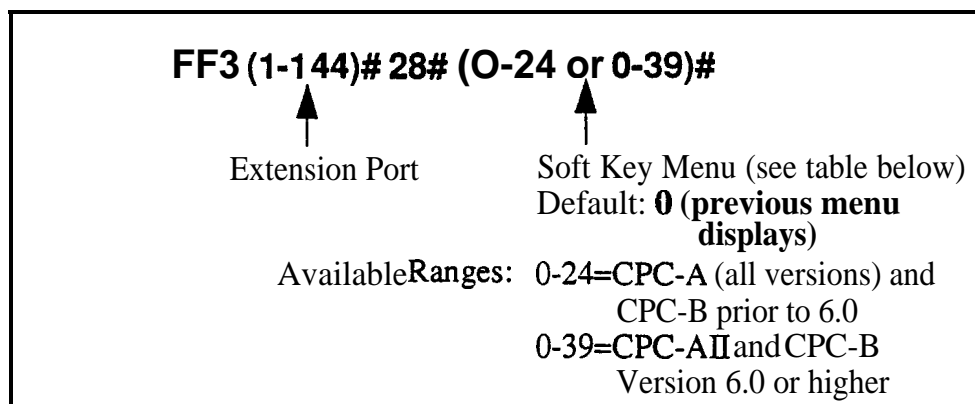
Table 3-4.   Soft key menus when calling an extension

Setting	Value (menu) (see Appendix A for menu illustrations)
0	No change (previous menu retained)
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38 .	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: FF1 2# 7# 1# thru 4#

Display When Accessing CO Dial Tone
Software Version: All Versions
Address: FF3 (ExtPort)# 29# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed while accessing a trunk on a large-display phone. While the menu is displayed, pressing a soft key will perform the assigned feature.

Programming

FF3 (1-144)# 29# (O-24 or 0-39)#

Extension Port   Soft Key Menu (see table below)
                        Default: **0 (previous menu**
                                    displays)
      Available **Ranges:** 0-24=CPC-A (all versions) and
                                    CPC-B prior to 6.0
                                  0-39=CPC-AII and CPC-B
                                    Version 6.0 or higher

Table 3-5.   Soft key menus when accessing CO dial tone

Setting	Value (menu) (see Appendix A for menu illustrations)
0	**No change (previous menu retained)**
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

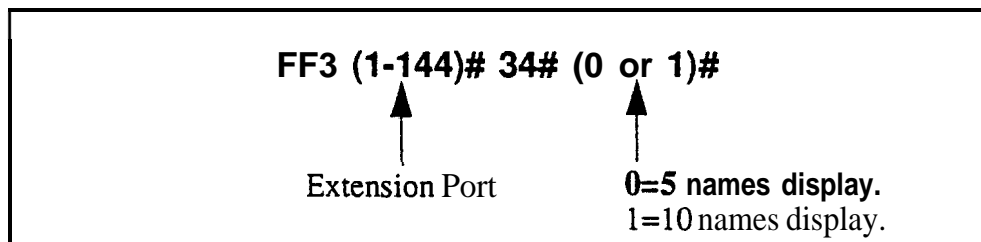Flexible Function Screen addresses: FF1 2# 7# 1# thru 4#

Display When Conversing on a CO Trunk
Software Version: All Versions
Address: FF3 (ExtPort)# 30# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed while a trunk call is in progress on a
large-display phone. While the menu is displayed, pressing a soft key will
perform the assigned fearure.

Programming

```
             FF3 (1-144)# 30# (0- 24 or 0-39)#

                    ▲                    ▲

            Extension Port      Soft Key Menu (see table below)
                                Default: 0 (previous menu
                                             displays)
                        Available Ranges: 0-24=CPC-A (all versions) and
                                             CPC-B prior to 6.0
                                          0-39=CPC-AII and CPC-B
                                             Version 6.0 or higher
```

Table 3-6.   Soft key menus during a trunk call

Setting	Value (menu) (see Appendix A for menu illustrations)
0	No change (previous menu retained)
1	Main Menu
2	Personal Speed Dial
3	System Speed Diai
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: FF1 2# 7# 1# thru 4#

Display When Receiving a Page

Software Version: All Versions
Address: FF3 (ExtPort)# 31# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed while receiving a page on a large-display phone. While the menu is displayed, pressing a soft key will perform the assigned feature.

Programming

```
FF3 (1-144)# 31# (O-24 or 0-39)#
           ▲                    ▲
           │                    │
    Extension Port         Soft Key Menu (see table below)
                           Default: 0 (previous menu
                                       displays)
                           Available Ranges:  0-24=CPC-A (all versions) and
                                              CPC-B prior to 6.0
                                              0-39=CPC-AII and CPC-B
                                              Version 6.0 or higher
```

Table 3-7.   Soft key menus when receiving a page

Setting	Value (menu) (see Appendix A for menu illustrations)
0	No change (previous menu retained)
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmabie)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: **FF1 2# 7# 1#** thru **4#**

Display After Receiving a Call Waiting Tone
Software Version: All Versions
Address: FF3 (ExtPort)# 32# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed after receiving a call-waiting tone on a
large-display phone. While the menu is displayed, pressing a soft key will
perform the assigned feature.

Programming

FF3 (1-144)# 32# (O-24 or 0-39)#

Extension Port   Soft Key Menu (see table below)
                        Default: 0 (**previous menu**
                        displays)
            Available Ranges: 0-24=CPC-A (all versions) and
                        CPC-B prior to 6.0
                        0-39=CPC-AII and CPC-B
                        Version 6.0 or higher

Table 3-8.   Soft key menus **after** *receiving a call waiting tone*

Setting	Value (menu) (see Appendix A for menu illustrations)
0	**No change (previous menu retained)**
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 her-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: FF12# 7# l# thru 4#

Display When Dialing a Busy Extension
Software Version: All Versions
Address: FF3 (ExtPort)# 33# (O-24 or 0-39)#

Description   Select a soft-key menu to be displayed while dialing a busy extension on a
large-display phone. While the menu is displayed, pressing a soft key will
perform the assigned feature.

Programming

FF3 (1-I 44)# 33# (O-24 or 0-39)#

Extension Port   Soft Key Menu (see table below)
                            Default: 0 **(previous menu**
                                       displays)
            Available **Ranges:** 0-24=CPC-A (all versions) and
                                       CPC-B prior to 6.0
                                  0-39=CPC-AII and CPC-B
                                       Version 6.0 or higher

Table 3-9.   Soft key menus when dialing a busy extension

Setting	Value (menu) (see Appendix A for menu illustrations)
0	**No change (previous menu retained)**
1	Main Menu
2	Personal Speed Dial
3	System Speed Dial
4	Extension Index
5	Help Menu 1
6	Help Menu 2
7	Help Menu 3
8	Attendant Menu 1
9	Attendant Menu 2
10	Attendant Menu 3
11	Function Screen 1 (fixed)
12	Function Screen 2 (fixed)
13	Function Screen 3 (fixed)
14	Function Screen 4 (fixed)
15	Function Screen 5 (fixed)

16	Function Screen 6 (fixed)
17	Function Screen 7 (fixed)
18	Function Screen 8 (fixed)
19	Function Screen 9 (fixed)
20	Function Screen 10 (fixed)
21	Function Screen 11 (fixed)
22	Function Screen 12 (fixed)
23	Function Screen 13 (fixed)
24	Function Screen 14 (fixed)
25	Flexible Function Screen 1 (user-programmable)
26	Flexible Function Screen 2 (user-programmable)
27	Flexible Function Screen 3 (user-programmable)
28	Flexible Function Screen 4 (user-programmable)
29	Flexible Function Screen 5 (user-programmable)
30	Flexible Function Screen 6 (user-programmable)
31	Flexible Function Screen 7 (user-programmable)
32	Flexible Function Screen 8 (user-programmable)
33	Flexible Function Screen 9 (user-programmable)
34	Flexible Function Screen 10 (user-programmable)
35	Flexible Function Screen 11 (user-programmable)
36	Flexible Function Screen 12 (user-programmable)
37	Flexible Function Screen 13 (user-programmable)
38	Flexible Function Screen 14 (user-programmable)
39	Flexible Function Screen 15 (user-programmable)

Related Programming

Flexible Function Screen addresses: FF1 2# 7# 1# thru 4#

Extension Directory Display
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF3 (ExtPort)# 34# (0 or 1)#

Description   The large-display telephone can be set to display 5 or 10 extension names on the Extension Directory menu.

Programming

```
                    FF3 (1-144)# 34# (0 or 1)#
                            ▲              ▲
                            |              |
                    Extension Port    0=5 names display.
                                      1=10 names display.
```

Notes   ***Showing Extension Status in IO-Name Directory Display.***   When this address is set to "1" (10 names display), the directory will display a symbol next to the extension number if it has a special status as follows:

   ■ = Busy/Offhook
   ✶ = DND or Absence Message

However, if an extension enters a Busy or DND status after the directory displays, the directory is not updated automatically (the directory must be redisplayed before it will show the status).

Address in CPC-A Versions.   In CPC-A Version 3.3 or higher, this address controls VAU Port Assignment, not Extension Directory Display. See FF3 (ExtPort)# 47# for instructions on assigning VAU ports for CPC-A versions.

Extension Class of Service Assignment

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
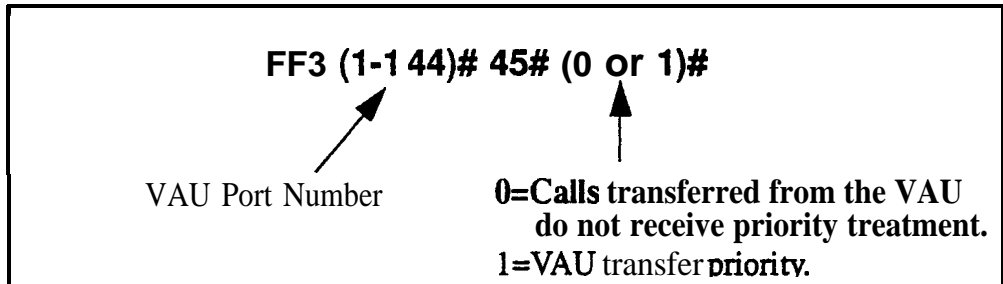**Address: FF3 (ExtPort)# 35# (0-8)#**

Description   Use this feature to assign a Class of Service to an extension.

Each Class of Service contains a unique combination of extension features, which can be selectively enabled for the Class of Service (see FF1 2# 5#). When you assign a Class of Service to an extension, you are assigning the enabled features to the extension.

By default, all extensions are assigned Class of Service "0," which has all features enabled.

Programming

FF3 (l-l **44)# 35# (0-8)#**

Extension Port   Extension Class of Service O-8
                      Default: 0 **(all features allowed)**
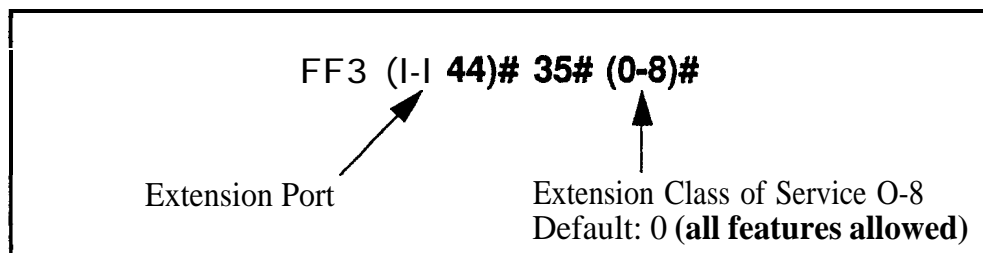
Related Programming

Extension Class of Service: FF1 2# 5# (1-8)# (1-2 1)# (0 or 1)#

Notes   *Caution When Changing a Class of Service Assignment.* **If** *you* change an extension's Class of Service, make sure none of the features are currently activated on the extension -- or the extension user may not be able to turn off the feature.

For example, if an extension user has Background Music on when you reassign the extension to another Class of Service that has Background Music disabled, the user will not be able to turn it off. (If this occurs, reassign the original Class of Service to the extension, then turn Background Music off at the extension, then assign the new Class of Service to the extension.)

Inbound DID Dial Numbers

Software Version: CPC-B Version 2.0 only
Address: FF3 (ExtPort)# 35# (0000-9999)#

Description DID (Direct Inward Dialing) numbers must be assigned to extension ports so they will ring on the appropriate extensions.

In CPC-B versions prior to 3.1, DID numbers can be set to ring on only one extension port. Beginning with CPC-B Version 3.1, DID numbers can be set to ring on multiple extensions (see address FF18# 3# for more information).

Programming

FF3 (1-144)# 35# (0000-9999)#
    Extension Port   DID Number
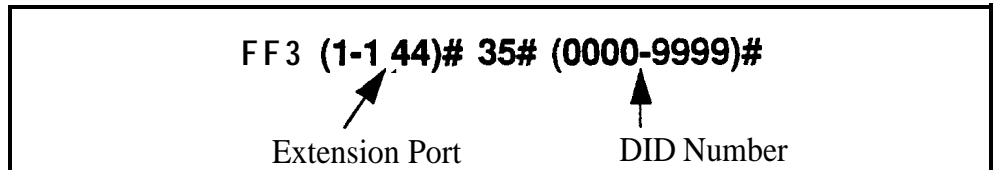
AEC Disconnect
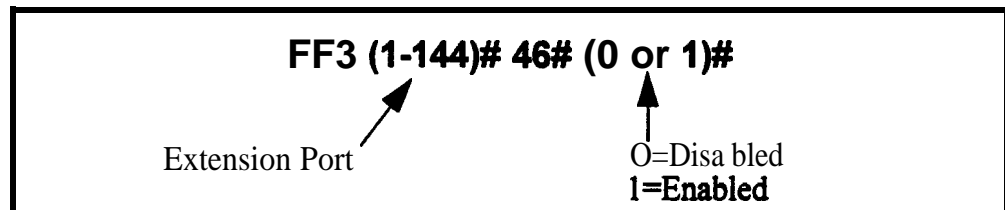
Software Version: CPC-A Version 3.3 or higher
Address: FF3 (ExtPort)# 35# (0 or 1)#

Description The VB-43621A version of the AEC card can be set to provide a positive disconnect signal. Use this address to enable or disable the AEC disconnect signal on individual extensions.

If this option is enabled, analog extension ports will send a disconnect signal (open loop) upon hangup. Sending this signal allows quick disconnection from third-party voice mail systems.

This feature requires CPC-A 3.3 or higher, or CPC-AII/B 5.0 or higher (the address for CPC-AII/B is FF3 ExtPort# 46# 0-1#).

Programming

FF3 (1-72)# 35# (0 or 1)#
  Extension Port 0=Disable AEC disconnect signal.
         1=Enable AEC disconnect signal.
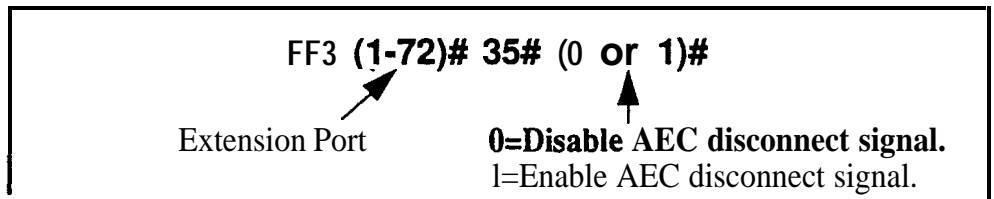
Related Programming

AEC Disconnect Signal Duration (for CPC-A 3.3 or higher): FF1 2# 1# 23# (0-15)#

Ringback Tone From ML Keys
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF3 (ExtPort)# 36# (0-2)#

Description   This address determines which tone an extension user will hear when dialing
another extension that has a busy ML key.

The tone selected in this address will be heard only if the called party has
more than one ML key and one of the ML keys is busy.

Programming

```
              FF3 (1-1 44)# 36# (0-2)#

        Extension Port    0=Ringback tdne followed by busy tone,
                          1=Busy tone.
                          2=Ringback tone.
        NOTE: Enter the extension port that will hear the tone (the calling
        party) -- not the extension with the ML keys (the called party).
```

Related Programming

ML/MCO Separation: F'F3 (ExtPort)# 44# (0 or 1)#

Station Port Class

Software Version: CPC-B Version 4.0 or higher
Address: FF3 (ExtPort)# 37# (1-2 or 7-8)#

Description   This parameter is provided in case a specific phone or group of phones needs a unique pad level.

By default, DBS extensions are assigned a circuit type based on whether they are key phones or SLTs. The circuit type is used in the **Digital Pad Settings** address (FF18# 4# 3#) to determine the loss/gain settings for connections to the T1 interface.

For example, an SLT is assigned by default as circuit type "2" (see table below). However, if an SLT in a remote warehouse has inadequate volume levels, the circuit type for the SLT could be changed to "7". Once the SLT's circuit type is changed, you can change the pad levels for circuit type "7" to provide the correct volume setting.

Programming

FF3 (1-144)# 37# (1-2 or 7-8)#

Extension Port   Extension Circuit Type
                        (see table below)

NOTE: This address will allow you to assign circuit types 1-12 to an extension; however, types 1-2 or 7-8 are the only types that should be used with extensions.

Table 3-10. Station Port Class - circuit types

Setting	Value
1	Key Telephone
2	SLT (2500 set)
7	Option 1 (see **"Note"** below)
8	Option 2 (see **"Note"** below)
NOTE: Circuit types 7-8 are used for assigning unique pad levels to circuits that require special volume levels. For example, if a specific analog trunk needs a higher volume level than other analog trunks, the analog trunk could be defined as an "Option 1" circuit type.	

Related Programming

Digital Pad Settings: FF1 8# 4# 3# (1-12)# (1-12)# (0-30)#

Trunk Port Class: FF2 (Trunk)# 26# (4-8)#

Notes   ***Trunk Circuit Types.***   Circuit types can also be assigned to trunk ports. See the Trunk Port Class address (FF2 ExtPort# 26#) for more information.

SLT Hookflash

Software Version: CPC-B Version 3.1 or higher
Address: FF3 (ExtPort)# 38# (0 or 1)#

Description   This setting determines what happens when a single-line telephone (SLT) user hookf'lashes when the SLT has one active call and one held call.

Programming

FF3 (1-144)# 38# (0 or 1)#

Extension Port   **0=Brokers Hold (hookflash toggles between the two parties).**

l=Hookflash creates a three-party conference.
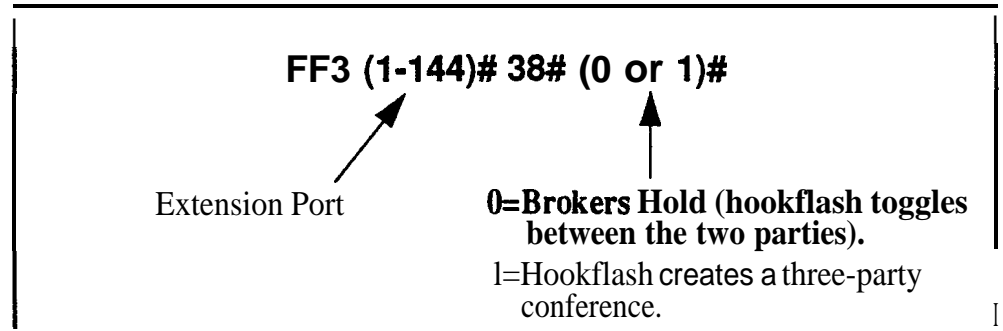
Extension Ring Pattern

Software Version: CPC-All Version 7.0 or higher; CPC-B Version 3.1 or higher
Address: FF3 (ExtPort)# 39# (Pattern)#

Description   Use this address to assign a distinctive ringing pattern for incoming trunk calls on digital phones (DSLTs or key phones). There are 9 different patterns to choose from (see table below).

Beginning with CPC-AII/B Version 7.0, this address also sets the ring pattern for phones connected to an SLT-A (4-port Adapter).

Programming

```
               FF3 (1-144)# 39# (0-9)#
                        ↑            ↑
                        |            |
                  Extension Port   Ring Pattern
                                   Default: 0 (see table below)
```
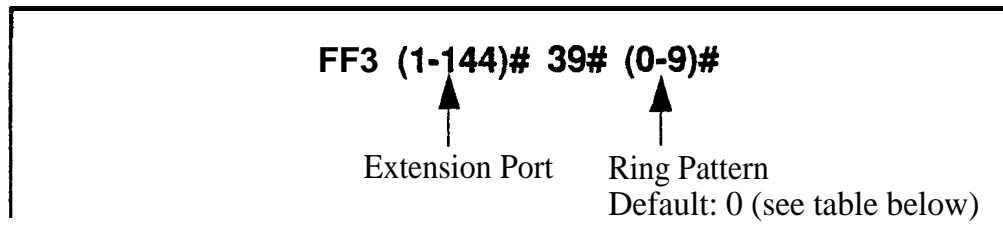
Table 3-11. Extension ring patterns

Address Number	Ring Pattern (number of seconds on/off')	
	Digital (DSLTs/Key Phones) (CPC-B Version 3.1 or higher)	**Phones Connected to SLT-A** (CPC-AII/B Version 7.0 or higher)
0	**Determined by CO**	**determined by Analog Transfer Ring Pattern address**
1	3 on/1 off	.25 on/.25 off/.25 on/3.25 off
2	2 on/2 off	.25 on/3.75 off
3	1 on/1 off	1 on/3 off
4	1 on/2 off	.5 on/3.5 off
5	1 on/3 off	.5 on/7 off
6	.5 on/.5 off	.5 on/7 off
7	.5 on/ 5 off/.5 on/ .5 off/.5 on/ 3.5 off	.25 on/.25 off/.25 on17 off
8	.5 on/3.5 off	.25 on/7 off
9	1 on/7 off	1 on/3 off

Related Programming

Analog Transfer Ring Pattern: FF1 2# 1# 31# (0-6)#

Inbound Ring Pattern: FF2 (Trunk)# 17# (0-9)#

Terminal Type: FF3 (ExtPort)# 2#

Notes

Hardware Requirement For Distinctive Ringing. ***The*** SCC-B *card* is required in CPC-B configurations to support distinctive ringing on digital phones (in which the ring pattern is programmed into the phone itself). CPC-A and CPC-AII do not support distinctive ringing on digital phones. However, with an AEC card, OPX Adapter, or SLT Adapter (these devices determine the ring pattern), distinctive ringing can be supported for analog SLT phones in any CPC configuration.

Digital SLT Receiving Volume

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
Address: FF3 (ExtPott)# 40# (0 or 1)#

Description   The receiver (hearing) volume of the handset on a digital single-line telephone (DSLT) can be set to "normal" or "loud."

The "loud" setting gives a +6 dB gain over the "normal" setting (approximately twice as loud).

Programming

```
            FF3 (1-144)# 40# (0 or 1)#

                 ↗              ↑

            Extension Port      0=Normal
                                1=Loud
```
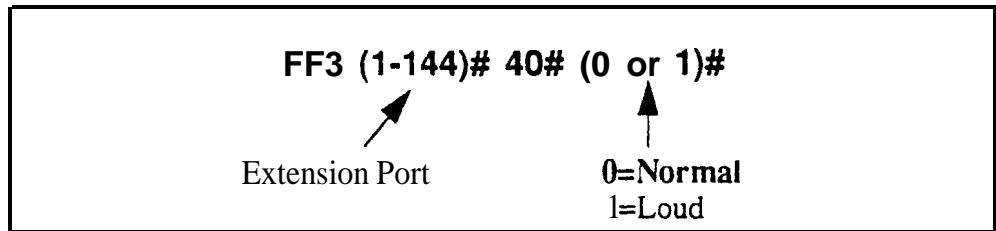
Auto Set Relocation Code

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
Address: FF3 (ExtPort)# 41# (0001-9999)#

Description   You can relocate (or swap) the program settings of one phone to another. The
Auto Set Relocation Code enables you to perform the relocation.

For example, if the phone from ext.102 is unplugged and moved to an office
with a wall jack (port) that is assigned to ext.103, this feature can be used to
relocate 102's programming to 103. In order to move the programming, an
Auto Set Relocation Code must be assigned to ext. 103.

Programming

To assign an Auto Set Relocation Code . . .

```
                    FF3 (I-I 44)# 41# (0001-9999)#
                         ↗               ↑
                  Extension Port       Auto Set Relocation Code
                  (Destination)        (0001-9999)
```
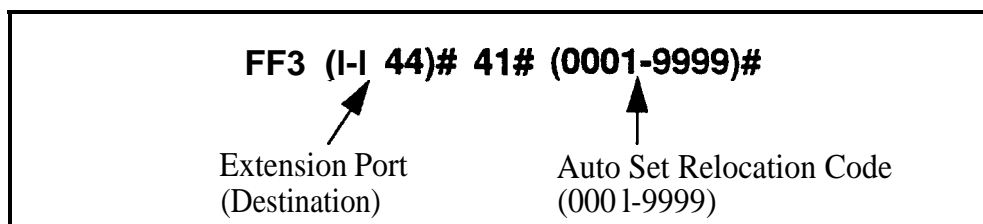
To clear an Auto Set Relocation Code . . .

```
                    FF3 .(1-144)# 41# CONF ON/OFF
```

Notes   *Moving An Extension.* The following procedure explains how to move the
program settings from extension 102 to extension 103.

1.   At extension 102, pick up the handset.

2. Press "#10."

3.   Dial extension number 103.

4.   Enter the four-digit Auto Set Relocation Code assigned to extension
103.

5.   Replace the handset. All programmed extension features, TRS, and
LCR settings from 102 will be transferred to 103. Extension 103 will
be placed out of service.

6.   To return extension 103 to service, disconnect then reconnect the
     extension cable. When extension 103 is retuned to service, it will
     have the program settings of extension 102.

Restrictions.   Phone settings cannot be exchanged between digital and
analog (SLT) ports.

Permanent Call Forward Type

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
Address: FF3 (ExtPort)# 42# (0-3)#

Description   Use this address to enable an extension for Permanent Call Forwarding, so that calls to that extension (if the extension is busy and/or not answered) will be forwarded to another location. This feature is often used for sending calls to Voice Mail, or forwarding peripheral equipment to a single extension port.

Programming

```
            F F 3  (1-144)# 42# (0-3)#


Extension Port-      O=Permanent Call Forwarding is off
                        (displayed as * ).
                     l=Permanent Call Forwarding--Busy/No Answer.
                     2=Permanent Call Forwarding--Busy.
                     3=Permanent Call Forwarding--No Answer.
```
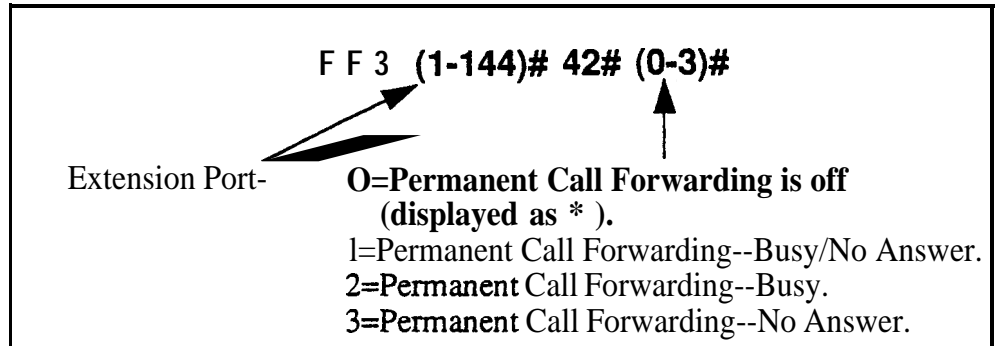
Related Programming

Permanent Call Forward Extension: FF3 (ExtPort)# 42# (10-69 or 100-699)#

Notes   *Interaction With User-Assigned Call Forwarding.*   Permanent Cal l Forwarding is assigned through system programming, rather than by the user. Permanent Call Forwarding is normally used to forward calls to a voice mail system.

An extension user can invoke other forms of call forwarding (no answer, busy, all calls) to temporarily override the Permanent Call Forwarding destination.

Resetting To Default (Off) Condition. Entering 0 or pressing CONF will return this program address to its default condition **"*"**, and will also return the Permanent Call Forward Extension address to default **"****"** (no extension assigned).

Permanent Call Forward Extension

Software Version: CPC-All (all versions); CPC-B Version 3.1 or higher
Address: FF3 (ExtPort)# 43# (IO-69 or 100-699)#

Description   If an extension is enabled for Permanent Call Forwarding (in address FF3 ExtPort# 41#), use this address to set another extension number as the target or "permanent call forwarding point" for the forwarded calls.

In addition to regular extension numbers, the permanent call forwarding point can also be a System Speed Dial number (SSD), a Personal Speed Dial number (PSD), a hunt group pilot number, or an Attendant extension number.

Programming

To assign a Permanent Call Forwarding Point . . .

> **FF3 (1-144)# 43# (10-69 or 100-699)#**
>
> Extension Port   Permanent Call Forwarding Point
>   (Default=****; **no extension assigned**)
>   10-69 or 100-699=**Extension** numbers,
>   including attendants
>   and hunt group pilot
>   numbers.
>   AUTO.90-99 or 900-909=**PSD** numbers.
>   AUTO 00-89 or 000-199=**SSD** numbers.
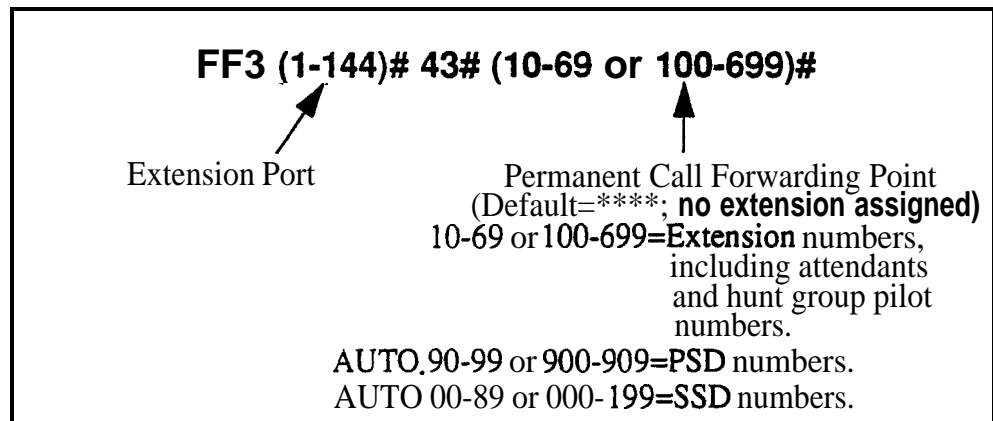
To clear a Permanent Call Forwarding Point . . .

> **FF3 (1-144)# 43# CONF ON/OFF**
>
> Extension Port
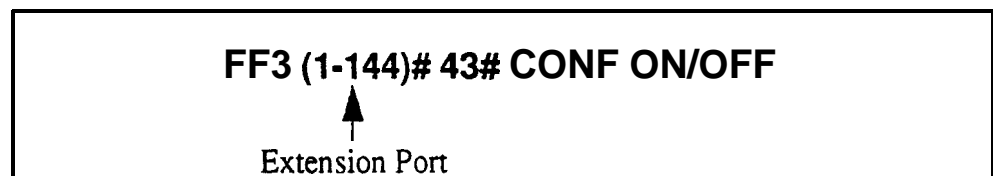
Related Programming

Permanent Call Forward Type: FF3 (ExtPort)# 42# (0-3)#

Hunt Group Pilot Numbers: FF4 3# (1-4)# 1# (11-69 or 101-699)#

System Speed Dial Numbers: FF10 1# (SSD)# (PhoneNo.)#

Personal Speed Dial Numbers: FF10 2# (ExtPort)# (PSD)# (PhoneNo.)#

ML/MCO Separation

Software Version: CPC-All (all versions); CPC-B Version 4.0 or higher
Address: FF3 (ExtPort)# 44# (0 or 1)#

Description   Use this address to enabie an extension for MCO or ML key usage.

The difference between ML (Multi-Line) and MCO (Multi-Central Office) has to do with incoming calls. MCO means multiple trunks can be received at the extension -- if you press a flashing FF key, you will get an incoming trunk call. Calls from another extension will flash on the "EXT" LED (not through the FF key).

ML, on the other hand, means you can receive either a trunk call or an extension call on an FF key, which will flash for either type of call.

If this address is set to ML, each FF key must be individually enabled for ML/MCO using program address FF5 (ExtPort)# (Key)# (FeatureCode)#.

Programming

FF3 (1-144)# 44# (0 or 1)#

Extension Port

0=MCO keys *
1=ML keys **

Note: The default for the Primary Attendant is "1" (ML keys).

* MCO is not available in CPC-B Version 2.0 to 3.1.
** ML is not available in CPC-A versions, or in CPC-B Version 1.0.
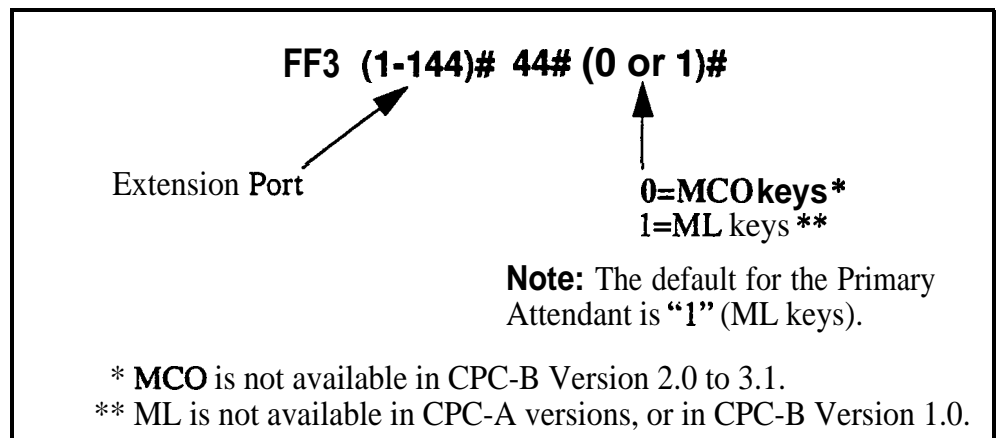
Related Programming

FF Key Assignments for Extensions: FF5 (ExtPort)# (Key)# (Feature)#

VAU Hunting Priority

Software Version: CPC-All (all versions); CPC-B Version 5.0 or higher
Address: FF3 (ExtPort)# 45# (0 or 1)#

Description   Use this address to assign hunting priority to calls that ovefflow from a hunt group to the VAU.

If hunting priority is assigned, a caller who hears the VAU message and then decides to dial back into the hunt group, will be placed before other calls that have just entered the hunt group queue.

Without hunting priority, the caller loses his or her place in the queue and is placed in the last queue position upon re-entry into the hunt group.

Programming

```
            FF3 (1-1 44)# 45# (0 or 1)#
                    ↗            ↑
                                 ¦
       VAU Port Number    0=Calls transferred from the VAU
                             do not receive priority treatment.
                          1=VAU transfer priority.
```

Related Programming

VAU Port Assignment: FF3 (ExtPort)# 47# (0 or 1)#

AEC Disconnect

Software Version: CPC-All (all versions); CPC-B Version 5.0 or higher
Address: FF3 (ExtPort)# 46# (0 or 1)#

Description   The VB-43621A version of the AEC card can be set to provide a positive disconnect signal. Use this address to enable or disable the AEC disconnect signal on individual extension(s).

If this option is enabled, analog extension ports will send a disconnect signal (open loop) upon hangup. Sending this signal allows quick disconnection from third-party voice mail systems.

NOTE: This feature requires CPC-A 3.3 or higher, CPC-AII (all versions), or CPC-B 5.0 or higher. The address for CPC-A is FF3 (ExtPort)# 35#.

Programming

```
                    FF3 (1-144)# 46# (0 or 1)#


            Extension Port           O=Disa bled
                                     1=Enabled
```

Related Programming

SLT Disconnect Signal Duration: **FF1 2# 1# 35# (0-15)#**

VAU Port Assignment

Software Version: CPC-All (ail versions); CPC-B Version 5.0 or higher
Address: FF3 (ExtPort)# 47# (0 or 1)#

Description   This program assigns a digital port as a VAU (Voice Announce Unit). Once a
port is assigned as a VAU, the system treats that port as if the following
changes have been made:

- **Offhook Signal** (CO) is disabled -- FF3 (ExtPort)# 7# O#.

- **Call Waiting/OHVA** is disabled -- FF3 (ExtPort)# 8# 0#.

- **Auto Pickup** is enabled -- FF3 (ExtPort)# 12# 1#.

- All FF keys for the extension port are cleared -- FF5 (ExtPort)# FFkey#
  CONF.

Programming

```
                    FF3 (1-144)#  47#  (0 or 1)#
                           ↗              ↗

                    VAU Port Number       o=off
                                          1=On (defines the port as a VAU)
```
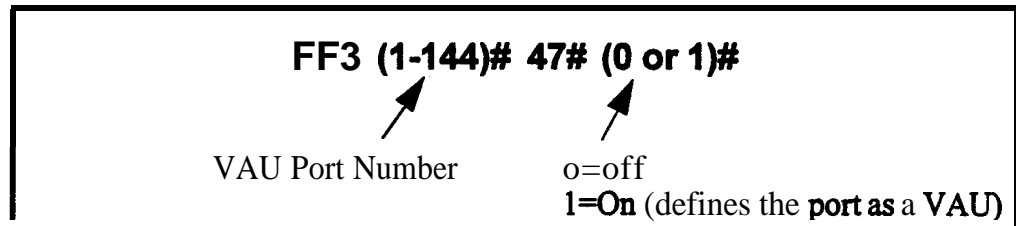
Notes   *Applicable Call* Types.   When VAU is enabled for a port, the following call
types will be routed to the first VAU message:

- Trunk calls

  @Transferred trunk calls

  @Intercom calls

  *Transferred intercom calls.

AU recalls will be routed to the second VAU message.

VAU Port Assignment in CPC-A Versions.   The address for VAU Port
Assignment in CPC-A Version 3.3 or higher is FF3 (ExtPort)# 34# (0 or 1)#.

Hot Dial Pad

Software **Version: CPC-All and CPC-B, Version 7.0 or higher**
Address: FF3 (ExtPort)# 48# (0 or 1)#

Description   The dial pad on digital key phones can be designated as "hot" on an
extension-by-extension basis. This feature allows the user to initiate a call
without going **offhook,** by pressing any of the numeric keys O-9 (the **"*"** and
"#" keys are not "hot").

The extension's dial pad can be "hot" under these conditions:

. when the extension is idle.

. when the extension is holding a call.

. when the extension is holding a page.

The extension's dial pad cannot be "hot" under these conditions:

. when an intercom or trunk call is ringing at the extension.

. when the extension is on a call.

Programming

```
                      FF3 (1-144)# 48# (0 or 1)#


        Extension Port            0=Hot Dial Pad is disabled.
                                  l=Hot Dial Pad is enabled.
```
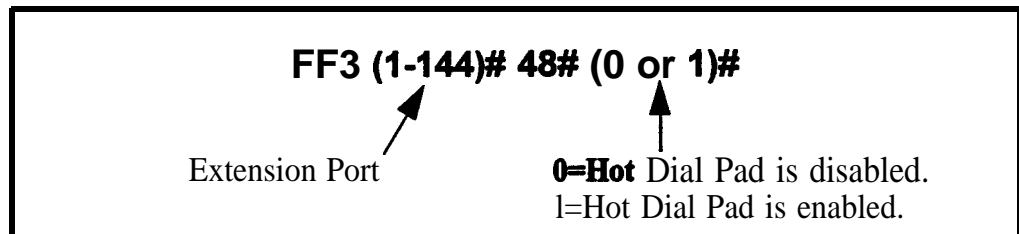
Notes   *Paging.*   The Hot Dial Pad feature cannot be used to initiate a page.

Restriction.   The Hot Dial Pad feature does not work on SLT phones.

Auto-Redial on Extensions

Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF3 (ExtPort)# 49# (0 or 1)#

Description   Use this address to enable or disable the Auto-Redial feature on individual DBS extensions (DSLT or K-Tel only). Auto-Redial allows a telephone in the on-hook (idle) state to redial an internal extension or an outgoing trunk call without going off-hook first. By default, Auto-Redial is enabled on all DSLT and K-Tel extensions.

Auto-Redial is performed by pressing REDIAL when the phone is either on-hook (idle) or off-hook (dial tone). The DBS will automatically redial the last number dialed on that extension.

Programming

```
                FF3 (1-144)# 49# (0 or 1)#
                        ▲              ▲
                       /               |
                 Extension Port    0=Auto-Redial is disabled.
                                   1=Auto-Redial is enabled.
```
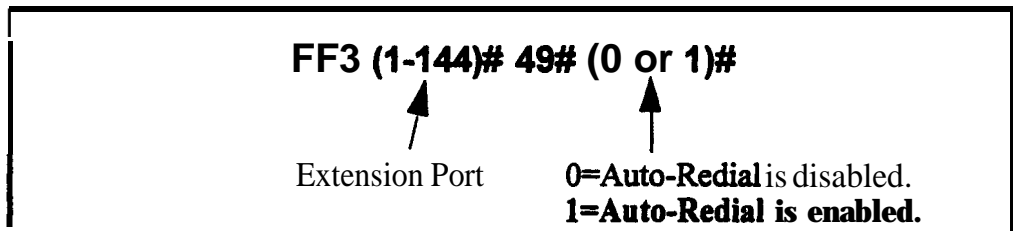
Notes   *Restrictions.*   Auto-Redial will not work with the following:

· SLTs
· OPX
· API
· Voice Mail
· Door Phones.

Auto-Redial After a System *Reset.*   If Auto-Redial is attempted after a system reset, and neither a CO call nor an extension call has been made since the reset, the caller will hear intercom busy tone.

4. Ringing and Hunt Groups (FF4)

Use the FF4 program addresses in this chapter to set up trunk-to-extension ringing, hunt groups and call coverage groups.

- The DBS supports up to 8 hunt groups and 16 call coverage groups (all versions).
- Each hunt group can have up to 8 extensions (all CPC-A versions; CPC-AII/B prior to 6.0) or 16 extensions (CPC-AII/B 6.0 or higher).
- Each call coverage group can have up to 8 extensions (all versions).

This chapter covers the following addresses:

CO Day Ring Assignments
Software Version: All Versions
Address: FF4 1# (ExtPort)# (Trunk)# (0 or 1)#

Description   This program determines which extension(s) will receive incoming calls on a particular trunk when the DBS system is in "Day" mode.

Programming

FF4 1# (l-73 or 1-145)# (1-64)# (0 or 1)#

Extension Port   Trunk Number   **0=Trunk** does **not ring.**
                                              1=Trunk rings.

NOTE: Use port 73 (in single-cabinet systems) or port 145 (in **double-** cabinet systems) to assign ringing to an external paging or Universal Night Answer **(UNA)** device.

Notes   *Default Ring Assignments to Attendant Phone.*   All trunks are set by default to ring on ports 1 and 2 (the Primary and Second Attendants).

Routing of Trunks With No Ring Assignments.   If a trunk is not assigned to ring a specific **extension,** it will still ring the Attendant phone.

CO Day Ring Assignments for Hunt Groups
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 1# (HuntGrp)# (Trunk)# (0 or 1)#

Description   This program determines which hunt group will receive incoming calls on a
particular trunk when the DBS system is in "Day" mode.

Programming

FF4 1# (79-86 or 151-158)# (1-64)# (0 or 1)#

Hunt Groups 1 thru 8:   Trunk No.   0=Trunk does not ring.
                                                1=Trunk rings.
CPC-All or CPC-B
   79 -or- 151   for Hunt Group 1
   80 -or- 152   for Hunt Group 2
   81 -or- 153   for Hunt Group 3
   82 -or- 154   for Hunt Group 4
   83 -or- 155   for Hunt Group 5
   84 -or- 156   for Hunt Group 6
   85 -or- 157   for Hunt Group 7
   86 -or- 158   for Hunt Group 8

Related Programming

Hunt Group No Answer Timer: FF1 3# 28# (O-1 5)#

Hunt Group Pilot Numbers: FF4 3# (1-8)# 1# (1 1-69 or 101-699)#

Hunt Group Type: FF4 3# (1-8)# 2# (0-2)#

Transfer Extension: FF4 3# (1-8)# 3# (10-69 or 100-699)#

Hunt Group Transfer Timer: FF4 3# (1-8)# 4# (0-32)#

Hunt Group Members: FF4 3# (1-8)# (5-12/20)# (100-699)#

CO Night Ring Assignments

Software Version: All Versions
Address: FF4 2# (ExtPort)# (Trunk)# (0 or 1)#

Description   This program determines which extension(s) will receive incoming calls on a particular trunk when the DBS system is in "Night" mode.

Programming

FF4 2# (I-73 or 1-145)# (1-64)# (0 or 1)#

Extension Port   Trunk Number   0=Trunk does not ring.
                                          l=Trunk rings.

Note: Use port 73 (for single-cabinet systems) or 145 (for double-cabinet systems) to assign ringing to an external paging or Universal Night Answer (UNA) device.

Notes   *Default Attendant Ring Assignments.* All trunks are set to ring on ports 1 and 2 (the Primary and Second Attendants) by default.

Routing of Trunks With No Ring Assignments. If a trunk is not assigned to ring a specific extension, it will still ring the Attendant phone.

Night Mode. Beginning with CPC-AII/B Version 7.0, there are two separate Night modes -- "Night" and "Night 2". This address controls "Night" ring assignments (see FF4 9# 1# for "Night 2" ring assignments).

CO Night Ring Assignments for Hunt Groups
Software Version: CPC-All (all versions); CPC-S Version 2.0 or higher
Address: FF4 2# (HuntGrp)# (Trunk)# (0 or 1)#

Description   This program determines which hunt group will receive incoming calls on a
particular trunk when the DBS system is in "Night" mode.

Programming

FF4 2# (79-86 or 151-158)# (1-64)# (0 or 1)#

Hunt Groups 1 thru 8:   Trunk No.   **0=Trunk does not ring.**
CPC-AII or CPC-B   1=Trunk rings.
    79 -or- 151   for Hunt Group 1
    80 -or- 152   for Hunt Group 2
    81 -or- 153   for Hunt Group 3
    82 -or- 154   for Hunt Group 4
    83 -or- 155   for Hunt Group 5
    84 -or- 156   for Hunt Group 6
    85 -or- 157   for Hunt Group 7
    86 -or- 158   for Hunt Groun 8

Related Programming

Hunt Group No Answer Timer: FF 1 3# 28# (0- 15)#

Hunt Group Pilot Numbers: FF4 3# (1-8)# 1# (ll-690r 101-699)#

Hunt Group Type: FF4`3# (1-8)# 2# (0-2)#

Transfer Extension: FF4 3# (1-8)# 3# (10-69 or 100-699)#

Hunt Group Transfer Timer: FF4 3# (1-8)# 4# (0-32)#

Hunt Group Members: FF4 3# (1-8)# (5-12/20)# (10-69 or 100-699)#

Notes   *Night Mode.*   In CPC-AII/B Version 7.0 and higher, two separate Night
modes are available -- "Night" and "Night 2". This address controls Night
ring assignments (see FF4 9# 1# for "Night 2" ring assignments).

Hunt Group Pilot Numbers
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 3# (HuntGrp)# 1# (11-69 or 101-699)#

Description   Use this program to assign a "pilot" extension number to a hunt group. This "pilot" number can be dialed from any intercom phone to reach the hunt group. An example is dialing "500" to reach a Voice Mail hunt group.

Each hunt group **must have a pilot number** assigned to it in order for the hunt group application to work -- including ring assignments to hunt groups, call transfers to hunt groups, etc.

Note: This address requires an extension *number* entry, rather than an extension *port* entry. In fact, the hunt group pilot number cannot also be assigned to an extension port (double-check the **Extension Numbers** address FF3 ExtPort# 1# ExtNumber#).

Programming

To assign a Hunt Group Pilot Number . . .

<div style="border:1px solid">

FF4 3# (1-8)# 1# (11-69 or 101-699)#

Hunt Group No.   Pilot Extension Number
(can't be Primary Attendant
extension number 10 or 100)

</div>

To clear a Pilot Number . . .

<div style="border:1px solid">

FF4 3# (1-8)# 1# CONF ON/OFF

Hunt Group No.

</div>
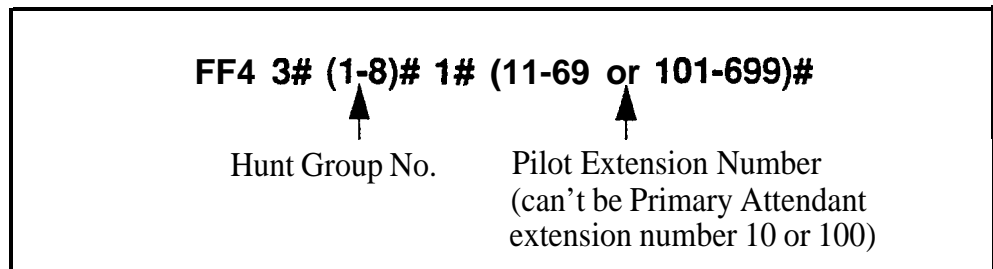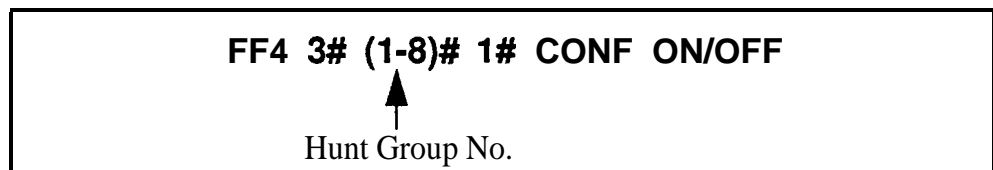
Related Programming

Hunt Group No Answer Timer: FF1 3# 28# (0-15)#

Extension Numbers: FF3 (ExtPort)# 1# (ExtNo.)#

CO Day Ring Assignments For Hunt Groups: FF4 1# (HuntGrp)# (Trunk)# (0 or 1)#

CO Night Ring Assignments For Hunt Groups: FF4 2# (HuntGrp)# (Trunk)# (0 or 1)#

Hunt Group Type: FF4 3# (HuntGrp)# 2# (0-2)#

Transfer Extension: FF4 3# (HuntGrp)# 3# (ExtNo.)#

Hunt Group Members: FF4 3# (HuntGrp)# (Position)# (ExtNo.)#

CO Delayed Day Ring Assignments For Hunt Groups: FF4 5# (HuntGrp)#
(Trunk)# (0 or 1)#

CO Delayed Night Ring Assignments For Hunt Groups: FF4 6#
(HuntGrp)# (Trunk)# (0 or 1)#

CO Night 2 Ring Assignments For Hunt Groups: FF4 9# 1# (HuntGrp)#
(Trunk)# (0 or 1)#

CO Delayed Night 2 Ring Assignments For Hunt Groups: FF4 9# 2#
(HuntGrp)# (Trunk)# (0 or 1)#

Terminal/Circular Hunt Groups
Software Version: CPC-A; CPC-B Versions prior to 2.0
Address: FF4 3# (HuntGrp)# 1# (0 or 1)#

Description   A maximum of 8 extensions can be put in each of 8 hunt groups. Each hunt
group can be designated as a "terminal type" or "circular type".

Terminal Hunt Group Operation
The call must be transferred or a trunk set to ring at the first extension in the
group in order for the Terminal Hunt feature to work.

If the first extension in the hunt group is busy, an incoming call will
automatically access the next extension of the group. If all the extensions in
the group are busy, an internal caller (from another extension -- either
intercom or transferred trunk call) will hear busy tone. A direct (non-
transferred) trunk caller will hear ring tone. If additional feature options are
chosen, the search will continue with an additional hunt group(s).

To use the first extension position (analog) as a pilot position, place a 2-watt,
450-Ohm resistor across Tip and Ring. This will make the port busy, and
allow it to be used as a pilot number for the remaining extensions in the
group. However, direct calls to other members in the hunt group (if busy)
will not hunt within the group; instead, the caller will hear a busy signal.

Circular Hunt Group Operation
Circular Hunting is performed when a called extension in the group is busy.
(Unanswered calls will not hunt, but will instead ring the extension until the
Call Forward-No Answer Timer expires. The call will then revert to the
Attendant phone.) The call can be either direct or transferred. No pilot
number is provided for this type of hunting.

The hunting will follow the next available (idle) member in the hunt group,
skipping over busy extensions, until the last member of the hunt group is
reached. The call will then go to the first member, then to the first extension
position that was busy in the first go-around. This circular hunting will
continue until the call has been presented at all extensions in the hunt group.
If the call still hasn't been answered, it will overflow into the next assigned
hunt group (or the caller will get a busy signal, if no Transfer Extension is
assigned to the hunt group).

During Circular Hunting in a hunt group, if all the member extensions are
busy, an internal caller (from another extension -- either intercom or
transferred trunk call) will hear busy tone. A direct (non-transferred) trunk
caller will hear ring tone. If additional feature options are chosen, the search
will continue with an additional hunt group(s).

Programming

```
FF4 3# (1-8)# 1# (0 or 1)#
            ▲              ▲
       Hunt Group No.   0=Terminal Hunting
                        l=Circular Hunting
```
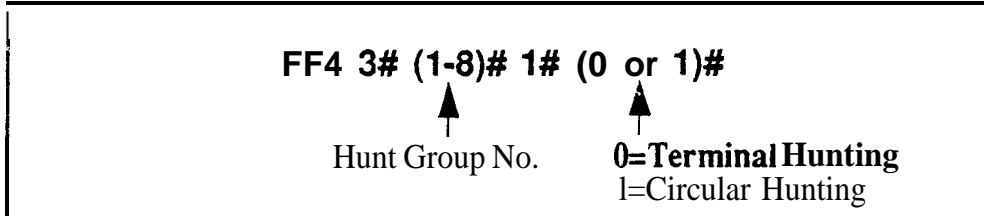
Related Programming

Offhook Signal: FF3 (ExtPort)# 7# (0 or 1)#

Notes

Setting Hunt Group Types in Later CPC Versions. Set hunt group types for CPC-AII versions, and for CPC-B Version 2.0 or higher, in FF4 3# (HuntGrp)# 2# (0-2)#.

Hunt Group Membership Restriction. An extension can be a member of only one hunt group. Hunt group extensions cannot also belong to call coverage groups.

Absence Message, Call Forwarding, and DND Interaction. If a call enters a hunt group in which all extensions are busy, the hunt feature will wait for the first available extension. If an extension within the hunt group (except for the first extension) is set for Call Forwarding, Absence Message, or DND, the hunt feature will skip that extension and proceed to the next position in the hunt group. If the first extension is set for Call Forwarding, Absence Message or DND, the hunting feature will not work.

Call Routing When All Hunt Groups Are Busy. If all members of all searched hunt groups are busy, the call will be parked for only the first group searched.

SLT Call Hold Restriction. If an SLT hunt group member takes a trunk call, puts it on hold, and replaces the handset, additional trunk calls will not hunt to idle extensions.

Offhook Signal Setting for Hunt Group Members. Offhook signaling should be disabled on extensions that are hunt group members.

Hunt Group Type
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 3# (HuntGrp)# 2# (0-2)#

Description   Use this address to assign one of the following hunting types to a hunt group:

Terminal Hunt Group Operation
This type is most often used with Voice Mail. With Terminal Hunting, the hunt begins with the pilot number, and moves sequentially through the extensions in the hunt group. If all extensions are busy, the call camps onto the hunt group and waits for an extension to become idle.

Distributed Hunt Group Operation
With Distributed Hunting, the hunt begins at the extension after the last one to pick up a call, and continues in a circular manner for successive calls,

Longest Idle Hunt Group Operation
With Longest Idle Hunting, the hunt begins at the extension in the group that has been idle for the longest period of time, and progresses through the other extensions in the same manner.

Programming

```
FF4 3# (1-8)# 2# (0-2)#
           ▲           ▲
    Hunt Group No.    0=Terminal Hunting
                      1=Distributed Hunting
                      2=Longest Idle Hunting
```
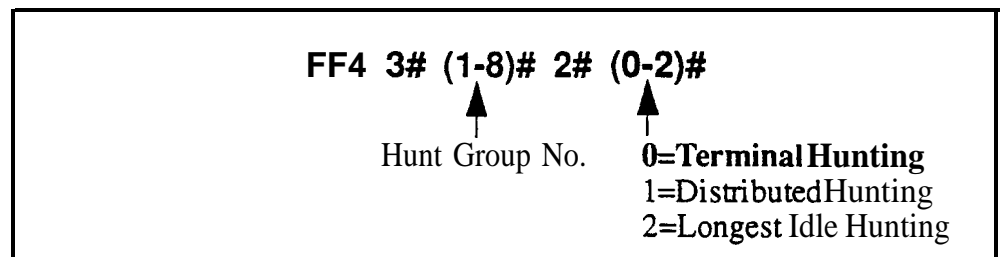
Related Programming

Hunt Group Members: FF4 3# (HuntGrp)# (Position)# (ExtNo.)#

Notes   ***Hunt Group Membership Restriction.***   An extension can be a member of only one hunt group. Hunt group extensions cannot also belong to call coverage groups.

Absence Message, Call Forwarding, and DND Interaction.   If a call enters a hunt group in which all extensions are busy, the hunt feature will wait for the first available extension. If an extension within the hunt group (except for the first extension) is set for Call Forwarding, Absence Message or DND, the hunt feature will skip that extension and proceed to the next position in the hunt group. If the first extension is set for Call Forwarding, Absence Message or DND, the hunting feature will not work.

Cult Routing When AU Hunt Groups Are Busy. If all members of all
searched hunt groups are busy, the call will be parked for only the first group
searched.

SLT Call Hold Restriction. If an SLT hunt group member takes a trunk call,
puts it on hold, and replaces the handset, additional trunk calls will not hunt to
idle extensions.

Offhook Signal Setting for Hunt Group Members. Offhook signaling
should be disabled on extensions that are hunt group members.

.

Call Next Hunt Group

Software Version: CPC-A; CPC-B Versions prior to 2.0
Address: FF4 3# (HuntGrp)# 2# (HuntGrp)#

Description   If all the extensions in a particular hunt group are busy, calls can be automatically transferred to another hunt group. If all extensions in the overflow hunt group are also busy, the call will revert back to the original hunt group, and continue to search extensions until one becomes available.

Programming

To assign an overflow Hunt Group . . .

FF4 3# (1-8)# 2# (1-8)#

Hunt Group No.   Overflow Hunt Group No.

To clear an overflow Hunt Group . . .

FF4 3# (1-8)# 2# CONF ON/OFF

Hunt Group No.

Notes   ***Assigning Overflow Hunt Groups in Later CPC Versions.*** For CPC-AII versions, and CPC-B Version 2.0 or higher, use the **Transfer Extension** address (FF4 **3#** HuntGrp# **3#** ExtNo.#) to send overflow calls to other hunt groups via a hunt group "pilot" number; or to another extension.

Hunt Group Members
Software Version: CPC-A; CPC-B Versions prior to 2.0
Address: FF4 3# (HuntGrp)# (3-10)# (ExtNo.)#

Description   Use this option to place an extension at a specific position within a hunt
group. Hunt groups can contain a maximum of 8 extension positions.

Programming

To assign an extension to a position within a hunt group . . .

FF4 3# (1-8)# (3-10)# (10-69 or 100-699)#

Hunt Group No.   Position: Extension Number
                        3=Position 1
                        4=Position 2
                        5=Position 3
                        6=Position 4
                        7=Position 5
                        8=Position 6
                        9=Position 7
                       10=Position 8

To clear an extension from a hunt group position . . .

FF4 3# (1-8)# (3-1 0)# CONF ON/OFF
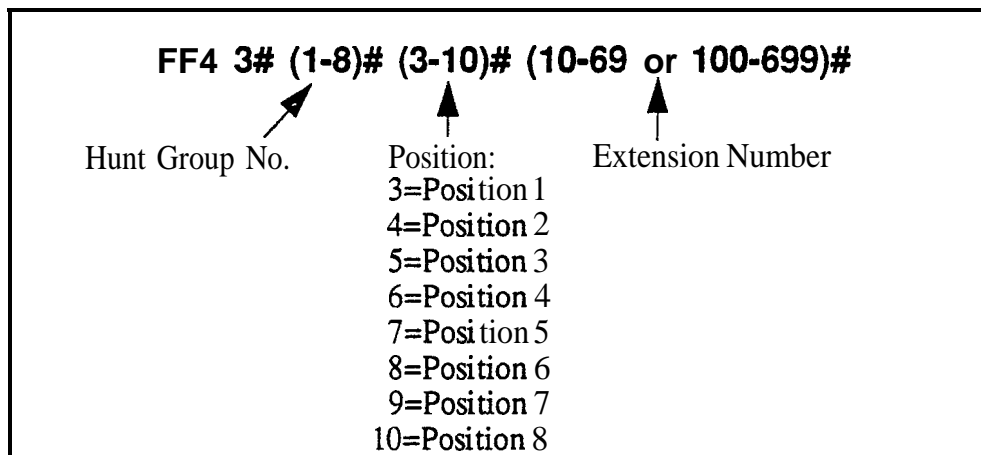
Hunt Group No.   Hunt Group Positions 1-8
                        (using address numbers 3-10)
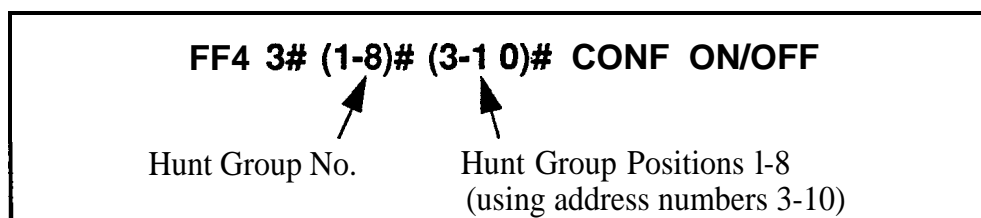
Related Programming

Gffhook Signal: FF3 (ExtPort)# 7# (0 or 1)#

Notes   ***Assigning Extensions to Hunt Groups in Later CPC Versions.***   For CPC-
AII versions, and CPC-B Version 2.0 or higher, use FF4 3# HuntGrp# (5-20)#
(ExtNo.#) to assign extensions to hunt groups.

Hunt Group Membership Restriction.   An extension can be a member of
only one hunt group. Hunt group extensions cannot belong to call coverage
groups.

Offhook Signaling for Hunt Group Members.   Gffhook signaling should be
disabled on extensions that are assigned as hunt group members.

Transfer Extension

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 3# (HuntGrp)# 3# (ExtNo.)#

Description   This program sets the extension number to which overflow calls will be transferred.

Once all extensions in a hunt group have been searched, or after the Hunt Group Transfer Timer has elapsed, the caller can be transferred to an individual extension, an extension in a different hunt group, the Attendant, or an SLT device.

Note: This address requires an extension *number* entry, rather than an extension *port* entry.

Programming

To assign an overflow extension . . .

FF4 3# (1-8)# 3# (10-69 or 100-699)#

Hunt Group No.   Overflow Extension Number
                        Default: 000

To clear an overflow extension . . .

FF4 3# (1-8)# 3# CONF ON/OFF
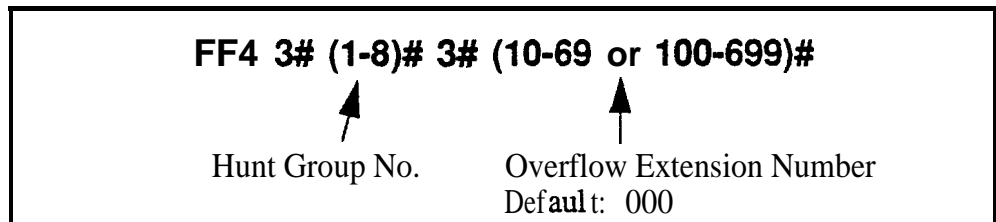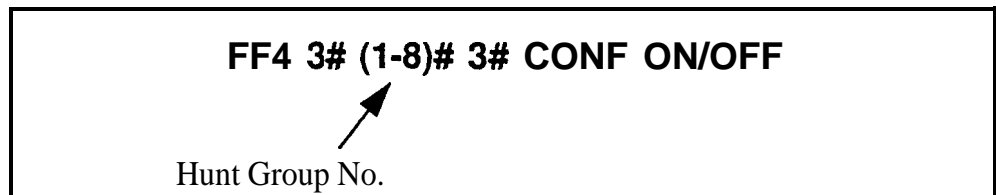
Hunt Group No.

Related Programming

Hunt Group Transfer Timer: FF4 3# (HuntGrp)# 4# (0-32)#

Notes   Overflow *Extension Number Restriction.*   The overflow extension number cannot be a hunt group pilot number.

Transfer Extension in Earlier CPC Versions. This address replaces the **Call Next Hunt Group** address (FF4 3# HuntGrp# 2# HuntGrp#) used in earlier CPC versions.

Hunt Group Transfer Timer
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 3# (HuntGrp)# 4# (0-32)#

Description   Use this program to set the maximum amount of time that passes before a call
(after being routed through a busy/unanswered hunt group) overflows to an
extension or additional hunt group.

The call will flash on the last extension's LED -- but will not ring -- for this
amount of time (2 seconds by default), giving the hunt group a "last chance"
to pick up the call before it is transferred out of the hunt group.

Programming

```
              FF4 3# (1-8)# 4# (0-32)#

                      ↑           ↑
                     /            |

          Hunt Group No.    Transfer Timer
                            0 = No transfer (call will remain
                                   in same hunt group)
                            l-32 = Number of seconds
                            Default: 2 seconds
```

. Related Programming

Transfer Extension: FF4 3# (HuntGrp)# 3# (ExtNo.)#

Hunt Group Members
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 3# (HuntGrp)# (5-12 or 5-20)# (ExtNo.)#

Description   Use this program to assign an extension to a hunt group, and determine its
sequential position within the hunt group.

Programming

To assign an extension number to a position in a hunt group . . .

FF4 3# (1-8)# (5-12 or 5-20)# (10-69 or 100-699)#

Hunt Group No.   Position   Extension Number

Position	
5=Position 1	13=Position 9
6=Position 2	14=Position 10
7=Position 3	15=Position 11
8=Position 4	16=Position 12
9=Position 5	17=Position 13
10=Position 6	18=Position 14
1 1=Position 7	19=Position 15
12=Position 8	20=Position 16

NOTE: Positions 9
thru 16 (address nos.
13-20) are available
only with CPC-AII/B
Version 6.0 or higher.1

To clear an extension from a hunt group position . . .

FF4 3# (1-8)# (5-20)# CONF ON/OFF

Hunt Group No.   Positions 1-16 in Hunt Group
                            (using address numbers 5-20)

NOTE: The extension must be idle while you are clearing it from the
hunt group position; otherwise, it will not be cleared.

Notes   *Hunt Group Positions.* With CPC-B versions between 2.0 and 5.x, there are 8
available positions in each hunt group. Beginning with CPC-B Version 6.0 and
CPC-AII, up to 16 positions are available.

Extensions. The extension numbers entered in this address must already be
assigned to extension ports in address FF3 (ExtPort)# 1# (10-69 or 100-699)#. An
extension cannot belong to more than one hunt group.

Hunt Group Pilot Number.   A pilot number must be assigned to the hunt group in
address FF4 3# (HuntGrp)# 1# (11-69 or 101-699)#, in order for the hunt group
feature to work. However, do not include the pilot number here in Hunt Group
Members.

Call Coverage Group Members
Software Version: All Versions
Address: FF4 4# (CovGrp)# (Position)# (ExtNo.)#

Description   A Call Coverage Group allows up to two extensions (one at a time) to serve
as backup answering positions for as many as six other extensions.

For example, if extensions 201-206 want their unanswered calls to be picked
up by extensions 207 or 208:

- Assign extensions 207 and 208 to Call Coverage Group positions 1 and 2.
- Assign extensions 201-206 to Call Coverage Group positions 3-8.

All incoming calls to the members will ring once on position l's phone (if
idle); the member's extension number will display on position l's phone
(even if not idle). To pick up the call, position 1 presses the appropriate DSS/
BLF key assigned to the extension (or use Direct Call Pickup to take the call).

Member calls will not ring or display on position 2's phone unless position 1
is set for Call Forwarding, Absence Message, DND, or is busy on all MCO/
ML keys.

Programming

To assign an extension to a Call Coverage Group . . .

FF4 4# (1-16)# (1-8)# (lO-69 or 100-699)#

Call Coverage Group   Position in Group   Extension Number
Note: Positions 1 and 2 are secretary positions: 3-8 are member positions.
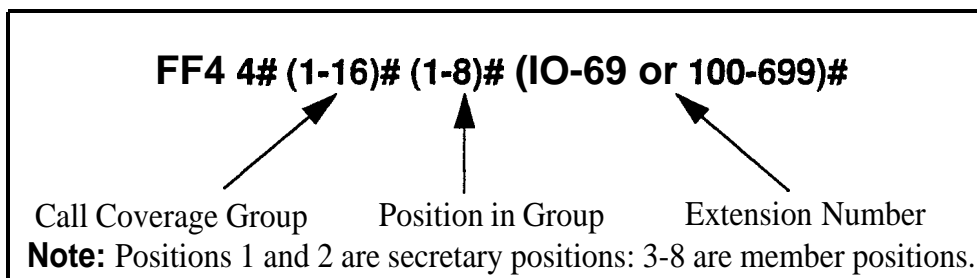
To clear an extension from the Call Coverage Group . . .

FF4 4# (1-16)# (1-8)# CONF ON/OFF

Call Coverage Group   Position in Group
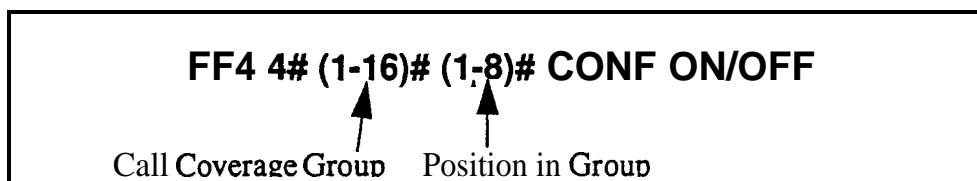
Related Programming

Extension Number Digits: FF1 2# 1# 12# (0 or 1)##

FF Key Programming: FF5 addresses

Notes

Call Coverage Group Member Rest&ions.   An extension assigned as a call coverage group member cannot also be a member of a hunt group. An extension cannot be a member of more than one call coverage group at a time.

DSS Requirement For Positions I **and** 2.   Call Coverage Group positions 1 and 2 need to have their phones' DSS/BLF keys assigned to call coverage group members, so they can see the call flashing on the LED. (The call will ring only once at position 1 or 2's phone.)

CO Delayed Day Ring Assignments

Software Version: CPC-AII (all versions); CPGB Version 1.07 or higher
Address: FF4 5# (ExtPort)# (Trunk)# (0 or 1)#

Description   This program assigns delayed ringing to extensions for unanswered calls on specific trunks during "Day" mode. Delayed ringing is when an unanswered incoming call starts ringing at another extension after a certain period of time (the first extension will stop ringing).

Programming

FF4 5# (l-73 or 1-145)# (1-64)# (0 or 1)#

Extension Port   Trunk Number   0=Trunk does not ring.
                                            1=Trunk rings.

NOTE: Use port 73 (for single-cabinet systems) or port 145 (for double-cabinet systems) to assign ringing to an external paging or Universal Night Answer (UNA) device.

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

CO Day Ring Assignments: FF4 1# (ExtPort)# (Trunk)# (0 or 1)#

Notes   *Attendant Interactions.*   If the Primary Attendant is assigned delayed ringing, the Attendant Overflow feature will be disabled. Also, if the Delayed Ring function is enabled and no extensions are assigned or capable of ringing (DND, unplugged, etc.), the ringing line will automatically ring the Attendant.

Timing For Delayed Ringing.   Delayed ring timing -- the period of time that passes before the system transfers the unanswered call -- depends on the CPC version:

- **CPC-AII** (all versions); CPC-B Version 3.1 or higher: **CO Delayed Ring Timer (FF1 3# 26#).**

- CPC-B Versions prior to 3.1: **Call Forward-No Answer Timer (FF1 3# 19# 0-15#).**

CO Delayed Day Ring Assignments for Hunt Groups

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 5# (HuntGrp)# (Trunk)# (0 or 1)#

Description   This program assigns delayed ringing to hunt groups for unanswered calls on specific trunks during "Day" mode. Delayed ringing is when an unanswered incoming call starts ringing at another extension after a certain period of time (the first extension will stop ringing).

Programming

```
        FF4 5# (79-86 or 151-158)# (1-64)# (0 or 1)#

    Hunt Groups 1 thru 8:            Trunk No.    0=Trunk does not ring.
    CPC-AII or CPC-B                              1=Trunk rings.
        79  -or-  151   for Hunt Group 1
        80  -or-  152   for Hunt Group 2
        81  -or-  153   for Hunt Group 3
        82  -or-  154   for Hunt Group 4
        83  -or-  155   for Hunt Group 5
        84  -or-  156   for Hunt Group 6
        85  -or-  157   for Hunt Group 7
        86  -or-  158   for Hunt Group 8
```

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

CO Day Ring for Hunt Groups: FF4 1# (HuntGrp)# (Trunk)# (0 or 1)#

Hunt Group Members: FF4 3# (1-8)# (5-12/20)# (10-69 or 100-699)#

Notes   *Attendant Interactions.*   If the Primary Attendant is assigned delayed ringing, the Attendant Overflow feature will be disabled. Also, if the Delayed Ring function is enabled and no extensions are assigned or capable of ringing (DND, unplugged, etc.), the ringing line will automatically ring the Attendant.

Timing For Delayed Ringing.   Delayed ring timing -- the period of time that passes before the system transfers the unanswered call -- depends on the CPC version:

- **CPC-AI1 (all versions); CPC-B Version 3.1 or higher:** CO Delayed Ring Timer -- FF1 3# 26# (0-15)#
- **CPC-B Versions prior to 3.1:** Call Forward-No Answer Timer -- FF1 3# 19# (0-15)#

CO Delayed Night Ring Assignments

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 6# (ExtPort)# (Trunk)# (0 or 1)#

Description   This program assigns delayed ringing to extensions for unanswered calls on specific trunks during "Night" mode. Delayed ringing is when an unanswered incoming call starts ringing at another extension after a certain period of time (the fist extension will stop ringing).

Programming

```
            FF4 6# (I-73 or 1-145)# (1-64)# (0 or 1)#
                          ↗            ↗         ↑
              Extension Port    Trunk Number   O=Trunk does not ring.
                                               1=Trunk rings.
      NOTE: Use port 73 (for single-cabinet systems)
      or port 145 (for double-cabinet systems) to assign ringing
      to an external paging or Universal Night Answer (UNA) device.
```

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

CO Night Ring Assignments: FF4 2# (ExtPort)# (Trunk)# (0 or 1)#

Notes   *Attendant Interactions.*   If the Primary Attendant is assigned delayed ringing, the Attendant Overflow feature will be disabled. Also, if the Delayed Ring function is enabled and no extensions are assigned or capable of ringing (DND, unplugged, etc.), the ringing line will automatically ring the Attendant.

Night Mode.   Beginning with CPC-AII/B Version 7.0, there are two separate Night modes -- "Night" and "Night 2". This address controls "Night" delayed ring assignments (see FF4 9# 2# for "Night 2" delayed ringing).

Timing For Delayed Ringing.   Delayed ring timing -- the period of time that passes before the system transfers the unanswered call -- depends on the CPC version:

- **CPC-AI1 (all versions); CPC-B Version 3.1 or higher: CO** Delayed Ring Timer -- FF1 3# 26# (0-15)#

- **CPC-B Versions prior to 3.1:** Call Forward-No Answer Timer -- FF1 3# 19# (0-15)#

CO Delayed Night Ring Assignments for Hunt Groups
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 6# (HuntGrp)# (Trunk)# (0 or 1)#

Description   This program assigns delayed ringing to hunt groups for unanswered calls on specific trunks during "Night" mode. Delayed ringing is when an unanswered incoming call starts ringing at another extension after a certain period of time (the first extension will stop ringing).

Programming

```
           FF4 6# (79-86 or 151-158)# (1-64)# (0 or 1)#
                        ↖              ↖          ↑
         Hunt Groups 1 thru 8:         Trunk No.    0=Trunk does not ring.
         CPC-AII or CPC-B                            1=Trunk rings.
            79  -or-  151   for Hunt Group 1
            80  -or-  152   for Hunt Group 2
            81  -or-  153   for Hunt Group 3
            82  -or-  154   for Hunt Group 4
            83  -or-  155   for Hunt Group 5
            84  -or-  156   for Hunt Group 6
            85  -or-  157   for Hunt Group 7
            86  -or-  158   for Hunt Group 8
```

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

CO Night Ring Assignments for Hunt Groups: FF4 2# (HuntGrp)# (Trunk)# (0 or 1)#

Hunt Group Members: FF4 3# (1-8)# (5-12/20)# (100-699)#

Notes   ***Attendant Interactions.***   If the Primary Attendant is assigned delayed ringing, the Attendant Overflow feature will be disabled. Also, if the Delayed Ring function is enabled and no extensions are assigned or capable of ringing @ND, unplugged, etc.), the ringing line will automatically ring the Attendant.

Night Mode.   Beginning with CPC-AII/B Version 7.0, there are two separate Night modes -- "Night" and "Night 2". This address controls "Night" delayed ring assignments (see FF4 9# 2# for "Night 2" delayed ringing).

*Timing For **Delayed** Ringing.* Delayed ring timing -- the period of time that passes before the system transfers the unanswered call -- depends on the CPC version:

- **CPC-AII (all versions); CPC-B Version 3.1 or higher:** CO Delayed Ring Timer -- FF13# 26# (0-15)#

- **CPC-B Versions prior to 3.1:** Call Forward-No Answer Timer -- FF13# 19# (0-15)#

Extension Ring Table

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 7# (TargetExtPort)# (SourceExtPort)# (0 or 1)#

Description   DSS/BLF keys can be programmed (in FF5) to flash whenever other extensions receive incoming calls. Use this address to program the DSS/BLF phone to also ring for these incoming calls.

The DSS/BLF phone user can answer the call by pressing the flashing DSS/BLF key.

Programming

FF4 7# (1-144)# (1-144)# (0 or 1)#

Extension Port with
DSS/BLF Keys

Extension Port
receiving calls
(unanswered extension)

0=Do not ring
    the DSS/BLF
    phone.

1=Ring the DSS/
    BLF phone.
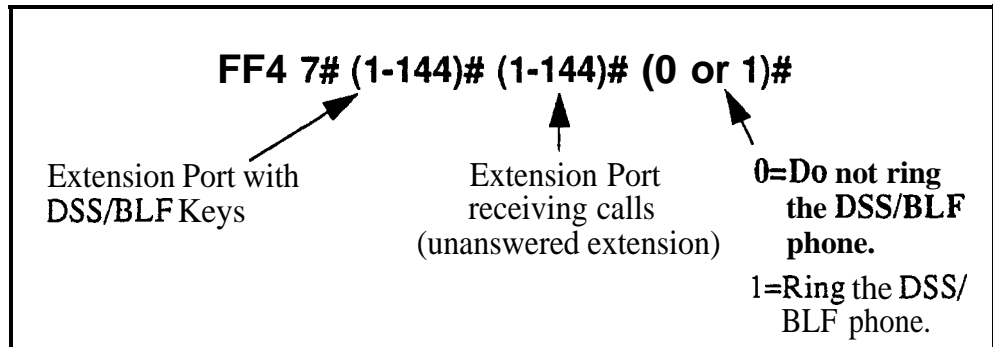
Related Programming

DSS/BLF Key Programming: FF5 (1-144)# (1-24)# CONF PROG (10-69 or 100-699)#

Extension Delayed Ring Table
Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF4 8# (TargetExtPort)# (SourceExtPort)# (0 or 1)#

Description   DSS/BLF keys can be programmed (in FF5) to flash whenever other extensions receive incoming calls. Use this address to program the DSS/BLF phone to also ring for these incoming calls on a delayed basis.

If the incoming call is unanswered at the ringing extension, the DSS/BLF phone will begin ringing (and the first extension will stop ringing) after a certain period of time.

The DSS/BLF phone user can answer the call by pressing the flashing DSS/BLF key.

Programming

FF4 8# (1-144)# (1-144)# (0 or 1)#

Extension Port with
DSS/BLF Keys

Extension Port
receiving calls
(unanswered extension)

**0=Do not delay-ring
    the DSS/BLF phone.**
1=Delay-ring the
    DSS/BLF phone.
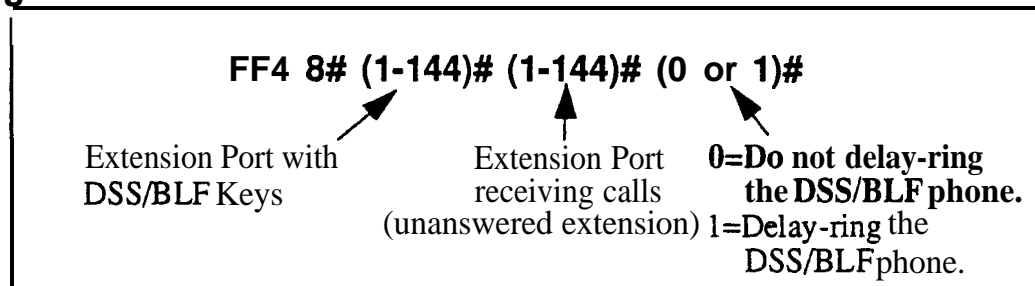
Related Programming

Extension (BLF) Delayed Ring: FF1 2# 1# 30# (0 or 1)#

Extension (DSS/BLF) Delayed Ring Timer: FF1 3# 27# (0-15)#

DSS/BLF Key Programming: FF5 (1-144)# (1-24)# CONF PROG (10-69 or 100-699)#

Notes   ***Timing For Extension Delayed Ringing.*** **The** period of time that passes before the system begins ringing the unanswered call on the DSS/BLF extension, depends on the CPC version:

- **CPC-AI1 (all versions); CPC-B Version 3.1 or higher:** Extension Delayed Ring Timer -- FF1 3# 27# (0-15)#

- **CPC-B Versions prior to 3.1:** Call Forward-No Answer Timer -- FF1 3# 19# (0-15)#

CO Night 2 Ring Assignments

Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF4 9# 1# (ExtPort)# (Trunk)# (0 or 1)#

Description   This program determines which extension(s) will receive incoming calls from a particular trunk when the DBS is in "Night 2" mode.

Programming

FF4 **9# 1#** (I-73 **or 1-145)# (1-64)#** (0 **or 1)#**

Extension Port-   Trunk Number   **0=Trunk does not ring.**
                                       1=Trunk rings.

Note: Use port 73 (for single-cabinet systems) or 145 (for double-cabinet systems) to assign ringing to an external paging or Universal Night Answer (UNA) device.

Notes   *Default Attendant Ring Assignments.*   All trunks are set to ring on ports 1 and 2 (the Primary and Second Attendants) by default. If a trunk is not assigned to ring at a specific extension, it will still ring the Attendant.

CO Night 2 Ring Assignments for Hunt Groups
Software Version: CPC-All and CPC-B, Version 7.0 or higher
Address: FF4 9# 1# (HuntGrp)# (Trunk)# (0 or 1)#

Description   This program determines which hunt group will receive incoming calls from a particular trunk when the DBS is in "Night 2" mode.

Programming

```
         FF4 9# 1# (79-86 or 151-158)# (1-64)# (0 or 1)#


  Hunt Groups 1 thru 8:            Trunk No.    0=Trunk does not ring.
  CPC-AII or CPC-B                              1=Trunk rings.
    79  -or-  151   for Hunt Group 1
    80  -or-  152   for Hunt Group 2
    81  -or-  153   for Hunt Group 3
    82  -or-  154   for Hunt Group 4
    83  -or-  155   for Hunt Group 5
    84  -or-  156   for Hunt Group 6
    85  -or-  157   for Hunt Group 7
    86  -or-  158   for Hunt Group 8
```

Related Programming

Hunt Group No Answer Timer: FF1 3# 28# (0-15)#

Hunt Group Pilot Numbers: FF4 3# (HuntGrp)# 1# (11-69 or 101-699)#

Hunt Group Type: FF4 3# (HuntGrp)# 2# (0-2)#

Transfer Extension: FF4 3# (HuntGrp)# 3# (10-69 or 100-699)#

Hunt Group Transfer Timer: FF4 3# (HuntGrp)# 4# (0-32)#

Hunt Group Members: FF4 3# (HuntGrp)# (5- 12/20)# (10-69 or 100-699)#

CO Delayed Night 2 Ring Assignments

Software Version: CPC-All and CPC-6, Version 7.0 or higher
Address: FF4 9# 2# (ExtPort)# (Trunk)# (0 or 1)#

Description   This program assigns delayed ringing to extensions for unanswered calls on specific trunks during "Night 2" mode. Delayed ringing is when an unanswered incoming call starts ringing at another extension after a certain period of time (the first extension will stop ringing).

Programming

FF4 9# 2# (I-73 or 1-145)# (1-64)# (0 or 1)#

Extension Port   Trunk Number   **O=Trunk does not ring.**
                                          1=Trunk rings.

NOTE: Use port 73 (for single-cabinet systems)
or port 145 (for double-cabinet systems) to assign ringing
to an external paging or Universal Night Answer (UNA) device.

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

CO Night 2 Ring Assignments: FF4 9# 1# (ExtPort)# (Trunk)# (0 or 1)#

Notes   *Attendant Interactions.*   If the Primary Attendant is assigned delayed ringing, the Attendant Overflow feature will be disabled. Also, if the Delayed Ring function is enabled and no extensions are assigned or capable of ringing (DND, unplugged, etc.), the ringing line will automatically ring the Attendant.

Timing For Delayed Ringing.   Delayed ring timing -- the period of time that passes before the system transfers the unanswered call -- is controlled by the **CO Delayed Ring Timer** (FF1 3# 26#).

CO Delayed Night 2 Ring Assignments for Hunt Groups

Software Version: CPC-All and CPC-6, Version 7.0 or higher
Address: FF4 9# 2# (HuntGrp)# (Trunk)# (0 or 1)#

Description   This program assigns delayed ringing to hunt groups for unanswered calls on specific trunks during "Night 2" mode. Delayed ringing is when an unanswered incoming call-starts ringing at another extension after a certain period of time (the first extension will stop ringing).

Programming

```
        FF4 9# 2# (79-86 or 151-158)# (1-64)# (0 or 1)#


    Hunt Groups 1 thru 8:        Trunk No.    0=Trunk does not ring.
    CPC-AII or CPC-B                          l=Trunk rings.
      79  -or- 151   for Hunt Group 1
      80  -or- 152   for Hunt Group 2
      81  -or- 153   for Hunt Group 3
      82  -or- 154   for Hunt Group 4
      83  -or- 155   for Hunt Group 5
      84  -or- 156   for Hunt Group 6
      85  -or- 157   for Hunt Group 7
      86  -or- 158   for Hunt Group 8
```

Related Programming

Delayed Ring: FF1 2# 1# 23# (0 or 1)#

CO Delayed Ring Timer: FF1 3# 26# (0-15)#

CO Night 2 Ring Assignments for Hunt Groups: FF4 9# 1# (HuntGrp)# (Trunk)# (0 or 1)#

Hunt Group Members: FF4 3# (1-8)# (5-12/20)# (10-69 or 100-699)#

Notes   ***Attendant Interactions.***   If the primary Attendant is assigned delayed ringing, the Attendant Overflow feature will be disabled. Also, if the Delayed Ring function is enabled and no extensions are assigned or capable of ringing (DND, unplugged, etc.), the ringing line will automatically ring the Attendant.

Timing For Delayed Ringing. Delayed ring timing -- the period of time that passes before the system transfers the unanswered call -- is controlled by the **CO Delayed Ring Timer (FF1 3# 26#).**

5. FF Key Programming (FF5)

Use the **FF5** addresses in this chapter to assign special features to the Flexible Function (FF) keys on DBS phones.

FF keys can be programmed to activate features which normally require several keystrokes -- such as initiating system features, assigning specific extension numbers, or storing digits that are frequently dialed. Section *700-Feature Operation* explains in detail how each of these features works.

FF keys are the buttons with **LEDs.** (The buttons without **LEDs** -- called "one-touch keys" -- are used for call-handling features such as speed dialing, and cannot be set via FF5 programming.)

FF keys can also be programmed from extensions without entering the programming mode (see the phone model's *Station User Guide* for instructions). However, if a trunk is already assigned to an FF key, it must be cleared using **FF5** programming before a feature code can be reassigned to it.

This chapter covers the following addresses:

FF5 Address	Topic	Page
FF5(ExtPort)#(1-24)#(Code)#	FF Key Assignments for Extensions	5-3
FF5(DSS)#(1-72)#(Code)*	FF Key Assignments for DSS Consoles	5-8
FF5(Attendant)#(1-32)#(Code)#	Attendant Feature Package Key Assignments (CPC-B Versions 2.0 to 4.0)	5-10

FF Key Assignments for Extensions
Software Version: All Versions
Address: FF5 (ExtPort)# (Key)# (Feature)#

Description   Each Flexible Function (FF) key on DBS phones and EM/24 consoles can be programmed with a feature code.   During normal phone operation (not in programming mode), pressing the FF key performs the feature associated with the code.

Figures 5-1 and 5-2 (next page) illustrate FF key numbering on a 32-button phone and on an EM/24 console. A key telephone's FF keys are numbered left-to-right, starting on the bottom row. An EM/24's F'F keys are numbered bottom-to-top, starting at the left column.

To program FF keys on a DSS console, see the next address.

Programming

To assign a feature to an FF key . . .

FF5 (1-144)# (1-24)# CONF (Code)#

Extension Port or EM/24 Port	Key Number (see figures, next page).	Clears any existing feature code before assigning a new one	Feature Code (see table on page S-5)

Note: Not all DBS phones have 24 FF keys available for programming. For example, a 34-button phone has 24 FF keys and 10 PSD keys: however, a 22-button phone has only 12 FF keys and 10 PSD keys.

To clear a feature assignment from an FF key . . .

FF5 (1-144)# (1-24)# CONF ON/OFF

Extension Port   Key Number

To see an FF key's existing feature assignment, press . . .

ON/OFF CONF [press the FF key]

Figure 5-I. FF key layout on a 34-button phone
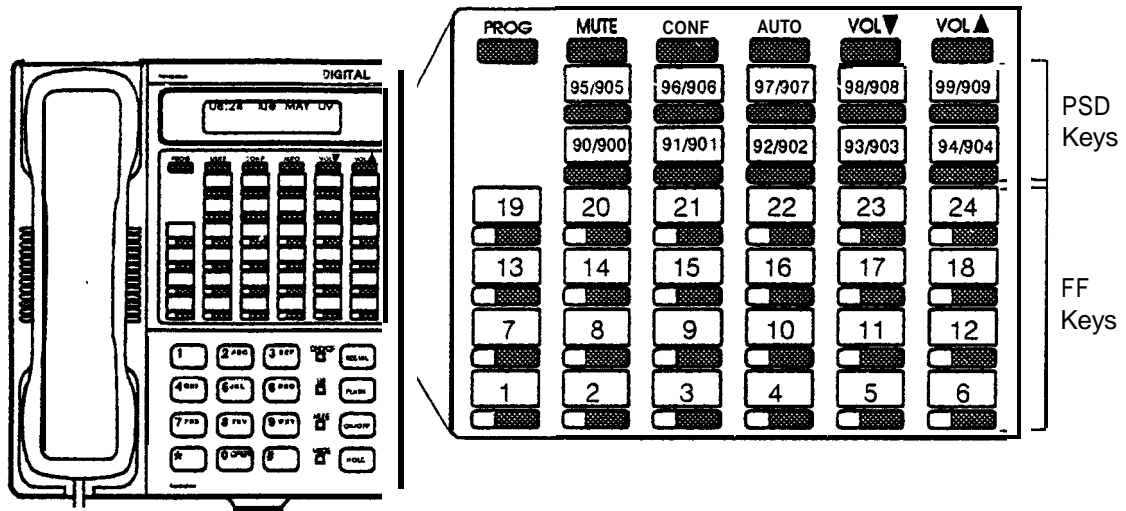
Figure 5-2. FF key layout on an EM/24 unit
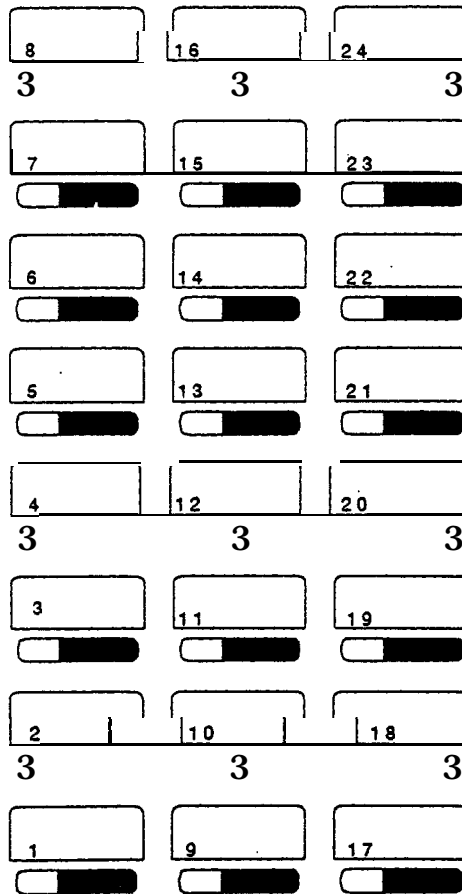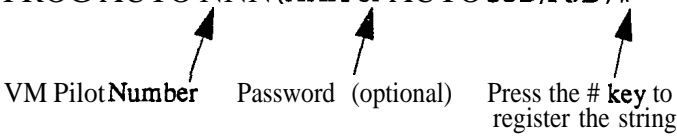
Table 5-l. Feature codes for FF key assignment

Feature	Code to be assigned to FF key (FF11 enters an asterisk *) (FF12 enters a pound sign #)
Absence Message	71
Account Code	AUTO FF12
Alarm (CPC-B Version 2.0 to 4.0 with AFP)	FF12 4
Answer Key	FF11 1
Any Key	PROG PROG XXXXXX **Note:** The "Any Key" feature allows you to store digits other than extension numbers, CO trunks, or feature codes. For example, Any Key can be used to store an account code or a Voice Mail password.
Attendant Park Hold	75 (00-09)
BGM (Background Music) On/Off	FF12 53
Busy Override	PROG PROG 4
Call Forward--Outside (CPC-AII/B versions prior to 7.0)	723

Call Forward
  Call Forward--All Calls
  Call Forward--Busy/No Answer
  Call Forward--Busy
  Call Forward--No Answer
	72 **Note:** Beginning with CPC-AII/B Version
	720 7.0, you can call-forward to an outside
	721 phone number. Use an existing PSD or SSD
	722 code as the destination phone number, with a
	724 "CX-PhoneNo." format (where C is the CONF key, and X is 1-6 or 9 for trunk group 81-86 or 89).

Call Park	75
call Pickup	79
Call Waiting	PROG PROG 3
Caller ID Log	FF11 6
Day Mode	FF12 521
Day/Night/Night2 Mode Toggle (CPC-AII/B Version 7.0 or higher)	FF12 520 **Note:** The FF key LED will be off during Day mode; red during Night mode; and green during Night 2 mode.
Dial Tone Off	FF12 50
DND (Do Not Disturb)	73
DP to DTMF Signal Conversion	PROG PROG FF11 -or- PROG PROG FF12
DSS/BLF Key (flash for extension calls)	PROG (10-69 or 100-699)

Feature	Code to be assigned to FF key (FF11 enters an asterisk *) (FF12 enters a pound sign #)
Extension Directory	900002
Extension Lockout	74
Group Call Pickup	70
Headset	FF12 51
Intercom Key	FF12 8
Internal Dial Tone	FF12 50
MCO or ML Keys	(81-86 or 89) **Note: See "ML/MCO Separation" (FF3 ExtPort# 44#)** to determine which type of key is available with your software.
Meet-Me Answer	77
Message Waiting Answer	AUTO REDIAL
Mute	FF11 FF12
Night Mode	FF12 52 (CPC-AII/B versions prior to 7.0) FF 12 522 (CPC-AII/B Version 7.0 or higher)
Night 2 mode (CPC-AII/B Version 7.0 or higher)	FF12 -523
Offhook Voice Announce	PROG PROG 5
Gffhook Voice Announce Answer	FF11 3
Page	FF12 (00-07)
Park Hold	75
PSD (Personal Speed Dial) Directory	900000
PSD (Personal Speed Dial) Number	AUTO (90-99 or 900-909)
Release	FF11 2
Reminder	FF12 4
Save Number Redial Access	AUTO FF11
Save Number Redial Set	AUTO AUTO FF11
SSD (System Speed Dial) Directory	900001
SSD (System Speed Dial) Number	AUTO (00-89 or 000- 199)
T1 Alarms -- Frame Loss Red Alarm Signal Loss Slips Sync Loss Yellow Alarm	(Master or Slave) (101 or 121) FF12 (103 or 123) FF12 (104 or 124) FF12 (102 or 122) FF12 (105 or 125) FF12 (107 or 127) FF12

Feature	Code to be assigned to FF key (**FF11** enters an **asterisk** *) (**FF12** enters a pound sign **#**)
Talkback	FF11 3
Tone/Voice Calling	PROG PROG 1
Transfer	PROG PROG PROG
Trunk Group Selection (same as "MCO or ML Keys")	(81-86 or 89)
Trunk Queuing	PROG PROG 2
Trunk Selection	(01-64)
UNA Pickup	78
Voice Mail One-Touch Access (CPC-B Version 5.0 or higher)	PROG AUTO NNN (XXX or AUTO SSD/PSD) # VM Pilot Number Password (optional) Press the # key to register the string. **Note:** The password (if used) can be 1 to 3 digits long. If the password is over 3 digits. it must be assigned as a speed-dial code (be sure to include an ending pound # sign after the password when creating the speed-dial code).
Voice Mail Transfer	PROG AUTO AUTO NNN (NNN=VM Pilot Number)

Related Programming

BLF Port Assignment: FF3 (ExtPort)# 3# (ExtPort)#

ML/MCO Separation: FF3 (ExtPort)# 44# (0 or 1)#

FF Key Copy: FF9 3# (ExtPort)# (ExtPort)##

Notes   *FF11* and *FF12* in the *Feature* Codes. The * and # phone keys are used as movement keys (for scrolling through addresses) while in programming mode. Therefore, when programming feature codes for FF keys, FF1 1 and FF12 are used instead to represent * and # (FF11 enters *; FF12 enters #). The phone will not display the symbol when you press FF11 or FF12, but it will register * or # as part of the feature code.

FF Key Assignments for DSS Consoles

Software Version: All Versions
Address: FF5 (DSSPort)# (Key)# (Feature)#

Description   Use this address to assign features to FF keys on a DSS console. During normal phone operation, pressing the FF key will perform the assigned feature.

Figure 5-3 (next page) shows the key layout of a DSS/72 console. For a list of feature codes, use the same table as the "Extensions" address (previous page).

Programming

To assign a feature to a DSS FF key . . .
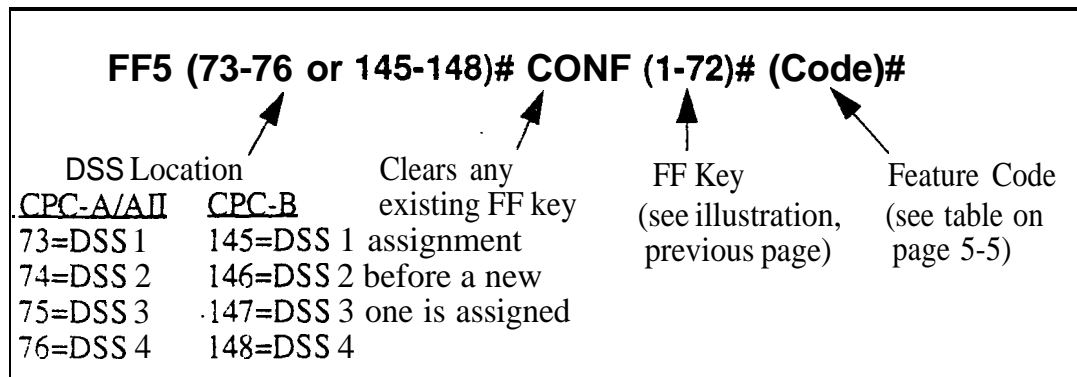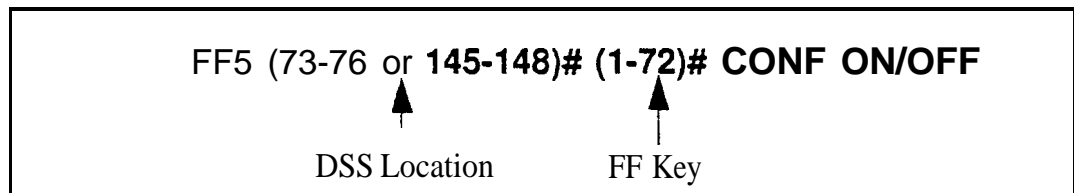
FF5 (73-76 or 145-148)# CONF (1-72)# (Code)#

DSS Location		Clears any	FF Key	Feature Code
CPC-A/AII	CPC-B	existing FF key	(see illustration,	(see table on
73=DSS 1	145=DSS 1	assignment	previous page)	page 5-5)
74=DSS 2	146=DSS 2	before a new		
75=DSS 3	147=DSS 3	one is assigned		
76=DSS 4	148=DSS 4			

To reset a *DSSi72* FF key to its default value . . .

FF5 (73-76 or **145-148)# (1-72)# CONF ON/OFF**

DSS Location   FF Key

To see an FF key's existing feature assignment, press . . .

CONF ON/OFF [press the FF key]

Related Programming

BLF Port Assignment: FF3 (ExtPort)# 3# (ExtPort)#

ML/MCO Separation: FF3 (ExtPort)# 44# (0 or 1)#

FF Key Copy: FF9 3# (ExtPort)# (ExtPort)##

Notes   **Default Key Assignments.   The** FF keys on DSS consoles 1 and 3 are
               assigned by default as DSS/BLF, Page, Park, and Night keys. DSS consoles 2
               and 4 do not have default key assignments.

               Restriction on Trunk LED Indications.   Only the first 24 FF keys will light
               for trunks that are assigned to them. Trunks can be assigned to the remaining
               keys from the phone (rather than through programming mode), but the LEDs
               will not light.

               FF11 and FF12 in the Feature Codes.   The * and # phone keys are used as
               movement keys for scrolling through addresses while in programming mode.
               Therefore, when programming feature codes for FF keys, FF1 1 and FF 12 are
               used instead to represent * and # (FF11 enters *; FF12 enters #). The phone'
               will not display the symbol when you press FF11 or FF12, but it will register
               * or # as part of the feature code.

Figure 5-3.   FF key layout on a DSS/72 console
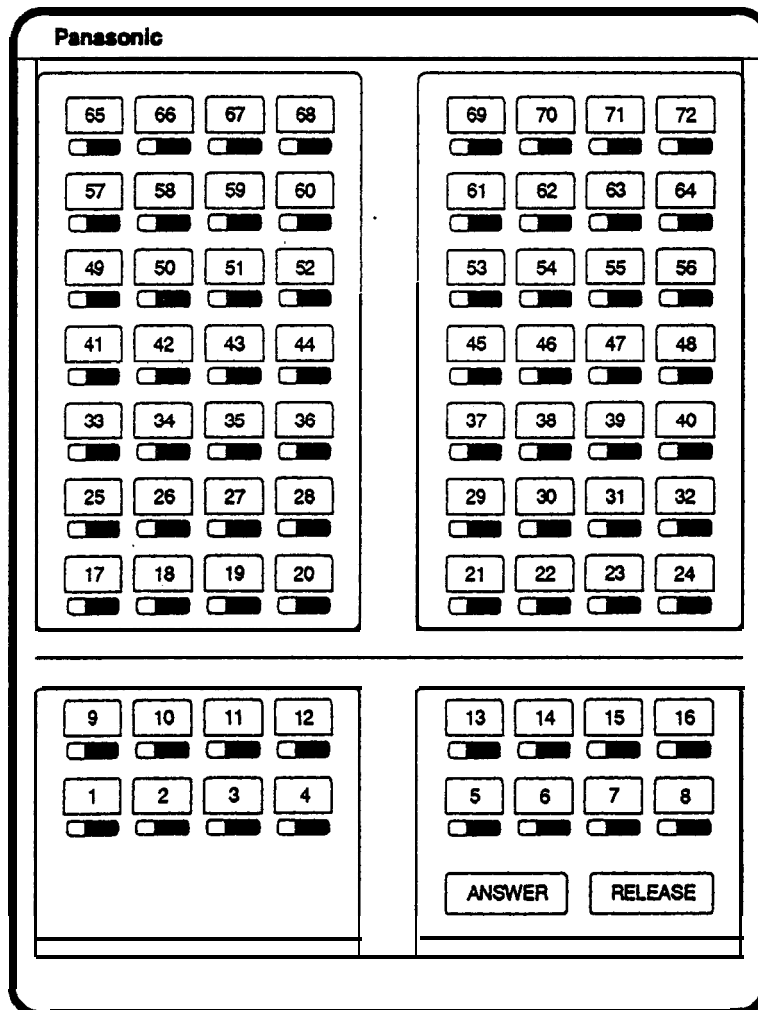
Attendant Feature Package Key Assignments
Software Version: CPC-B Versions 2.0 to 4.0
Address: FF5 (Attendant)# (Key)# (Feature)#

Description   In DBS systems with the Attendant Feature Package (AFP), each FF key on
an Attendant console can be programmed with a feature code. During normal
phone operation (not in programming mode), pressing the FF key performs
the feature associated with the code.

For a list of feature codes, use the same table as the "Extensions" address
(page 5-5).

Note: The AFP was discontinued in CPC-B Version 5.0.

Programming

To assign an Attendant console FF key . . .

FF5 (149-152)# (1-32)# CONF (Code)#

Attendant Console: FF Key   Clears any   Feature Code
149=Attendant Console 1   existing feature   (see table on
150=Attendant Console 2   code before a   page 5-5)
5 l=Attendant Console 3   new one is
153=Attendant Console 4   assigned
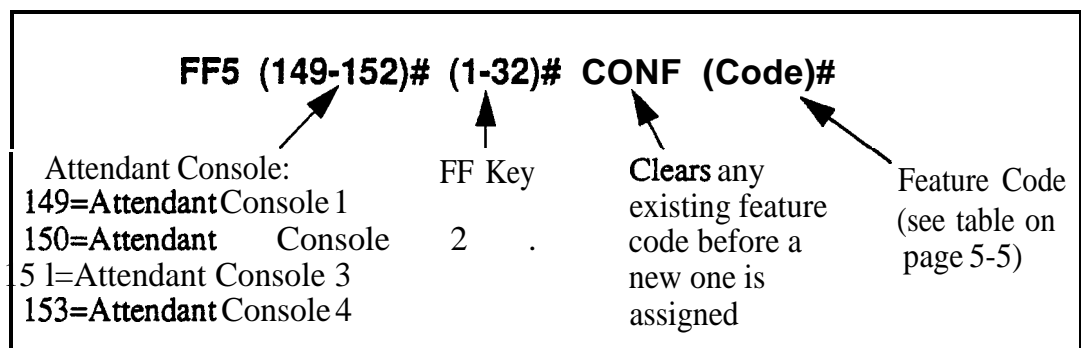
To reset an Attendant Console FF key to its default value . . .
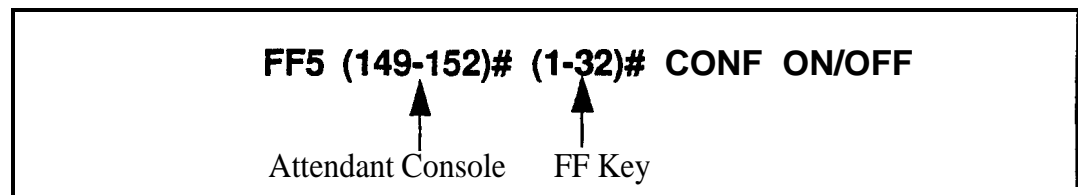
FF5 (149-152)# (1-32)# CONF ON/OFF

Attendant Console   FF Key

Related Programming

BLF Port Assignment: FF3 (ExtPort)# 3# (ExtPort)#

ML/MCO Separation: FF3 (ExtPort)# 44# (0 or 1)#

FF Key Copy: FF9 3# (ExtPort)# (ExtPort)##

Notes   *Default Key Assignments.* The FF keys on Attendant consoles 1 and 2 are
assigned by default as MCO keys. Attendant consoles 3 and 4 do not have
default key assignments.

Restriction on Trunk LED Indications. Only the first 24 FF keys will light
for trunks that are assigned to them. Trunks can be assigned to the remaining
keys from the phone (rather than through programming mode), but the LEDs
will not light.

FF11 and FF12 in the Feature Codes. The * and # phone keys are used as
movement keys (for scrolling through addresses) while in programming
mode. Therefore, when programming feature codes for FF keys, FF1 1 and
FF12 are used instead to represent * and # (FF11 enters *; FF12 enters #).
The phone will not display the symbol when you press FF11 or FF12, but it
will register * or # as part of the feature code.

6. Name and Message Assignments (FF6)

Use the FF6 program addresses in this chapter to create text names and messages that will appear on the LCD displays of DBS phones.

IMPORTANT: A DSS/BLF phone is required for FF6 programming. See "General Notes" (next page) for instructions on using DSS/BLF keys to make text assignments in FF6 programming.

This chapter covers the following addresses:

FF6 Address	Topic	Page
all FF6 addresses	General Notes	6-2
FF6 1# (ExtPort)# CONF (10char.)#	Extension Name	6-3
FF6 2# (SSD)# CONF (16char.)#	System Speed Dial Names	6-4
FF6 3# (ExtPort)# (PSD)# CONF (16char.)#	Personal Speed Dial Names	6-5
FF6 4# (5-9)# CONF (15char.)#	Absence Messages	6-6
FF6 5# (Trunk)# CONF (6char.)#	Trunk Name Assignment (CPC-AII/B 2.0 or higher)	6-8
FF6 6# (HuntGrp)# CONF (11char.)#	Hunt Group Name Assignment (CPC-AII/B 2.0 or higher)	6-9
FF6 7# (1-5)# CON-F (15char.)#	Call Waiting/OHVA Text Reply (CPC-AII/B 2.0 or higher)	6-10
FF6 (8/9)# (1-200)# (1/2)# (DID/DNISNo.)# (6char.)#	DID/DNIS Text Name Assignment (CPC-B 5.0 or higher)	6-11

General Notes

Assigning text names via FF6 programming requires the use of a DSS/BLF phone. Figure 6-l below shows the key layout of a DSS/72 console that can be used for assigning text names. The left- and right-arrow keys, located on the bottom row of the expansion unit (on the right), can be used to move the cursor backward and forward through the letters of a name entry.

Some text names can also be assigned without entering the programming mode *(see Section 700-Feature Operation* for instructions), while others require FF6 programming.

Text Names that can be assigned without entering programming mode . . .
    Extension Names
    System Speed Dial Names
    Personal Speed Dial Names
    Call Waiting/OHVA Text Reply

Text Names that can only be assigned using FF6 programming . . .
    Absence Messages
    Trunk Names
    Hunt Group Names
    DID/DNIS Names

Figure 6-l. Key layout of a DSSl72 console for text name assignment
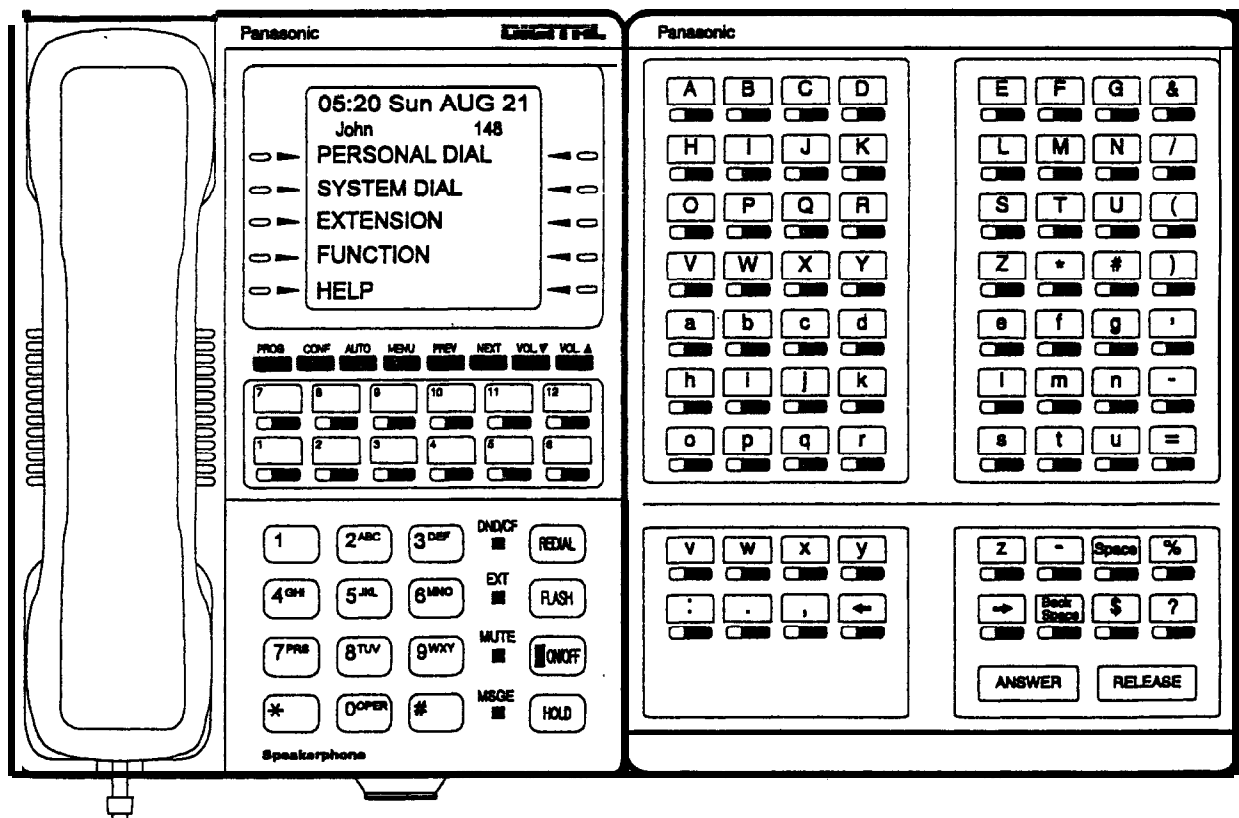
Extension Name

Software Version: All Versions
Address: FF6 1# (ExtPort)# CONF (Name)#

Description   Names of up to 10 characters can be assigned to each extension number. An extension's name appears on the second line of its display. The name of an extension being called appears on the top line of the display.

Extension names can also be assigned without entering the programming mode, using the Attendant Feature option (see *Section 700-Feature Operation* for instructions).

Programming

To assign an extension name . . .

FF6 1# (1-144)# CONF (NNNNNNNNNN)#

Extension Port   Text Name
(up to 10 characters)

To clear an extension name . . .

FF6 1# (1-144)# CONF ON/OFF

Extension Port

Notes   *Using a DSS Console With AFP.* If the Attendant Feature Package (AFP) is used (available only with CPC-B Version 2.0 to 4.0), the DSS console must be initially set **as type** "11" in the **Terminal Type** address (FF3 ExtPort# 2#), to enable the keys to perform programming functions.

System Speed Dial Names
Software Version: All Versions
Address: FF6 2# (SSD)# CONF (Name)#

Description   Names of up to 16 characters can be assigned to System Speed Dial (SSD) numbers. The names are displayed alphabetically on large-display telephones to confirm the name of the person being called using an SSD code.

SSD names can also be assigned without entering the programming mode, using the Attendant Feature option (see Section *700-Feature Operation* for instructions).

Programming

To assign SSD names . . .

FF6 2# (00-89 or 000-199)# CONF (NNNNNNNNNNNNNNNN)#

SSD Number: Text Name
00-89=CPC-A (all versions); CPC-AI1 and   (up to 16 characters)
        CPC-B versions prior to 7.0
000-199=CPC-AII and CPC-B, Version 7.0 or higher

To clear SSD names . . .

FF6 2# (00-89 or 000-199)# CONF ON/OFF

SSD Number

Related Programming

Override Toll Restriction With SSD Numbers: FF1 2# 1# 4# (SSD)#

SSD Display Restriction: FF1 2# 1# 5# (0 or 1)#

System Speed Dial Numbers: FF10 1# (SSD)# (PhoneNo.)#

Notes   *Using a DSS Console With AFP.* If the Attendant Feature Package (AFP) is used (available only with CPC-B Version 2.0 to 4.0), the DSS console must be initially set **as** type "11" in the **Terminal Type** address (FF3 ExtPort# 2#), to enable the keys to perform programming functions.

Personal Speed Dial Names
Software Version: All Versions
Address: FF6 3# (ExtPort)# (PSD)# CONF (Name)#

Description   Names of up to 16 characters can be assigned to Personal Speed Dial (PSD) numbers. The names are displayed alphabetically on large-display telephones to confirm the name of the person being called using a PSD code.

Display-phone users can also assign their own PSD names without entering the programming mode (see *Section 700-Feature Operation* for instructions).

Programming

To assign PSD names . . .

> **FF6 3# (1-144)# (90-99 or 900-909)# CONF (NNNNNNNNNNNNNNNN)#**
>
> Extension Port   PSD Number: Text Name
>   90-99=CPC-A (all versions); CPC-AII and   (up to 16 characters)
>   CPC-B versions prior to 7.0
>   900-909=CPC-AII and CPC-B, Version 7.0 or higher

To clear PSD names . . .

> **FF6 3# (1-144)# (90-99 or 900-909)# CONF ON/OFF**
>
>   Extension Port   PSD Number

Related Programming

Personal Speed Dial Numbers: FF10 2# (ExtPort)# (PSD)# (PhoneNo.)#

Notes   *Using a DSS Console With AFP.*   If the Attendant Feature Package (AFP) is used (available only with CPC-B Version 2.0 to 4.0), the DSS console must be initially set **as type** "11" in **the Terminal Type** address (FF3 ExtPort# 2#), to enable the keys to perform programming functions.

Absence Messages
Software Version: All Versions
Address: FF6 4# (5-9)# CONF (Message)#

Description   Use this program to create up to 5 custom absence messages for DBS phone
users. Absence messages can only be assigned via FF6 programming.

DBS phone users can set their extensions to send a message to calling parties,
indicating they cannot answer the phone. The absence message is
automatically displayed on the calling extension's LCD (if it has one).

When users set their phones to send absence messages, they can select which
message will be displayed on the calling extension's phone. The DBS system
supports up to 10 different absence messages; 5 of these are preset (see Table
6-l below), and 5 can be created using this FF6 address on a DSS/BLF phone.

Table 6-l.   Preset Absence Messages O-4

Absence Message No.	Message Text
0	In Meeting
1	At Lunch
2 .	Out of Office
3	Vacation
4	Another Office

Programming

To create a custom absence message . . .

FF6 4# (5-9)# CONF (NNNNNNNNNNNNNNN)#

Custom Absence Message   Custom Absence Message
Number (5-9)   Text (up to 15 characters)

To clear a custom absence message . . .

FF6 4# (5-9)# CONF ON/OFF

Custom Absence Message No.

Notes   *Using a DSS Console With AFP.*   If the Attendant Feature Package (AFP) is
used (available only with CPC-B Version 2.0 to 4.0), the DSS console must
be initially set as **type** "11" in the **Terminal Type** address (FF3 ExtPort# 2#),
to enable the keys to perform programming functions.

Trunk Name Assignment

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF6 5# (Trunk)# CONF (NNNNNN)#

Description   Trunks can be given names of up to 6 characters to help identify the source of calls. When an inbound call rings at an extension, the trunk name appears on the top line of the extension's display.

Trunk names can only be assigned via FF6 programming.

Programming

To assign a trunk name . . .
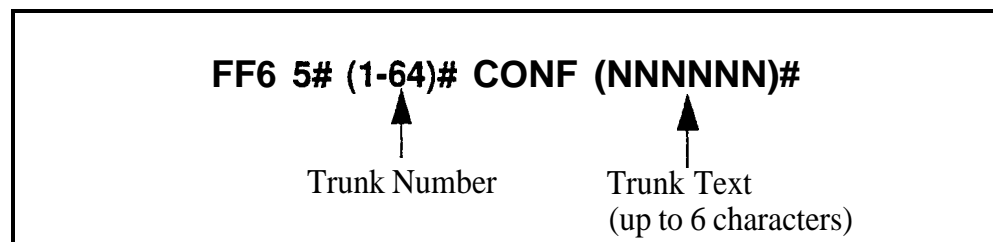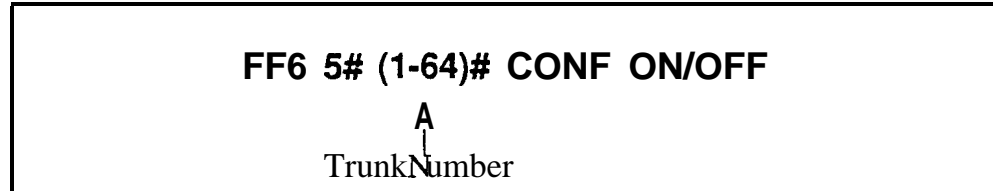
```
FF6 5# (1-64)# CONF (NNNNNN)#
        ▲                ▲
        |                |
   Trunk Number     Trunk Text
                    (up to 6 characters)
```

To clear a trunk name . . .

```
FF6 5# (1-64)# CONF ON/OFF
              A
              |
        TrunkNumber
```

Notes   *Using a DSS Console With AFP.*   If the Attendant Feature Package (AFP) is used (available only with CPC-B Version 2.0 to 4.0), the DSS console must be initially set as **type** "11" in the **Terminal Type** address (FF3 ExtPort# 2#), to enable the keys to perform programming functions.

Hunt Group Name Assignment

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF6 6# (HuntGrp)# CONF (NNNNNNNNNN)#

Description   Hunt groups can be given names of up to 10 characters to help identify the source of trunk calls transferred from the hunt group.

Hunt group names can only be assigned via FF6 programming.

Programming

To **assign hunt** group names . . .

FF6 6# (1-8)# CONF (NNNNNNNNNN)#

Hunt Group Number   Hunt Group Text
(up to 10 characters)
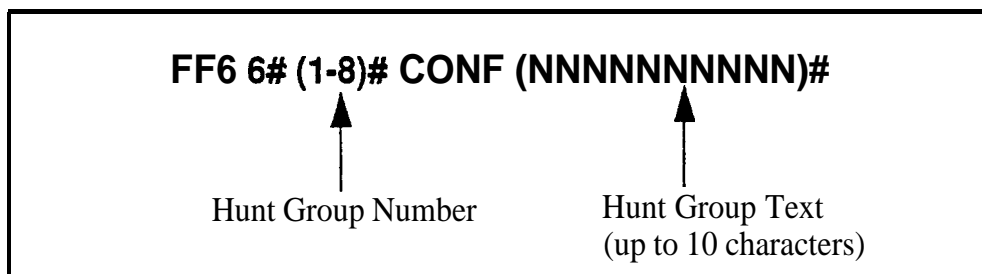
To clear hunt group names . . .
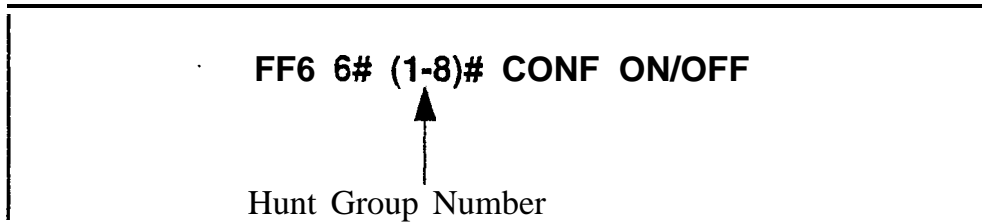
FF6 6# (1-8)# CONF ON/OFF

Hunt Group Number

Notes   *Using a DSS Console With AFP.*   If the Attendant Feature Package (AFP) is used (available only with CPC-B Version 2.0 to 4.0), the DSS console must be initially set as type "11" in the **Terminal Type** address (FF3 ExtPort# 2#), to enable the keys to perform programming functions.

Call Waiting/OHVA Text Reply

Software Version: CPC-All (all versions); CPC-B Version 2.0 or higher
Address: FF6 **7# (1-5)# CONF (NNNNNNNNNNNNNNN)#**

Description   When a busy party receives an indication of an incoming intercom call, the
busy party can respond by sending a text message back to the caller.

The text message can be sent after a Call Waiting tone, an Offhook Voice
Announce, or a Call Waiting tone followed by Offhook Voice Announce.

This address allows you to change the default messages. The following table
shows the default messages:

Table 6-2.   Default call waiting/OHVA text reply messages

Message Number	Message Definition
1	Take A Message
2	Please Hold
3	Will Call Back
4	Transfer
5	Unavailable

Call Waiting/OHVA text messages can also be assigned without entering the
programming mode, using the Attendant Feature option (see Section *700-
Feature Operation* for instructions).

Programming

To assign call waiting/OHVA text reply messages . . .

```
FF6 7#  (1-5)# CONF (NNNNNNNNNNNNNNN)#
            ▲                    ▲
            |                    |
     Message Number        Message Text
                           (up to 15 characters)
```

To clear call waiting/OHVA text reply messages . . .

```
FF6  7# (1-5)# CONF ON/OFF
            ▲
            |
     Message Number
```

DID/DNIS Text Name Assignment

Software Version: CPC-B Version 5.0 or higher
Address: DID: FF6 8# (1-200)# (1 or 2)# (0000-9999)# (NNNNNN)#
**   DNIS: FF6 9# (1-200)# (1 or 2)# (0000-9999)# (NNNNNN)#**

Description   Assign DID/DNIS names of up to 6 characters long for specific DID/DNIS numbers.

DID/DNIS text names can only be assigned via FF6 programming. The DID/DNIS number must already be assigned to an extension, before you can assign a name to the number. (see FF1 8# 3# for DID numbers: FF18# 4# 7# for DNIS numbers)

Programming

To assign a DID/DNIS text name . . .

FF6 (8 or 9)# (1-200)# (1 or 2)# (0000-9999)# (NNNNNN)#

8=DID	DID/DNIS Text	l=Assign a number	DID/DNIS	Name Text
9=DNIS	Assignment Table	to a name	Number	(up to 6 char.)
		2=Change a name	(only if "1"	
			is selected)	
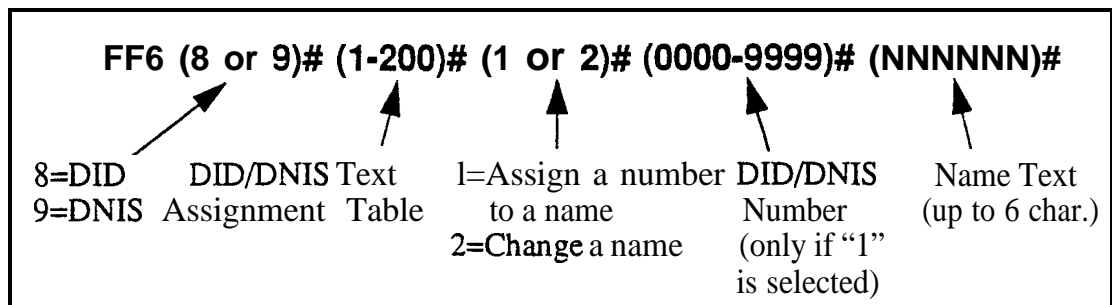
To clear a DID/DNIS text name . . .

FF6 (8 or 9)# (1-200)# (1 or 2)# CONF ON/OFF

8=DID	DID/DNIS Text	l=Number and name
9=DNIS	Assignment Table	2=Name only
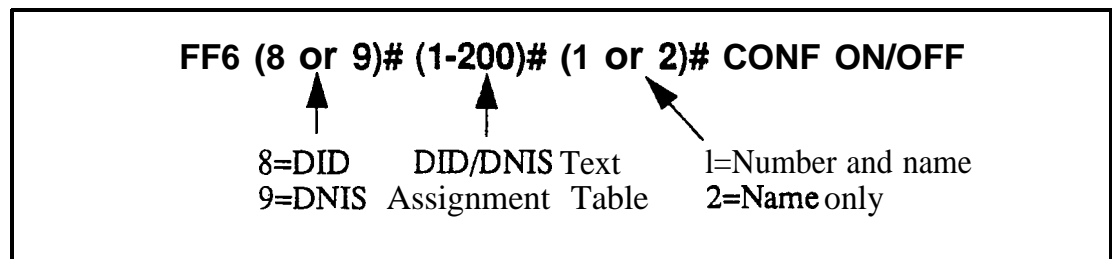
Related Programming

Inbound DID Numbers: FF1 8# 3# (DIDNo.)# (ExtNo.)#

DNIS Number Setting: FF1 8# 4# 7# (DNISNo.)# (ExtNo.)#

Notes   **Maximums.**   Up to 200 DID text names and 200 DNIS text names can be assigned.

7. Toll Restrictions (FF7)

Use the FF7 program addresses in this chapter to perform Toll Restriction Service (TRS) programming.

This chapter covers the following addresses:

An Overview of Toll Restrictions

The DBS Toll Restriction Service (TRS) allows you to set restrictions on outgoing calls. For example, TRS can prohibit long-distance calls and prevent after-hours calls. TRS can also minimize non-business calls and reduce phone bills by permitting only long-distance calls over designated trunks.

The DBS system supports up to eight different TRS types (see table below). A TRS type can be assigned to each trunk to activate toll restriction.

Table 7-L. Toll restriction types

TRS Type	Characteristics
0	• Full restriction of outbound dialing. • Inbound calls can be answered if trunk is assigned to ring an extension. • Intercom calls are allowed. • Group Call Pickup (intercom calls only). • 9+911 calls are always restricted (except in CPC-AII/B Version 6.00 only).
1	• Full restriction of outbound dialing. • Inbound trunk calls to all phones can be answered and/or transferred. • Intercom calls are allowed. • Group Call Pickup (intercom calls only). • 9+911 calls are always restricted (except in CPC-AII/B Version 6.00 only).
2	• Local calls (office code dialing) are allowed. • l-800 calls are allowed. • 911 calls are always allowed (Version 6.0 or higher). • Inbound trunk calls to all phones can be answered and/or transferred. • Full restriction of international calls. • Full restriction of operator calls (old dialing plan). • Selectable restriction of operator calls (new NANP dialing plan). • Selectable restriction of speed dial numbers. • Selectable restriction of N11 codes (211-811). • Restriction of up to 10 three-digit office codes (new NANP dialing plan). • Restriction of up to 50 seven-digit numbers. • Inter-digit timing is set to 6 seconds.
3	• 9 11 calls are always allowed (Version 6.0 or higher). • Full restriction of operator calls (old dialing plan). • Selectable restriction of operator calls (new NANP dialing plan). • Selectable restriction of international calls (defaulted to full restriction). • Selectable restriction of N11 codes (211-811). • Selectable restriction of speed dial numbers. • Restriction of up to 50 seven-digit numbers. • Trunk calls can be answered and transferred. • Defaulted to full restriction of area-code dialing. • Defaulted to full restriction of office-code dialing.. • Inter-digit timing is set to 6 seconds.
4	• Identical to TRS type 3, except all office codes are allowed by default.

TRS Type	Characteristics
5	• Programmable TRS type; all area codes and office codes are allowed by default.
6	• Identical to TRS type 5.
7	• Cannot restrict any dialing.

Notes

New NANP Vialing Plan.   Beginning with CPC-AII/B Version 6.0, changes to the North American Numbering Plan (NANP) are supported. These changes affect TRS parameters, which is explained in the affected program addresses in this chapter.

Table 7-2. NANP changes

Change	Old Numbering Plan (Versions prior to 6.0)	New NANP Plan (Version 6.0 or higher)
Key: N = digits 2-9 P = digits O-l X = digits O-9' CC = Country Code digits 1 - 199		
Area Code/Exchange Format	NPX-NNX-XXXX	NXX-NXX-XXXX
Toll Calls w/in Same Area Code	I-NNX-XXXX	1-NXX-NXX-XXXX
Interexchange Carrier (IXC) Selection	10XXX0	101XXXX0
Intemational Calls	011 + CC + up to 9 digits	011 +CC+upto 12digits
911 Emergency Calls	Can be restricted	Always restricted (except in Version **6.00** only) for TRS types 0 and 1. Always allowed for TRS types 2-6.
Operator Calls	Selectable restriction for TRS types 3-6; allowed by default if intemat'l calls are allowed system-wide. Always restricted for TRS types O-2. Always allowed for TRS type 7.	Selectable restriction on individual extensions, as long as the extension uses trunks with TRS types 2-6. Always restricted for TRS types 0 and 1. Always allowed for TRS type 7.
Local Calls	1) Check Office Code Table. 2) Check 7-Digit Toll Restriction. 3) Check Add/Delete Digits.	1) Check Office Code Table. **2)** Check new Offtce Code **Restric**tion Table (up to 10 entries). 3) Check 7-Digit Toll Restriction.' 4) Check Add/Delete Digits.

Change	Old Numbering Plan (Versions prior to 6.0)	New NANP Plan (Version 6.0 or higher)
Long-Distance Calls	1) Check Special Area/Office Codes. 2) Check Area Code Table. 3) Check Add/Delete Digits.	1) Check Special Area/Office Codes. 2) Check Area Code Table. 3) Check new Office Code Restriction Table (up to 10 entries). 4) Check Add/Delete Digits.
International Calls	Allowed or restricted system-wide by TRS type assigned to trunk.	Selectable restriction on extensions if using trunks with TRS types 3-6. Selectable restriction on dialed numbers based on Country Code.

International Calling For TRS Types 3-6
Software Version: All Versions
Address: FF7 1# 1# (0 or 1)#

Description   Use this address to allow or deny international calls on trunks that are
assigned TRS types 3-6.

If the DBS is set to use the new NANP dialing plan (available with CPC-A
Version 4.0 or higher, and CPC-AII/B Version 6.0 or higher), this address
determines whether the DBS will check the Country Code Table for any
restrictions on the dialed number.

If the DBS uses the old dialing plan, this address determines whether
international calling is allowed or denied, regardless of the country code.

In both cases, this address applies only to those trunks that are assigned TRS
types 3-6. (International calls are always restricted for TRS types 1 and 2 --
and always allowed for TRS type 7.)

Programming

FF7 1# 1# (0 or 1)#

⬆

Old Dialing Plan: (all versions)	**0=Deny international calls.** 1=Allow international calls.
New NANP Dialing Plan: (CPC-A 4.0 or higher: CPC-AII/B 6.0 or higher)	**0=Check Country Code Table for restrictions.** 1=Allow international calls.

Related Programming

Dialing Plan Switch: FF7 1# 17# (0 or 1)#

Country Code Table: FF7 1# 20# (Table)# (Code)#

Override Toll Restriction with SSD Numbers: FF1 2# 1# 4# (SSD)#

System Installation Area Code: FF1 2# 1# 18# (0 or 1)#

Notes   *Restricting International Calls On Individual Extensions.* If the new
NANP dialing plan is used, individual extensions can be set to allow/restrict
international calls based on the Country Code Table (see FM 1# 20#).

Including "011" in Office Code Tables for International Calling. If
international calls are permitted, "011" should be permitted in Office Code
Tables for TRS Types 3-6 (see FF7 3#).

DTMF Signaling During Incoming Calls For TRS Types O-6
Software Version: All Versions
Address: FF7 1# 2# (0 or 1)#

Description   This address determines if DTMF signaling can be sent to the CO after an extension picks up an incoming trunk call.

If an extension receives a call on a trunk assigned to TRS type O-6, the extension user may try to bypass TRS restrictions by dialing an outgoing call while still off-hook. (After the outside caller hangs up, sometimes the CO sends dial tone to the called party if they remain off-hook.)

The DBS can block these bypasses by disabling DTMF signaling during incoming calls. If this address is set to "0" (disable DTMF signaling), the user will not be able to dial out while still off-hook from an incoming call -- even if they transfer the call to another extension with no TRS restrictions.

This address also affects indirect pickup of trunk calls (press a DSS/BLF key to pick up a call ringing on another extension). If this address is set to "O", the DSS/BLF phone user will also not be able to dial out.

Programming

```
                    FF7 1# 2# (0 or 1)#

                             ▲
                             |
               O=Disable DTMF signaling on extensions
                        during incoming calls.
               1=Enable DTMF signaling on extensions
                        during incoming calls.
```

Notes   *No Interaction With TRS Type 7.*   This address does not affect trunks assigned to TRS type 7, which allows all outbound dialing.

No DSS/BLF Interaction With TRS Type 0.   DSS/BLF keys cannot be used to pick up calls on trunks assigned TRS type 0. Because of this built-in restriction, the DTMF Signaling setting does not apply.

No Interaction With FLASH Key.   If an extension user attempts to dial out by pressing the FLASH key during an incoming trunk call, the DBS will check for TRS restrictions, regardless of the DTMF Signaling setting.

Maximum Dialed Digits For TRS Types 3-6
Software Version: Ail Versions
Address: FF7 1# 3# (1-15)#

Description   The maximum number of dialed digits on trunks assigned TRS types 3-6 can be set from 15 to 29. By default, the maximum number is unlimited.

Programming

```
              FF7 1# 3# (1-15)#
                        ▲
                        |

              Maximum Number of Dialed Digits Allowed

              Note: The default setting is ** (unlimited). To change
              the setting to a limited number of digits, enter 1- 15
              (see table below for values). To revert to the **
              default, press FF7 1# 3# CONF.
```

Table 7-3.   Maximum number of dialed digits for TRS types 3-6

Setting	Value (maximum dialed digits)
1	15
2	16
3	17
4	18
5	19
6	20
7	21
8	22
9	23
10	24
11	25
12	26
13	27
14	28
15	29

3-Digit Toll Restriction For TRS Types 2-6
Software Version: All Versions
Address: FF7 1# (4-11)# (0 or 1)#

Description   Use this address to to allow or deny the dialing of 211-911 numbers on trunks that are assigned TRS types 2-6. By default, all of these numbers are allowed.

If the DBS is set to *use* the *new NANP dialing plan* (available only with CPC-AII/B Version 6.0 or higher), "911" is always allowed for TRS types 2-6, regardless of the setting here.

Programming

FF7 1# (4-11)# (0 or 1)#

. Special Numbers:
 4=211
 5=311
 6=411
 7=511
 8=611
 9=711
 10=811
 11=911

0=Allow dialing.
l=Deny dialing.

NOTE: Beginning with CPC-AII/B Version 6.03, 1 1# ("911") is disabled if the new NANP dialing plan is used, so that 911 calls cannot be restricted.

Related Programming

Dialing Plan Switch: FF7 1# 17# (0 or 1)#

\

7-Digit Toll Restriction For TRS Types 2-6
Software Version: All Versions
Address: FF7 1# (12-I 6)# (0 or 1)#

Description   Use this address to determine whether the DBS will check dialed 7-digit
numbers against the **"Special 'I-Digit Table"** (see FF7 6#). By default, the
DBS will check the dialed number against the table; if it finds a match, the
call will be denied, regardless of the area code.

Programming

```
                        FF7 1# (12-16)# (0 or 1)#


                TRS Types:              O=Does nbt check the 7-digit table.
                12=TRS type 2           1=Checks the 7-digit table.
                13=TRS type 3
                14=TRS type 4
                15=TRS type 5
                16=TRS type 6
```
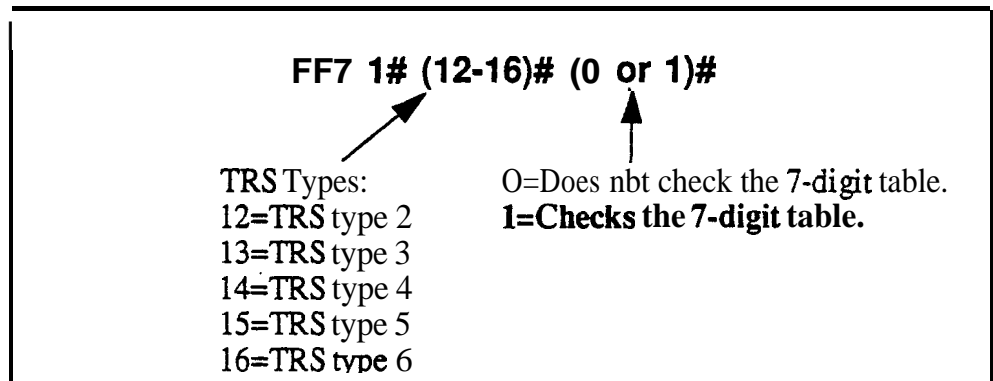
Related Programming

Special 7-Digit Table For TRS Types 2-6:   FF7 6# (1-50)# (7-digit No.)#

Notes   *Analysis of Final Digits.*   7-digit toll restriction considers the *last* 7 digits
dialed. This is so that area codes that are normally permitted, can be denied
when dialed with certain telephone numbers (such as 800-976-XXXX
numbers).

Dialing Plan Switch

Software Version: CPC-A Version 4.0 or higher; CPC-AII/B Version 6.0 or higher
Address: FF7 1# 17# (0 or 1)#

Description   This address allows you to choose between the new North American Numbering Plan (NANP) and the old dialing plan. By default, the old dialing plan is used.

Selecting the new NANP dialing plan, in addition to supporting public network changes in dialing formats, also provides greater flexibility for "exceptions to the rule" -- such as applying TRS restrictions to individual extensions, area codes, office codes, and country codes.

Specific differences between the old and new dialing plans are listed in the table below. Some of the FF7 addresses in this chapter apply only to the new NANP dialing plan; other FF7 addresses apply to both dialing plans, but the value of their settings differs depending on the dialing plan selected. These differences **are noted** in the explanation for each affected address.

Programming

```
                    FF7 1# 17# (0 or 1)#

                                   ▲
                                   |
                          0=Old dialing plan
                          1=New NANP dialing plan
```
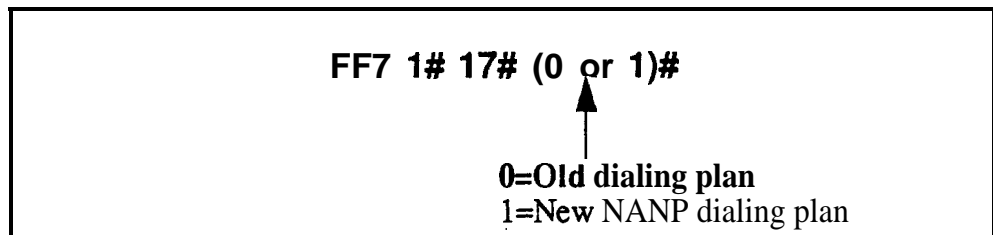
Table 7-4.   Differences between old and new dialing plans

Subject	Old Plan	New (NANP) Plan
Office Codes (Exchanges)	NNX-XXXX	Nxx-XxXx
Long-Distance Calls	N0/1X-NNX-XXXX	Nxx-Nxx-XxXx
Equal Access Code Format	10XXX	101XXXX
International Numbers	9 digits in length	12 digits in length
	(N=digits 2 thru 9 X=digits 0 thru 9)	

Related Programming

All Toll Restriction Addresses (FF7)

Operator Access

Software Version: CPC-A Version 4.0 or higher; CPC-AII/B Version 6.0 or higher
Address: FF7 1# 18# (ExtPort)# (0 or 1)#

Description   This Operator Access switch works only if the DBS system is set to use the *new NANP dialing* plan (FF7 1# 17# 1#). Also, this switch applies only to TRS types 2-6 (TRS types 0 and 1 do not allow outbound dialing; TRS type 7 allows all dialing).

Use this address to block extension(s) from being able to access a trunk and dialing "O", "OO", "10XXX0", or "101XXXX0" to reach an operator. This prevents a user from being able to make a restricted phone call by asking the operator to place the call for him.

Programming

FF7 1# 18# (1-144)# (0 or 1)#

Extension Port   0=Deny operator calls.
                        1=Allow operator calls.
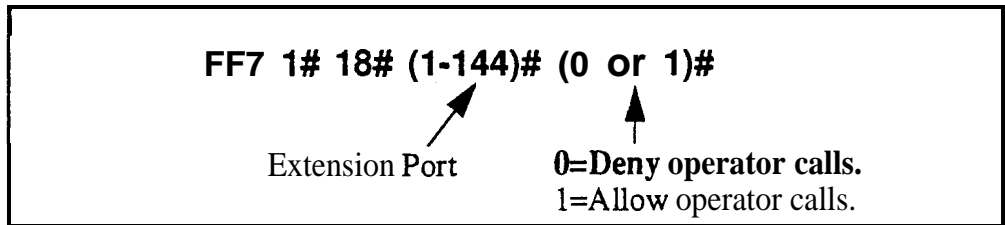
Related Programming

Dialing Plan Switch: FF7 1# 17# (0 or 1)#

Notes   *Timeout for Operator Calls.* If this switch is set to "Deny" (default) and an extension user accesses a trunk and dials the operator, the system will wait 6 seconds before automatically disconnecting the call. However, if the user dials additional digits within the 6 seconds, the DBS will check other switches such as **"International Calling On Extensions", "7-Digit Toll Restriction",** etc., to allow or deny the call.

International Calling on Extensions

Software Version: CPC-A Version 4.0 or higher; CPC-AII/B Version 6.0 or higher
Address: FF7 1# 19# (ExtPort)# (0 or 1)#

Description   This address applies only to systems programmed to use the new NANP
dialing plan (FF7 1# 17# 1#). Also, this switch applies only to TRS types 3-6
(TRS types O-2 do not allow international dialing; TRS type 7 allows all
dialing).

Use this address to allow or deny international calling on individual
extension(s) that are "exceptions to the rule".

- When an extension attempts an overseas call (trunk access + 01 or 011) on
  a trunk assigned TRS type 3-6, the system checks the setting in this address
  (default=deny call).
- However, if this address is set to "1", the system checks the "International
  Calling For TRS Types 3-6" (FF7 1# 1#) to see if the dialed country code
  should be checked against the Country Code Table (FF7 1# 20#) before
  allowing the call. If so, and if the dialed country code is included in the
  table, the call is allowed.

Programming
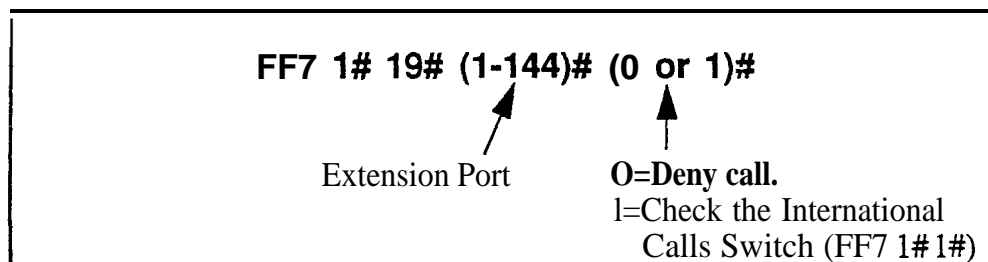
```
                    FF7 1# 19# (1-144)# (0 or 1)#


                              Extension Port      O=Deny call.
                                                  l=Check the International
                                                    Calls Switch (FF7 1# 1#)
```

Related Programming

International Calling For TRS Types 3-6: FF7 1# 1# (0 or 1)#

Dialing Plan Switch: **FF7** 1# 17# (0 or 1)#

Country Code Table: FF7 1# 20# (Table)# (Code)#

Country Code Table

Software Version: CPC-A Version 4.0 or higher; CPC-AII/B Version 6.0 or higher
Address: FF7 1# 20# (Table)# (Code)#

Description
This address applies only to systems programmed to use the new NANP dialing plan (FF7 1# 17# 1#). Also, this switch applies only to TRS types 3-6 (TRS types O-2 do not allow international dialing: TRS type 7 allows all dialing).

In this address, the DBS provides a Country Code Table of up to 10 allowable country code entries for placing international calls. Each entry can be 1 to 3 digits long.

Programming
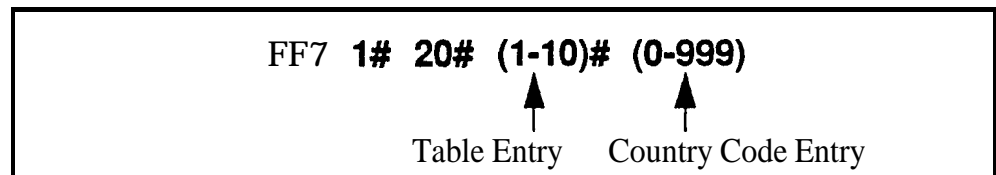
```
FF7  1#  20#  (1-10)#  (0-999)
                  ↑          ↑
            Table Entry  Country Code Entry
```

Related Programming

International Calling For TRS Types 3-6: FF7 1# 1# (0 or 1)#

Dialing Plan Switch: FF7 1# 17# (0 or 1)#

International Calling on Extensions: FF7 1# 19# (ExtPort)# (0 or 1)#

Notes
Country Code Usage. Country codes are used as follows:

- When a phone user accesses a trunk assigned TRS type 3-6 and then dials 01 or 0 11, the system first checks the international calling restriction set for ***the extension*** (in FF7 1# 19#).

- If the switch is enabled, the DBS then checks the international calling restriction set for the ***system*** (in FF7 1# 1#), which determines if the Country Code Table is checked before an international call is processed.

- If it is checked, the call will be allowed only if the dialed country code appears in the Table.

Short ***Country Codes.*** When country codes of less than 3 digits are entered, the system will allow any country code that ***begins*** with that number or numbers. For example, an entry of "9" allows all two- and three-digit country codes beginning with "9." Likewise, an entry of "26" allows all three-digit country codes beginning with "26."

Digit Restriction. The system will not accept country codes that begin with "1" (this is reserved for U.S. calls).

Equal Access Code Format

Software Version: CPC-A Version 4.0 or higher; CPC-AII/B Version 6.0 or higher
Address: FF7 1# 21# (0 or 1)#

Description   This address **determines** whether the old CIC (Carrier Identification Code) format can still be dialed to reach a preferred IXC (interexchange carrier).

- Old dialing plan format is **10 XXX** (where "XXX" is a 3-digit CIC).

- New NANP (North American Numbering Plan) format is **101 XXXX** (where "XXXX" is a 4-digit CIC).

In some areas, the public network is providing a transitional period during which both formats are recognized, until the new NANP dialing plan takes effect. This address accommodates the transitional period.

NOTE: This address is effective only if the new NANP Dialing Plan is selected in FF7 1# 17#. If the old dialing plan is selected, the new CIC format (101 XXXX) will not **be** recognized by the DBS.

Programming

```
             FF7 1# 21# (0 or 1)#
                          ↑
                          |
              0=Old format (10 XXX) can still be used.
              l=New format only (101 XXXX).
```
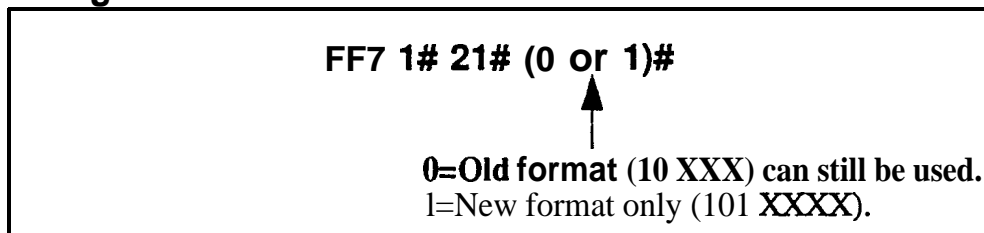
Related Programming

Dialing Plan Switch: FF7 1# 17# (0 or 1)#

Office Code Restriction Table For TRS Types 2-6
Software Version: CPC-A Version 4.0 or higher; CPC-AII/B Version 6.0 or higher
Address: FF7 1# 22# (1-10)# (000-999)#

Description   This address applies only to DBS systems set for the new NANP dialing plan
(FF7 1# 17# 1#).

The Office Code Restriction Table allows up to 10 office codes ("exchanges")
to be restricted system-wide for all trunks assigned TRS types 2-6. The DBS
will check this table before checking the individual office codes assigned to
each TRS type in FF7 3#.

NOTE: These office codes are **not** tied to any area codes. Therefore,
whenever one of these office codes is dialed, it is restricted regardless of the
area code.

Applications for this feature include 555 and 976 calls.

Programming

FF7 1# 22# (1-1 0)# (000-999)#

Office Code Entry No.   Office Code To Be Restricted
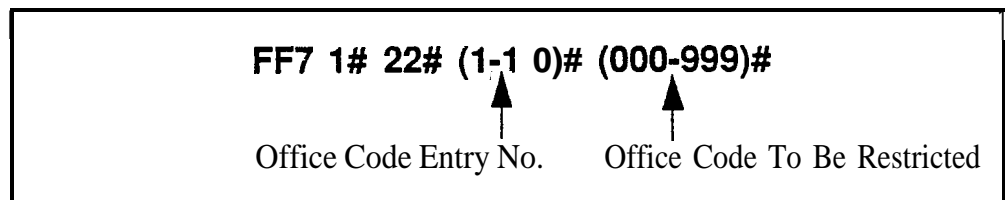
Related Programming

Dialing Plan Switch: **FF7** 1# 17# (0 or 1)#

Area Code Table For TRS Types 3-6
Software Version: All Versions
Address: FF7 2# (3-6)# (000-999)# (0 or 1)#

Description   Use this address to set area code dialing restrictions based on the TRS type assigned to a trunk. Callers accessing a trunk assigned to TRS types 3-6 are allowed or denied access to specific area codes according to the settings in this address.

Programming

FF7 **2# (3-6)# (000-999)#** (0 or **1)#**

TRS Type (3-6)   Area Code   0=Allow dialing.
                                       1=Deny dialing.

Defaults --
TRS Types 3 and 4:   1   **(Deny)**
TRS Types 5 and 6:   0   (Allow)
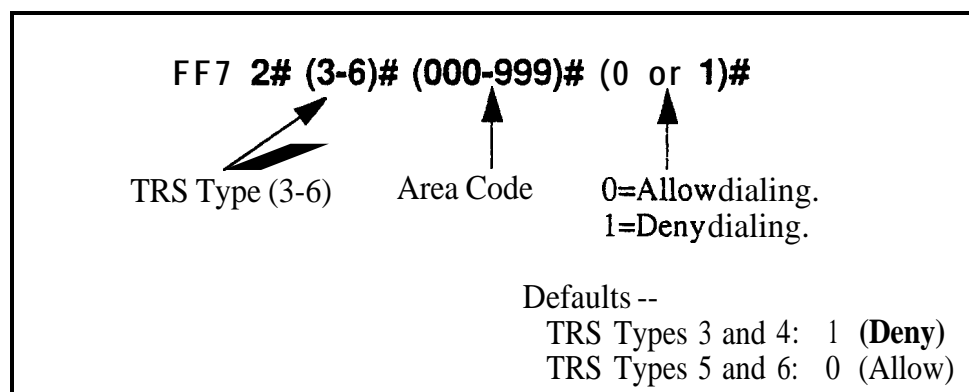
Related Programming

System Installation Area Code: FF1 2# 1# 18# (0 or 1)#

Day TRS Types O-7 for Trunks: FF7 7# (ExtPort)# (Trunk)# (0-7)#

Night TRS Types O-7 for Trunks: FM 8# (ExtPort)# (Trunk)# (0-7)#

Office Code Table For TRS Types 3-6
Software Version: All Versions
Address: FF7 3# (3-6)# (000-999)# (0 or 1)#

Description   Use this address to allow or deny individual office code(s) for local calls based on the TRS type assigned to the trunk.

Programming

```
FF7 3# (3-6)# (000-999)# (0 or 1)#
```

TRS Type (3-6)   Office Code   0=Allow dialing.
    1=Deny dialing.

Defaults --
    TRS Type 3: 1 (Deny)
    TRS Types 4, 5 and 6: 0 (Allow)
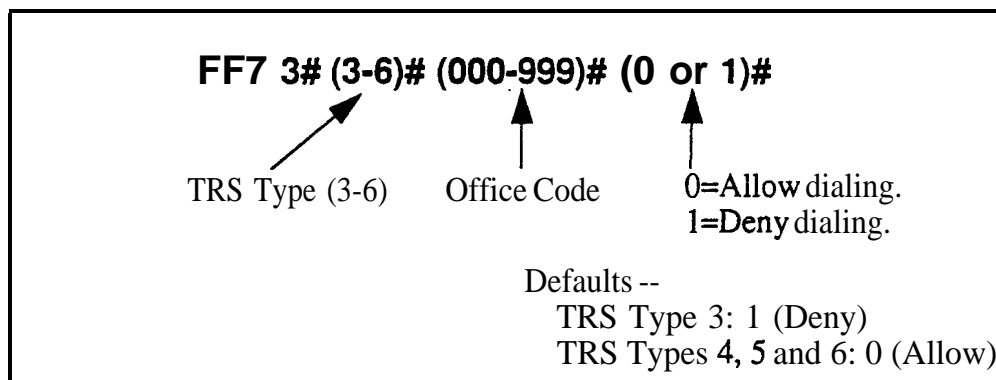
Related Programming

System Installation Area Code: FF1 2# 1# 18# (0 or 1)#

Notes   *Office Code Tables.*   While this address is used for local calls, the Office Code Restriction Table address (FF7 1# 21#) is used for local and long-distance calls.

Special Area Code Table For TRS Types 3-6
Software Version: All Versions
Address: FF7 4# (1-4)# (000-999)#

Description   Use this address to enter up to four area codes that will be tied to ranges of office codes in the next address (FF7 5#). This allows you to set up special area/office code combinations that are "exceptions to the rule" -- for example, restricting calls to (800)976-xxxx numbers, while allowing (800)977-xxxx numbers.

These special area/office code combinations will apply to TRS types 3-6.

Programming

To enter a special area code . . .

```
         FF7  4#  (1-4)#  (000-999)#


      Special Area Code Entry No.     Special Area Code
```
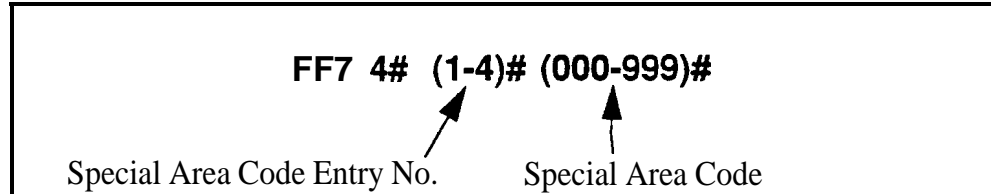
To clear a special area code . . .

```
      FF7  4#  (1-4)#  (000-999)#  CONF  ON/OFF


      Special Area Code          Special Area Code
       Number (1-4)
```
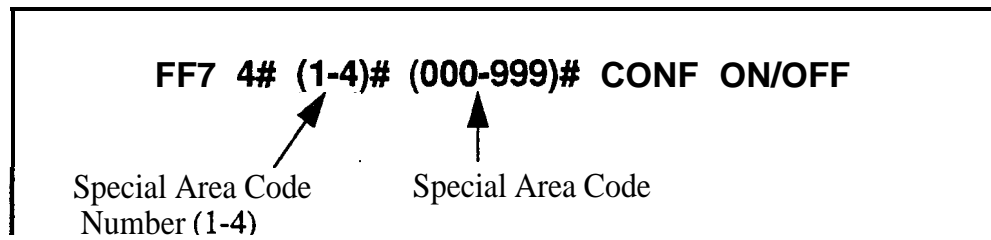
Related Programming

Special Office Code Table for TRS Types 3-6: FF7 5# (1-4)# (000-999)# (0 or 1)#

Special Office Code Table For TRS Types 3-6
Software Version: All Versions
Address: FF7 5# (1-4)# (000-999)# (0 or 1)#

Description Each of the four special area codes entered in the previous address (FF7 4#) can be tied with one or more special office codes using this address. Each special area code can be matched to office codes (000-999). And. each office code can be individually allowed or denied. Typically. "976", "555" or other office codes representing pay-for-call services are entered as special office codes.

These special area/office code combinations will apply to TRS types 3-6.

NOTE: If at a later date you wish to reset *all* the special office codes assigned to a special area code, use the Global Copy address (FF7 9# 13-16#) to do it all at once, instead of resetting each individual office code here.

Programming
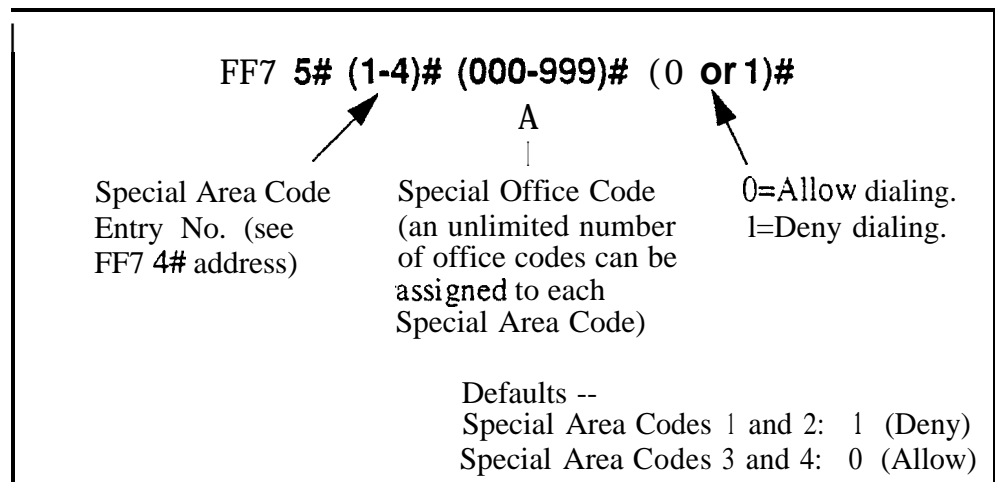
```
                  FF7 5# (1-4)# (000-999)# (0 or 1)#
                        ↗           A              ↖
                                    |
              Special Area Code   Special Office Code   0=Allow dialing.
              Entry No. (see      (an unlimited number  1=Deny dialing.
              FF7 4# address)     of office codes can be
                                  assigned to each
                                  Special Area Code)

                                  Defaults --
                                  Special Area Codes 1 and 2:  1  (Deny)
                                  Special Area Codes 3 and 4:  0  (Allow)
```

Related Programming

Special Area Code Table for TRS Types 3-6: FF7 4# (1-4)# (000-999)#

Special Office Code Table for TRS Types 3-6 (Global Copy): FF7 9# (13-16)# (0 or 1)#

Special 'T-Digit Table For TRS Types 2-6
Software Version: All Versions
Address: FF7 6# (1-50)# (0000000-9999999)#

Description   Use this program to set up a table of up to 50 restricted 7-digit numbers for
trunks assigned TRS types 2-6. These 7-digit numbers are restricted for all
area codes.

The "7-Digit Toll Restriction For TRS Types 2-6" address (FF71# 12-16#)
determines whether this table is checked or not.

Programming

To assign a special 7-digit number . . .

FF7   6# (1-50)# (0000000-9999999)#

Entry No. of Special   7-Digit Number
7-Digit Number
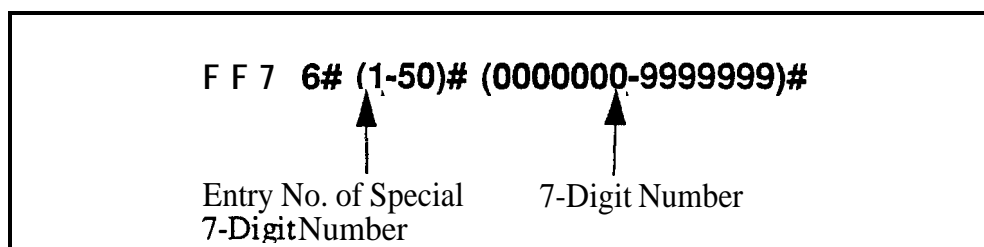
To clear a special 7-digit number . . .

FF7 6# (1-50)# CONF ON/OFF

Entry No. of Special 7-Digit Number
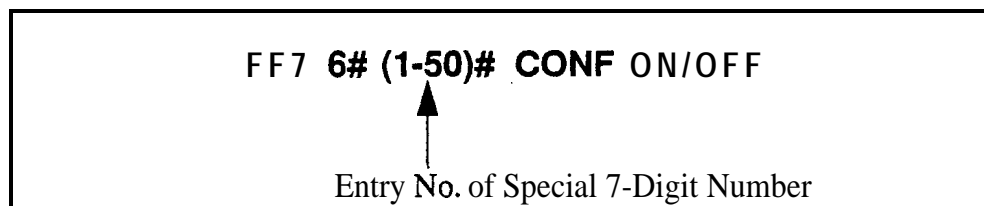
Related Programming

7-Digit Toll Restriction For TRS Types 2-6: FF7 1# (12-16)# (0 or 1)#

Day TRS Types O-7 for Trunks
Software Version: All Versions
Address: FF7 7# (ExtPort)# (Trunk)# (0-7)#

Description
Use this program to assign TRS types to the trunks on an individual extension. The assigned TRS type will apply to the trunk during "Day" mode.

For a review of TRS **types, see "An Overview of Toll Restrictions"** on page **7-2.**

Programming

FF7 **7# (1-144)#** (l-33 or **1-65)# (0-7)#**

Extension Port   Trunk   TRS Type O-7
                               Default: 7 **(all calls
                                           allowed**)

Note: Enter "65" (for CPC-AII/B) or "33" (for CPC-A) to apply
all trunks to the TRS type.

Related Programming

Toll Restriction: all FF7 addresses

Night TRS Types O-7 for Trunks
Software Version: All Versions
Address: FF7 8# (ExtPort)# (Trunk)# (0-7)#

Description   Use this program to assign TRS types to the trunks on an individual
extension. These TRS types will apply when the system is in "Night" and
"Night 2" mode.

For a review of TRS types, **see "An Overview of Toll Restrictions"** on **page
7 - 2 .**

Programming

```
FF7 8# (1-144)# (l-33 or 1-65)# (0-7)#
             ▲            ▲          ▲
             |            |          |
      Extension Tort    Trunk   TRS Type O-7
                                Default: 7 (all calls
                                              allowed)

Note: Enter "65" (for CPC-AII/B) or "33" (for CPC-A) to apply
        all trunks to the TRS type.
```
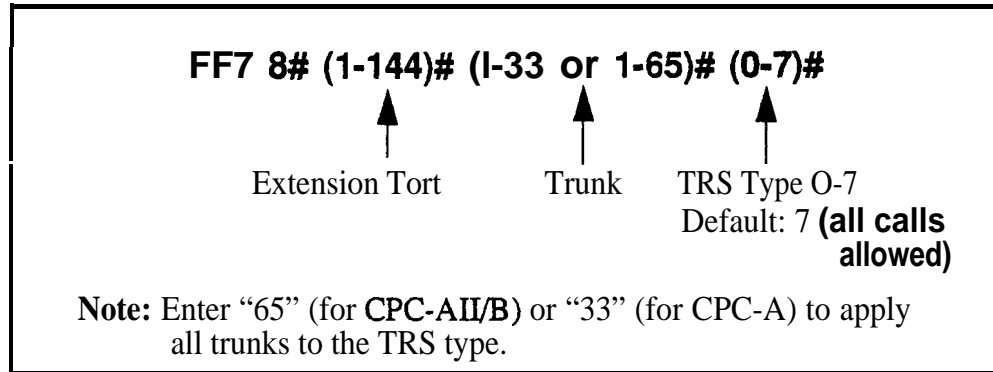
Related Programming

Automatic Night Mode Start Time: FF1 3# 1# HHMM#

Automatic Night 2 Mode Start Time: FF1 3# 30# HHMM#

Toll Restriction: all FF7 addresses

Area Code Table For TRS Types 3-6 (Global Copy)

Software Version: All **Versions**
Address: FF7 9# (1-4)# (0 or 1)#

Description   Use this address to allow or deny *all* area codes for TRS types 3-h.

Programming

FF7 9# (1-4)# (0 or 1)#

TRS Types: 0=Allow dialing.
  l=Type 3   1=Deny dialing.
  2=Type 4
  3=Type 5   Defaults --
  4=Type 6   TRS Types 3 and 4: 1 (Deny)
                        TRS Types 5 and 6: 0 (Allow)
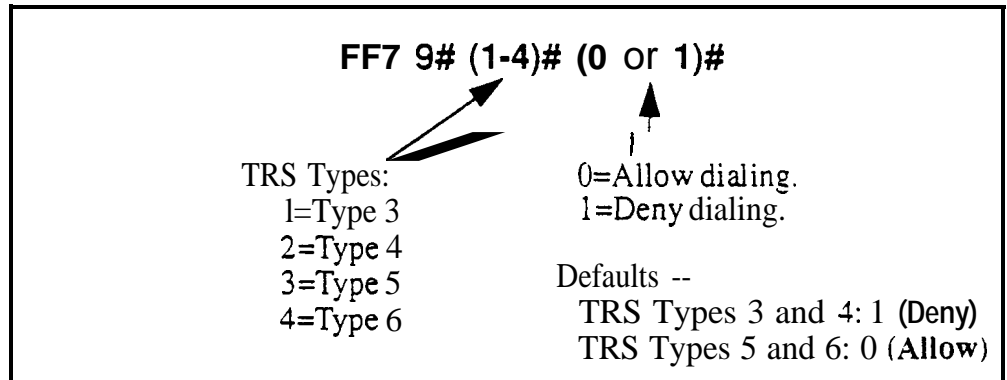
Related Programming

Area Code Table for TRS Types 3-h: FF7 2# (3-6)# (000-999)# (0 or 1)#

Office Code Table For TRS Types 3-6 (Global Copy)
Software Version: All Versions
Address: FF7 9# (5-8)# (0 or 1)#

Description   Use this address to allow or deny *all* office codes for TRS types 3-6.

Programming

```
                    FF7 9# (5-8)# (0 or 1)#


             TRS Types:              0=Allow dialing.
                5=Type 3            1=Deny dialing.
                6=Type 4
                7=Type 5            Defaults --
                8=Type 6           TRS Type 3: 1  (Deny)
                                   TRS Types 4, 5 and 6: 0  (Allow)
```
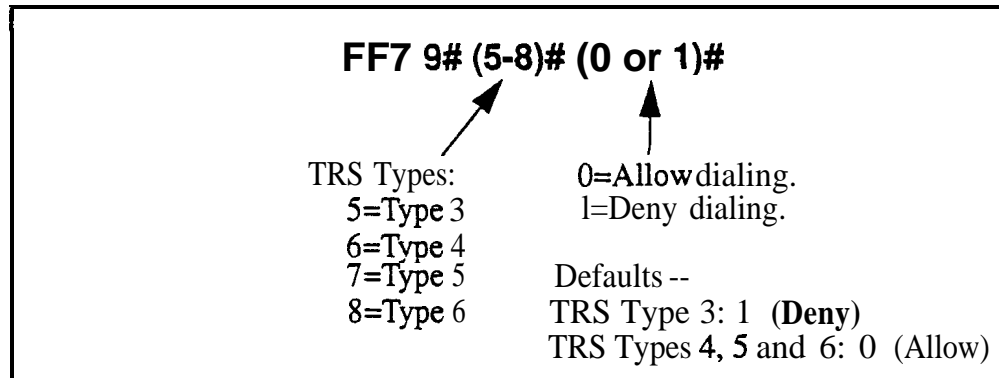
Related Programming

Office Code Table for TRS Types 3-6: FF7 3# (3-6)# (000-999)# (0 or 1)#

Area & Office Code Table for TRS Types 3-6 (Global Copy)
Software Version: All Versions
Address: FF7 9# (9-12)# (0 or 1)#

Description   Use this address to allow or deny *all* area codes *and* office codes for TRS types 3-6.

Programming

```
                    FF7 9# (9-12)# (0 or 1)#

                TRS Types:          0=Allow dialing.
                    9=Type 3        1=Deny dialing.
                    10=Type 4
                    11=Type 5       Defaults --
                    12=Type 6       TRS Type 3:  1 (Deny)
                                    TRS Type 4:  1 (Deny) for A/Cs·
                                                 and 0 (Allow) for O/Cs
                                    TRS Types 5 and 6: 0 (Allow)
```
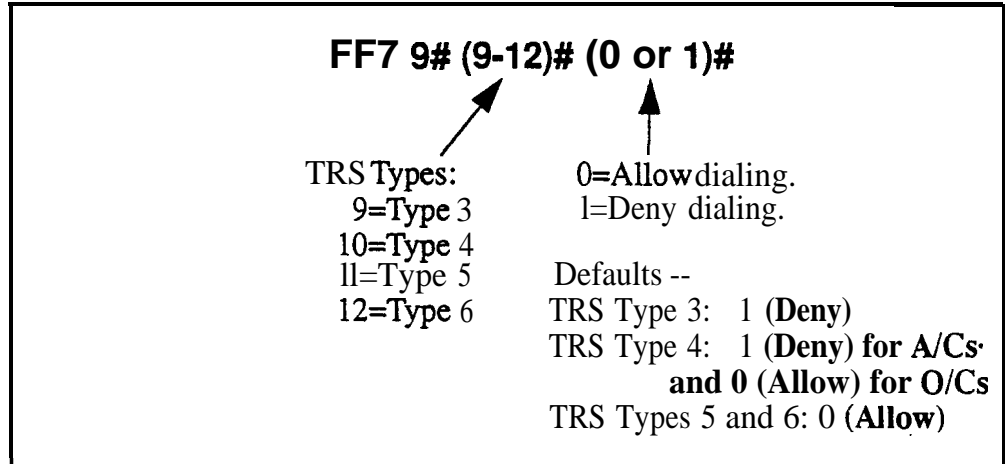
Related Programming

Area Code Table For TRS Types 3-6: FF7 2# (3-6)# (000-999)# (0 or 1)#

Office Code Table For TRS Types 3-6: FF7 3# (3-6)# (000-999)# (0 or 1)#

Special Office Code Table For TRS Types 3-6 (Global Copy)

Software Version: All Versions
Address: FF7 **9# (13-16)# (0 or 1)#**

Description   Use this address to allow or deny the Special Area/Office Code combinations set in FF7 **4#** and **5#**.

Special Office Code Table (Global Copy) resets all office codes assigned to a Special Area Code at the same time (instead of resetting the office codes individually in FF7 **5#).**

Special area/office code combinations apply to TRS types 3-6.
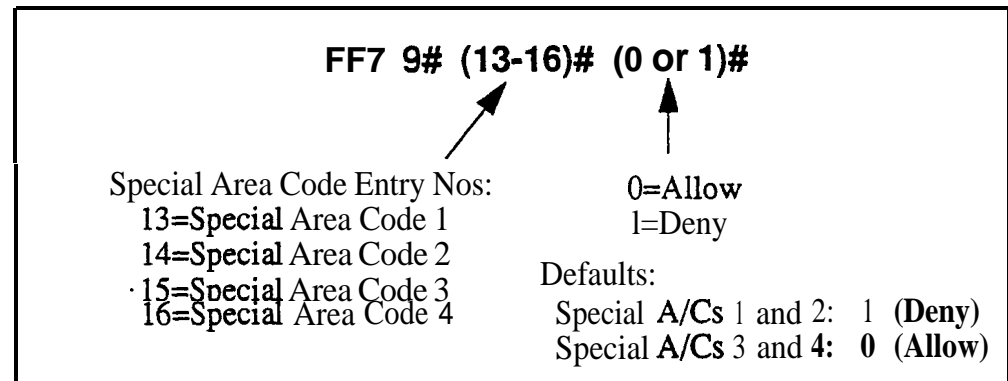
Programming

```
                FF7  9#  (13-16)#  (0 or 1)#


    Special Area Code Entry Nos:           0=Allow
        13=Special Area Code 1             1=Deny
        14=Special Area Code 2
       ·15=Special Area Code 3          Defaults:
        16=Special Area Code 4            Special A/Cs 1 and 2:   1  (Deny)
                                          Special A/Cs 3 and 4:   0  (Allow)
```

Related Programming

Special Area Code Table For TRS Types 3-6: FF7 **4# (1-4)# (000-999)#**

Special Office Code Table For TRS Types 3-6: FF7 **5# (1-4)# (000-999)#** (0 or 1)#

8. Least Cost Routing (FF8)

Use the FF8 addresses in this chapter to set up Least Cost Routing (LCR).

This chapter covers the following addresses:

FF8 Address	Topic	Page
An Overview of Least Cost Routing	Before Programming LCR LCR Setup Activating LCR LCR Call Processing Using LCR With a PBX System	8-2 8-2 8-4 8-4 8-5
FF8 1# (TableNo.)# (AreaCode)# (0 or 1)#	LCR Area Codes	8-6
FF8 2# (TableNo.)# (OfficeCode)# (0 or 1)#	LCR Office Codes	8-7
FF8 3# (EntryNo.)# (AreaCode)#	Special LCR Area Codes	8-8
FF8 4# (EntryNo.)# (TableNo.)# (OfficeCode)# (0 or 1)#	Special LCR Off ice Code Tables	8-9
FF8 5# (TableNo.)# (Position)# (TrunkGroup)#	Time Priority Route Tables	8-10
FF8 6# (TrunkGroup)# (Position)# (Trunk)#	LCR Trunk Groups	8-12
FF8 7# (TrunkGroup)# (Digits)#	LCR Delete Tables	8-13
FF8 8# (TrunkGroup)# (Digits)#	LCR Add Tables	8-14

An Overview of Least Cost Routing

With the Least Cost Routing (LCR) feature, you can program the DBS system to automatically route outgoing calls to the least expensive carrier.

Before Programming LCR

- Verify the carrier for each CO trunk in the system, and which carriers provide the best rates at different times of the day or weekend -- check the site's phone bills for call history.
- Cut Strap *S* 1 on the CPC card. *See Section 300-Installation* for instructions.
- Enable LCR for the system in **FF1 2# 1# 3#** (set to "1").

LCR Setup

Use **FF8** addresses to set up LCR in the following logical order:

Step 1: Build LCR Trunk Groups

FF8 **6#** (TrunkGroup)# (Position)# (Trunk)#

Assign trunks to each group, prioritizing the trunks by assigning them to positions within the group (trunk in position 1 will be tried first, then trunk in position 2, etc.). To prevent glare, assign the trunks in descending order by port number (from highest to lowest -- e.g., trunk port 7 in the first position, trunk port 6 in the second position, etc.). Maximum 8 trunk groups. Maximum 8 positions (trunks) per group.

Example: Create three trunk groups -- Trunk Group 1 for trunks that will be used for local calls; Trunk Group 2 for long-distance trunks; and Trunk Group 3 for backup trunks.

Step 2: Build Time Priority Route Tables

FF8 **5# (TableNo.)#** (Position)# (TrunkGroup)#

Assign trunk groups to positions within each Time Priority Route Table, which has six time-of-day periods (see Table 8-1, next page). These time periods are fixed and can't be changed. Each time period has eight different positions for trunk groups. Maximum 15 Time Priority Route Tables.

Example: Create two Time Priority Route Tables -- Table 1 for long-distance calls; Table 2 for local calls.

- For Table 1 (long-distance), assign Trunk Group 2 to positions 1, 9, 17, 25, 33 and 41, so that these trunks will be tried fist in all time periods for long-distance calls. In positions 2, 10, 18, 26, 34 and 42, assign Trunk Group 3 (backup).

- For Table 2 (local), assign Trunk Group 1 to positions 1, 9, 17, 25, 33 and 41, so that these trunks will be tried first in all time periods for local calls. In positions 2, 10, 18, 26, 34 and 42, assign Trunk Group 3 (backup).

Table 8-1.   Time Priority Route Table format

Fixed Time Periods (cannot be changed)	LCR Trunk Group Positions							
	< Highest Priority							Lowest Priority >
7:00 am - 7:59 am	1st	2nd	3rd	4th	5th	6th	7th	8th
8:00 am - 4:59 pm	9th	10th	11th	12th	13th	14th	15th	16th
5:00 pm - 7:59 pm	17th	18th	19th	20th	21st	22nd	23rd	24th
8:00 pm - 11:59 pm	25th	26th	27th	28th	29th	30th	31st	32nd
12:00 am - 6:59 am	33rd	34th	35th	36th	37th	38th	39th	40th
Weekend	41st	42nd	43rd	44th	45th	46th	47th	48th

Step 3: Set Up LCR for Long-Distance Dialing

FF8 1# (TableNo.)# (AreaCode)# (Add/Remove)#

Input all area codes into a Time Priority Route Table. Maximum 1,000 area codes (000-999) per Table. All area codes you want routed by LCR must be input into a Time priority Route Table. If you need to set up special area/office code combinations as "exceptions to the rule", use **Step** 5 below.

Example: Assign area codes you want LCR-routed to Table 1 (long-distance). If a dialed area code is not assigned to a Time Priority Route Table, it will be routed to pooled trunk group "9".

Step 4: Set Up LCR for Local Dialing

FF8 2# (TableNo.)# (OfficeCode)# (Add/Remove)#

Every office code (exchange) to follow LCR must be input, one at a time, to a Time Priority Route Table. Maximum 1,000 office codes (000-999) per Table.

Example: Assign all office codes in the site's local area to Table 2 (local). If a local office code is not included in Table 2, it will be routed to trunk group "9" when dialed.

Step 5: Set Up "Exceptions To The Rule" (Area/Office Code Combinations)

FF8 3# (EntryNo.)# (AreaCode)#
FF8 4# (EntryNo.)# (TableNo.)# (Office Code)# (Add/Remove)#

If there are any special area/office code combinations you want routed to different trunks, input these combinations here.

Example:

- Assign 7 14-242 to Table 1 (for calls to 7 14/242-1000)
- Assign 714-243 to Table 3 (for calls to 7 14/243-1000)

Step 6: Set Up Add/Delete Digits

FF8 7# (TrunkGroup)# (DeleteDigits)#
FF8 8# (TrunkGroup)# (AddDigits)#

The DBS will automatically outpulse Add Digits, or prevent Delete Digits from being outpulsed, at the beginning of all phone numbers dialed on trunks in the assigned group. The Add/Delete Digits are associated with LCR trunk groups, not with the dialed phone number or the time of day.

Example: When the DBS is behind a PBX, assign "9-PAUSE" (press the REDIAL key to insert the pause) so that the PBX will be automatically accessed whenever a user dials out.

Activating LCR

- Although the FF8 addresses provide for LCR setup, you must activate LCR in the "LCR Access" system address, FF1 2# 1# 3# 1#.

- You can still build a Pooled Trunk Group "9" in FF2 (Trunk)# 3#, which the DBS will access if all LCR trunks are busy.

- Individual extensions can be forced to use LCR in FF3 (ExtPort)# 4#.

LCR Call Processing

LCR processes calls as follows:

1. An extension user dials an outgoing phone nurnber.

   - If 0, 411, 555, 911, or 800 is dialed, the DBS will automatically drop out of LCR and use pooled trunk group "9" (this trunk group is built in FF2 Trunk# 3#). This occurs to make sure these numbers are dialed without any modification (e.g., LCR's Add/Delete Digits Tables).

2. The DBS determines which Time Priority Route Table to use for the call, based on the area code and/or office code dialed.

   - If the number is not assigned to a Table, LCR processing terminates and the call is routed to pooled trunk group "9".

3. The DBS will search all trunks in the Time Priority Route Table's assigned trunk groups, until an available trunk is found.

   - If all trunks in the first trunk group are busy, the DBS will search it again. If all the trunks are still busy, the user will hear a "beep-beep" tone as LCR proceeds to the next trunk group. Each trunk group is searched twice.

   - If no trunks are available in *any* trunk group (whether LCR or not), the user (after hearing busy tone) can dial "2" to have the DBS call back

when a trunk becomes available. When the DBS recalls, the user picks up the handset and the DBS will automatically redial the number.

4. When a trunk is found, digits are added to or deleted from the phone number, according to the Add or Delete digits assigned to the trunk group.

Using LCR With a PBX System

When the DBS is behind a PBX. two "9"s have to be dialed to access an outside line -- once to access the PBX, and again to access a trunk line. In these cases, LCR is often used to add the "9"s automatically (via the Add Digits Table) so the user doesn't have to dial them each time.

In earlier CPC versions (CPC-A lower than 3.21; CPC-B lower than 2.11), some office codes -- specifically, 941, 955, 991, and 980 -- should not be routed through LCR in PBX systems. Because of the "9" dialing requirement, and because the DBS automatically drops out of LCR if 0, 411, 555, 911 or 800 is dialed, the DBS may interpret these special numbers as office codes instead.

For example, if "9-911" is dialed to access a trunk and make an emergency call, LCR may assume office code 991 was dialed instead. Therefore, *do* not *assign office codes 941, 955, 991 or 980 to Time Priority Route Tables if you have an earlier CPC-A or CPC-B version.*

LCR Area Codes
Software Version: All Versions
Address: FF8 1# (TableNo.)# (AreaCode)# (0 or 1)#

Description   Use this address to route all calls to a certain area code through LCR.

This address associates the area code with a Time Priority Route Table, which tells the DBS which trunk group to route the call to, based on the time of day and weekend when the area code is dialed.

To use different Time Priority Route Tables for the same area code (based on the office code dialed), do not enter the area code here -- instead, use the Special LCR Area/Office Codes addresses (FF8 3# and 4#).

If a dialed area code is not assigned to a Time Priority Route Table, the call will be routed to pooled trunk group "9" (built in FF2 Trunk# 3#).

Programming

```
          FF8 1# (1-15)# (000-999)# (0 or 1)#


          Time Priority Route       Area Code      O=Remove from table.
          Table No.                                l=Add to table.
```
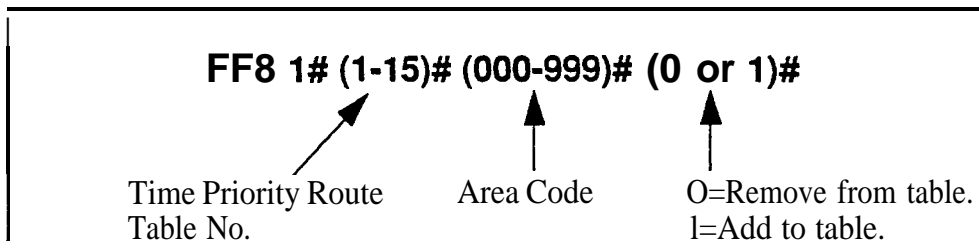
Related Programming

Time Priority Route Tables: FF8 5# (Table)# (Position)# (TrunkGrp)#

Notes   ***FLASH Key Interaction.***   Once a trunk is accessed through LCR, the FLASH key cannot be used to get a second dial tone. The flash operation is disabled to prevent second calls from being placed over inappropriate routes.

Special Numbers Not Processed By LCR.   If the user dials 0, 411, 555, 9 11, or 800, the DBS will automatically terminate LCR processing and route the call to pooled trunk group "9" (this trunk group is built in FF2 Trunk# 3#). This occurs so that these numbers are dialed without modification (e.g., preventing LCR Add digits from being dialed as a prefix to the number).

LCR Office Codes
Software Version: All Versions
Address: FF8 2# (TableNo.)# (OfficeCode)# (0 or 1)#

Description   Use this address to route all calls to a certain office code (exchange) through LCR.

This address associates an exchange with a Time Priority Route Table, which tells the DBS which trunk group to route the call to, based on the time of day and weekend when the exchange is dialed.

To use different Time Priority Route Tables for different exchanges within the same area code, do not enter the exchanges here -- instead, use the Special LCR Area/Office Codes addresses (FF8 3# and 4#).

If a dialed exchange is not assigned to a Time Priority Route Table, the call will be routed to pooled trunk group "9" (built in FF2 Trunk# 3#).

Programming

```
FF8 2# (1-15)# (000-999)# (0 or 1)#
```

Time Priority Route   Office Code   O=Remove from table.
Table No.   (Exchange)   l=Add to table.

Related Programming

Time Priority Route Tables: FF8 5# (Table)# (Position)# (TrunkGrp)#

Notes   *FLASH* **Key Interaction.**   **Once** a **trunk** is accessed through LCR, **the FLASH** key cannot be used to get second dial tone. The flash operation is disabled to prevent second calls from being placed over inappropriate routes.

Special Numbers *Not Processed* By *LCR.*   If the user dials 0, 411, 555, 9 11 or 800, the DBS will automatically terminate LCR processing and route the call to pooled trunk group "9" (this trunk group is built in FF2 Trunk# 3#). This occurs so that these numbers are dialed without modification (e.g., preventing LCR Add digits from being dialed as a prefix to the number).

LCR Office Code *Restriction in PBX Systems.*   With CPC-A versions lower than 3.21, and CPC-B versions lower than 2.11, office codes 941, 955, 991, and 980 should not be routed through LCR if the DBS is behind a PBX system. Because of the '9' dialing requirement to access the PBX and a trunk line, and because the DBS will automatically drop out of LCR processing if special numbers 0, 411, 555, 9 11, or 800 are dialed, the DBS may interpret the special numbers as office codes instead (for example, reading a "9-911" emergency call as a "991" office code).

Special LCR Area Codes
Software Version: All Versions
Address: FF8 **3# (EntryNo.)# (AreaCode)#**

Description　　Use this address to assign up to four special area codes for LCR routing.

This address is used in conjunction with the next address -- "Special LCR Office **Codes"** (FF8 4#) -- to assign different office codes within the same area code to different Time Priority Route Tables.

If an area code is assigned here, the DBS will wait until the next three digits (representing the office code) are dialed, before routing the call.

Programming

To assign a Special LCR Area Code . . .

```
        FF8  3#  (1-4)#  (000-999)#
                   ▲         ▲
                   |         |
        Special Area Code Entry No.   Area Code
```
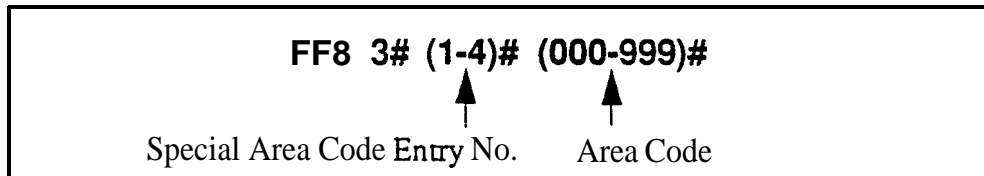
To clear a Special LCR Area Code . . .
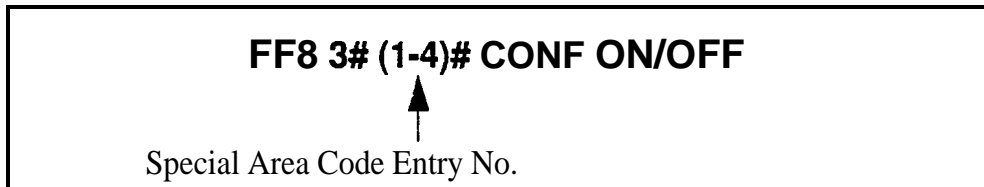
```
        FF8 3# (1-4)# CONF ON/OFF
                 ▲
                 |
        Special Area Code Entry No.
```

Related Programming

Time Priority Route Tables: FF8 5# (Table)# (Position)# (TrunkGrp)#

Special LCR Office Codes: FF8 4# (EntryNo.)# (Table)# (OfficeCode)# (0 or 1)#

Notes　　　　*FLASH Key Interaction.* Once a trunk is accessed through LCR, the FLASH key cannot be used to get second dial tone. The flash operation is disabled to prevent second calls from being placed over inappropriate routes.

Special Numbers Not Processed By LCR. If the user dials 0, 411, 555, 911, or 800, the DBS will automatically terminate LCR processing and route the call to pooled trunk group "9" (this trunk group is built in FF2 Trunk# 3#). This occurs so that these numbers are dialed without modification (e.g., preventing LCR Add digits from being dialed as a prefix to the number).

Special LCR Office Code Tables
Software Version: All Versions
Address: FF8 4# (EntryNo.)# (TableNo.)# (OfficeCode)# (0 or 1)#

Description   Use this address to assign office codes to a special area code for LCR routing.

This address is used in conjunction with the previous address -- **"Special LCR Area Codes"** (FF8 4#) -- to assign different office codes within the same area code to different Time Priority Route Tables (instead of using the same Time Priority Route Table for all calls to that area code).

If a special area/office code combination is dialed, the DBS will wait until both the area code and office code is dialed before routing the call.

Programming

To assign a Special LCR Office Code . . .
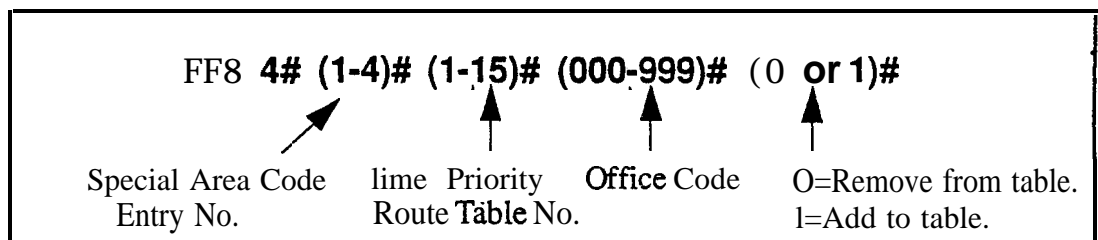
FF8 4# (1-4)# (1-15)# (000-999)# (0 or 1)#

| Special Area Code Entry No. | lime Priority Route Table No. | Office Code | O=Remove from table. l=Add to table. |

Related Programming

Time Priority Route Tables: FF8 5# (Table)# (Position)# (TrunkGrp)#

Special LCR Area Codes: FF8 3# (EntryNo.)# (AreaCode)#

Notes   *FLASH Key Interaction.* Once a trunk is accessed through LCR, the FLASH key cannot be used to get second dial tone. The flash operation is disabled to prevent second calls from being placed over inappropriate routes.

Special Numbers Not Processed By LCR. If the user dials 0, 411, 555, 911 or 800, the DBS will automatically terminate LCR processing and route the call to pooled trunk group '9' (this trunk group is built in FF2 Trunk# 3#). This occurs so that these numbers are dialed without modification (e.g.. preventing LCR Add digits from being dialed as a prefix to the number).

LCR Office Code Restriction in PBX Systems. With CPC-A versions lower than 3.21, and CPC-B versions lower than 2.11, office codes 941, 955, 99 1, and 980 should not be routed through LCR if the DBS is behind a PBX system. Because of the **"9"** dialing requirement to access the PBX and a trunk line, and because the DBS will automatically drop out of LCR processing if special numbers 0, 411, 555, 9 11 or 800 are dialed, the DBS may interpret the special numbers as office codes instead (for example, reading a "9-9 11" emergency call as a "991" office code).

Time Priority Route Tables
Software Version: All Versions
Address: FF8 5# (TableNo.)# (Position)# (TrunkGroup)#

Description   Use this address to assign LCR trunk groups to Time Priority Route Tables.
Within each Table, LCR trunk groups are assigned to priority positions in six
time-of-day periods (in the format shown in *Table 8-2* below). This sets up
LCR routing paths for the DBS to follow when outgoing calls are placed.

Area codes and/or office codes are also associated with Time Priority Route
Tables, using other addresses. When a user dials the area code and/or office
code, the DBS will route the call to the trunk groups in the assigned Table
based on the time of day/weekend when the call is placed.

The first position in each time period is the highest-priority position for that
time period. For example, if a call is placed at 8:35 pm, the trunk group
assigned to position 25 will be tried first when the call is placed (refer to
Table 8-2 below). If the DBS cannot access a trunk in this group, it will
search the trunk group assigned to the next-highest position (in the same
example, position 26).

Table 8-2.   Time Priority Route Table format

Fixed Time Periods (cannot be changed)	Trunk Group Positions							
	< Highest Priority							Lowest Priority >
7:00 am - 7:59 am	1	2	3	4	5	6	7	8
8:00 am - 4:59 pm	9	10	11	12	13	14	15	16
5:00 pm - 7:59 pm	17	18	19	20	21	22	23	24
8:00 pm - 11:59 pm	25	26	27	28	29	30	31	32
12:00 am - 6:59 am	33	34	35	36	37	38	39	40
Weekend	41	42	43	44	45	46	47	48

Programming

To create Time Priority Route Tables . . .

FF8 5# (1-15)# (1-48)# (1-8)#

Time Priority   Position   Trunk Group
Route Table No.

To reset a position in a Time Priority Route Table to default . . .

FF8 5# (1-15)# (1-48)# CONF ON/OFF

Time Pribrity   Position
Route Table No.

Related Programming

LCR Access: FF1 2# 1# 3# (0 or 1)#

LCR Area Codes: FF8 1# (TableNo.)# (AreaCode)# (0 or 1)#

LCR Office Codes: FF8 2# (TableNo.)# (OfficeCode)# (0 or 1)#

Special LCR Area Codes: FF8 3# (EntryNo.)# (AreaCode)#

Special LCR Office Code Tables: FF8 4# (EntryNo.)# (TableNo.)# (Office Code)# (0 or 1)#

LCR Trunk Groups: FF8 6# (TrunkGroup)# (Position)# (Trunk)#

LCR Trunk Groups
Software Version: All Versions
Address: FF8 6# (TrunkGrp)# (Position)# (Trunk)#

Description   Use this address to build LCR trunk groups, which are assigned to priority positions in Time Priority Route Tables (see FF8 5#).

Each LCR trunk group can contain up to 8 trunks. A maximum of 8 different trunk groups can be created. Within each trunk group, the trunks are assigned to positions from the highest priority (position 1) to the lowest (position 8). When a call is routed to the trunk group, LCR will try the trunk in the first position, then the second position, etc.

LCR trunk groups are also used for assigning Add or Delete digits as a prefix to dialed numbers routed to the trunk group (see FF8 7# and 8#).

Programming

```
FF8 6# (1-8)# (1-8)# (1-64)#
```

LCR Trunk Group .   Position   Trunk
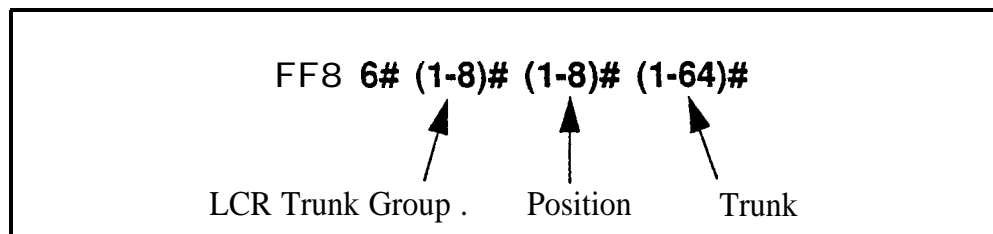
Related Programming

Time Priority Route Tables: FF8 5# (TableNo.)# (Position)# (TrunkGrp)#

LCR Delete Tables: FF8 7# (TrunkGrp)# (up to 16 digits)#

LCR Add Tables: FF8 8# (TrunkGrp)# (up to 16 digits)#

Notes   *Trunk Assignment to LCR Trunk Groups.*   A trunk cannot be assigned to more than one position within the same LCR trunk group. However, the same trunk can be assigned to several different groups.

Avoiding Glare.   Glare occurs when both ends of a trunk are seized at the same time, causing accidental connection between an incoming caller and a DBS extension user preparing to make an outside call. Since incoming calls will access DBS trunks starting from the lowest to the highest trunk number, glare can be avoided by routing outgoing calls to the highest-numbered trunks first. So, when you build LCR trunk groups, assign trunks in descending order (from highest to lowest trunk number) to trunk group positions in ascending order (from lowest to highest position). For example, assign trunk 7 to position 1; trunk 6 to position 2, trunk 5 to position 3, etc.

LCR Delete Tables
Software Version: All Versions
Address: FF8 7# (TrunkGrp)# (DeleteDigits)#

Description   Use this address to assign Delete Digits to calls routed to an LCR trunk group. Up to 16 digits can be assigned.

When an outgoing call is routed to an LCR trunk group, the DBS will check the first digits of the dialed number and, if it finds a matching entry in this table, the DBS will not outpulse the matched digits (only the rest of the dialed digits will be outpulsed).

This feature is often used to strip off the "1" before an area code. or "1+AC" before a 7-digit phone number.

The deletion will occur only if the outgoing call is routed to a trunk group that has Delete Digits assigned to it. The deletion is not relative to time-of-day or the complete dialed number.

Programming

To create an LCR Delete Table . . .

FF8 7# (1-8)# (NNNNNNNNNNNNNNNN)#

LCR Trunk Group   Deletion Digits
                              (up to 16 digits)
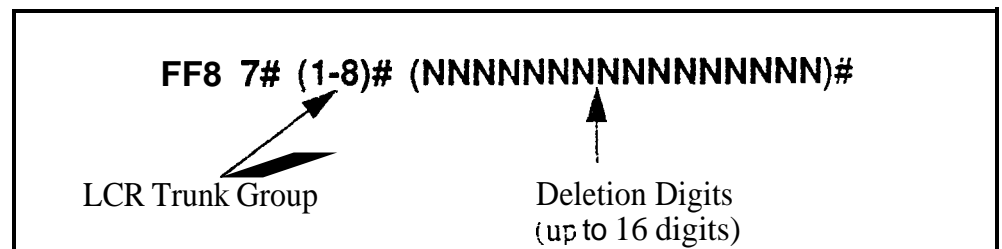
To clear an LCR Delete Table . . .

FF8 7# (1-8)# CONF ON/OFF
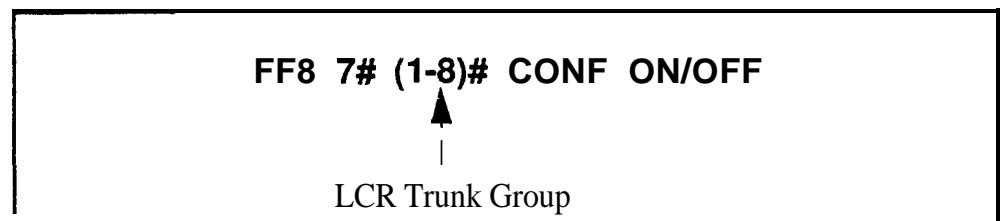
LCR Trunk Group

Related Programming

LCR Trunk Groups.: FF8 6# (TrunkGrp)# (Position)# (Trunk)#

Notes   *Priority of Deleted Digits Over Added Digits.*   If digits are being added and deleted from the same trunk group, the DBS will delete digits first, then add digits.

LCR Add Tables
Software Version: All Versions
Address: FF8 8# (TrunkGrp)# (AddDigits)#

Description   Use this address to assign Add Digits to calls routed to an LCR trunk group. Up to 16 digits can be assigned.

When an outgoing call is routed to an LCR trunk group with Add Digits, the DBS will add the digits to the beginning of the dialed number when it outpulses the number to the CO.

This feature is often used to add CIC or PIC codes to dialed numbers. You can also put "pauses" (by pressing REDIAL key) in the Add Digits.

The Add Digits feature is not associated with time-of-day or the dialed number.

Programming

To create an LCR Add Table . . .

FF8 8# (1-8)# (NNNNNNNNNNNNNNNN)#

LCR Trunk Group   Addition Digits
                         (up to 16 digits)

To clear an LCR Add Table . . .

FF8 8# (1-8)# CONF ON/OFF
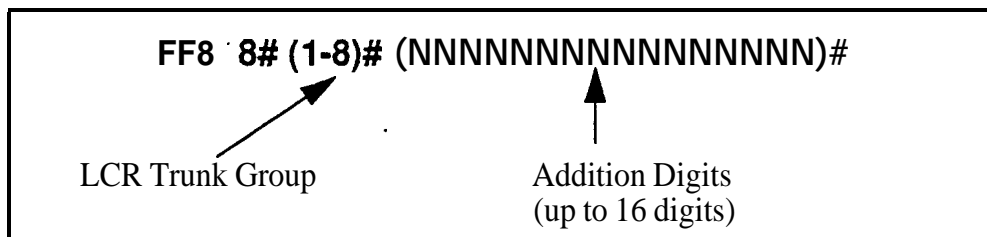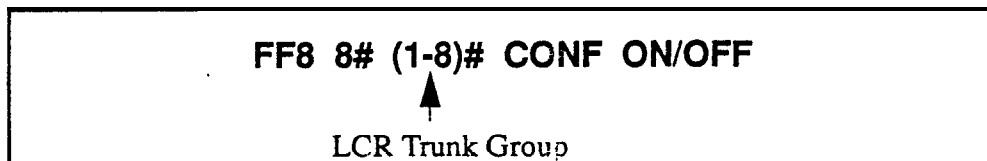
LCR Trunk Group

Related Programming

Outbound DTMF Signal Duration for Auto-Dialed Digits: FF2 (Trunk)# !5# (1-3)#

LCR Trunk Groups: FF8 6# (TrunkGrp)# (Position)# (Trunk)#

Notes   ***Priority of Deleted Digits Over Added Digits.*** If digits are being added and deleted from the same trunk group, the DBS will delete digits first, then add digits.

9. Copy Program Settings (FF9)

Use the **FF9** program addresses in this chapter to copy settings among trunks, extensions, and FF keys.

This chapter covers the following addresses:

FF9 Address	Topic	Page
FF9 1# (Trunk)# (Trunk)##	Trunk Copy	9-3
FF9 2# (ExtPort)# (ExtPort)##	Extension Copy	9-4
FF9 3# (ExtPort)# (ExtPort)##	FF Key Copy	9-5

Trunk Copy
Software Version: All Versions
Address: FF9 1# (SourceTrunk)# (TargetTrunk)##

Description   Use this address to copy the attributes of one trunk to another.

Copying must be done on a trunk-by-trunk basis. The first trunk entry in this address is the trunk being copied *from* (the source); the second trunk entry is the trunk being copied *to (the m-get).*

Programming

Note: You must enter two pound-signs (##) at the end of this address.

FF9 1# (1-64)# (1-64)##

Trunk Number   Trunk Number
(Source)   (Target)
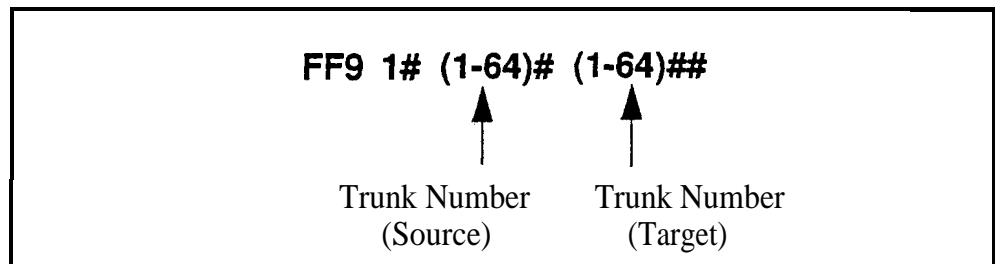
Notes   *Restriction Regarding Private Trunks.* This program copies all trunk attributes except the Private Trunk Line attribute.

Extension Copy
Software Version: All Versions
Address: FF9 2# (SourceExtPort)# (TargetExtPort)##

Description   Use this address to copy the attributes of one extension to another.

Copying must be done on an extension-by-extension basis. The first
extension port entry in this address is the extension being copied *from* (the
source); the second extension entry is the extension being copied *to* (the
target).

Programming

Note: You must enter two pound-signs (##) at the end of this address.

FF9 2# (1-144)# (I-1447

↑

Extension Port   Extension Port
(Source)   (Target)
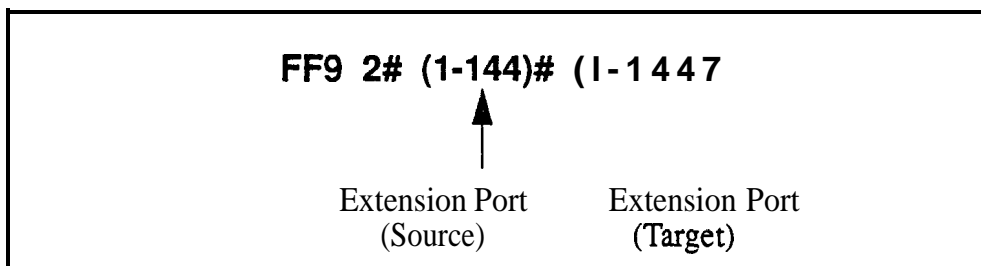
Notes   ***Copying Restrictions.*** This address copies all extension attributes except the
extension number, telephone type, extension lockout code, and EM/24 port
number (BLF port setting).

Consideration for Call Forward ID Codes.   Do not use this address to copy
settings from an extension with a Call Forward ID Code. If the copied
extension settings include a Call Forward ID Code, the copy "target" will be
able to retrieve the messages of the copy "source." For example, if you copy
extension settings from station 200 to station 300, station 300 will be able to
retrieve 200's messages. Station 300 can retrieve 200's messages because the
Call Forward ID Code for 200 is also assigned to 300.

FF Key Copy
Software Version: All Versions
Address: FF9 3# (ExtPort)# (ExtPort)##

Description   Use this address to copy the attributes of one extension's FF keys to another.

Copying must be done on an extension-by-extension basis. The first extension port entry in this address is the FF key source; the second extension entry is the FF key target.

Programming

Note: You must enter two pound-signs (##) at the end of this address.

FF9 3# (1-144)# (1-144)##

Extension Port   Extension Port
(Source)   (Target)
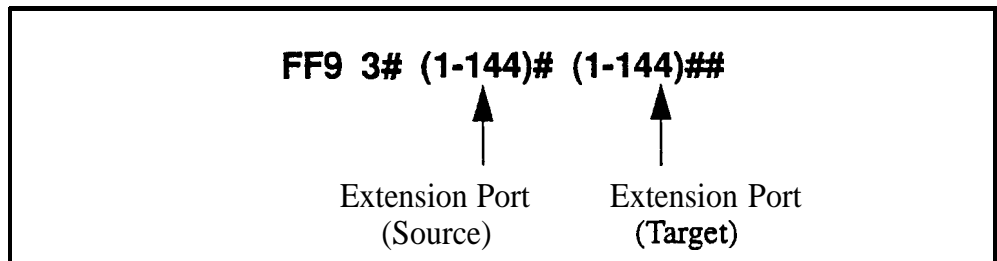
Notes   ***Copying Restriction.***   This address does not copy FF keys programmed as PSD (Personal Speed Dial) keys.

Clearing FF Keys Before Using the Copy Program.   Before you copy the FF keys to an extension that is set to the defaults, you must clear the key settings of the target phone. To clear key settings, use address FF5 (ExtPort)# (Key)# CONF ON/OFF.

SettingUp FF Keys on Multiple Phones.   To set up multiple extensions with new FF key settings, use the following steps:

1. Clear the keys of the source phone using FF5 (ExtPort)# (Key)#.

2. Copy the cleared key settings to multiple target extensions using FF9 3# (SourceExtPort)# (TargetExtPort)#.

3. Set up the FF keys on the source phone using FF5 (ExtPort)# (Key)#.

4. Copy the new settings to multiple target extensions using FF9 3# (SourceExtPort)#(TargetExtPort)#.

10. Speed Dial Programming (FF10)

Use the FF10 addresses in this chapter to program speed dial numbers.

This chapter covers the following addresses:

FF10 Address	Topic	Page
FF10 1# (SSD)# (DialedNo.)#	System Speed Dial Numbers	10-3
FF10 2# (ExtPort)# (PSD)# (DialedNo.)#	Personal Speed Dial Numbers	10-5

System Speed Dial Numbers
Software Version: All Versions
Address: FF10 1# (SSD)# (PhoneNumber)#

Description   Use this address to set up System Speed Dial (SSD) codes and their related phone numbers. An Attendant phone is required to program SSD numbers.

NOTE: Up to 90 SSD codes (00-89) can be assigned in CPC-A (all versions) and CPC-AII/B versions prior to 7.0. Beginning with CPC-AII/B Version 7.0, up to 200 SSD codes (000-199) can be assigned.

Programming

To assign an SSD number . . .

FF10 1# (00-89 or 000-199)# (NNNNNNNNNNNNNNNN)#

SSD Code
00-89=CPC-A (all versions), and CPC-AII/
CPC-B versions prior to 7.0
000-199=CPC-AII/CPC-B Version 7.0 or higher

Pdone Number Sent To CO
(up to 16 digits)

To clear an SSD number . . .

FF10 1# (00-89 or 000-199)# CONF ON/OFF

SSD Code

Related Programming

Override Toll Restriction with SSD Numbers: FF1 2# 1# 4# (SSD)#

SSD Display Restriction: FF1 2# 1# 5# (0 or 1)#

SSD Name Display: FF1 2# 1# 19# (0 or 1)#

System Speed Dial Names: FF6 2# (SSD)# CONF (Name)#

Notes   ***SSD Code Display.***   SSD codes will appear on large-display telephones in alphabetical order by SSD name (set in FF6 2#).

SSD Number Display.   SSD codes 80-89 (or 160-199) can be set so that their associated phone numbers will not display when the DBS outpulses them. **See "SSD Display Restriction", address FF1 2# 1# 5#.**

Including Trunk Groups in an SSD Number.   You can make a trunk group part of an SSD number. To do this, press **CONF** to insert a "C" as the first character of the SSD number, then enter the trunk group number l-8. The "C" is required for an SLT to use speed-dialing. A "9" can also be used to access the pooled trunk capability.

DSS Key Functions.   DSS keys can be used for several different tasks in speed dial programming. The keys are described in the following table:

Table 10-I. DSS key functions in System Speed Dial programming

DSS Key	Function
CON-F	Clears entered data on key phone
<-	Backspaces
BS	Backspaces
->	Forward spaces
P	Inserts a pause
C	Initiates trunk group access

For example, **"C1P5551212"** will access pooled trunk group 8 1, then pause, and then dial 555-1212.

Personal Speed Dial Numbers
Software Version: All Versions
Address: FF10 2# (ExtPort)# (PSD)# (PhoneNumber)#

Description   Use this address to set up Personal Speed Dial (PSD) codes and their related phone numbers. PSD numbers can be programmed from any phone.

Up to 10 PSDs can be assigned on each extension. In CPC-A (all versions) and in CPC-AII/B versions prior to 7.0, two-digit PSD codes 90-99 are used. Beginning with CPC-AI1 and CPC-B Version 7.0, three-digit codes 900-909 are used.

Programming

To assign a PSD number . . .

FF10 2# (1-144)# (90-99 or 900-909)# (NNNNNNNNNNNNNNNN)#

Extension Port   PSD Code   Phone Number Sent To CO
                   90-99=CPC-A (all versions), and   (up to 16 digits)
                      CPC-AII/CPC-B versions
                          prior to 7.0
                   900-909=CPC-AII/CPC-B Version 7.0
                          or higher

To clear a PSD number . . .

FF10 2# (1-144)# (90-99 or 900-909)# CONF ON/OFF

               Extension Port   PSD Code
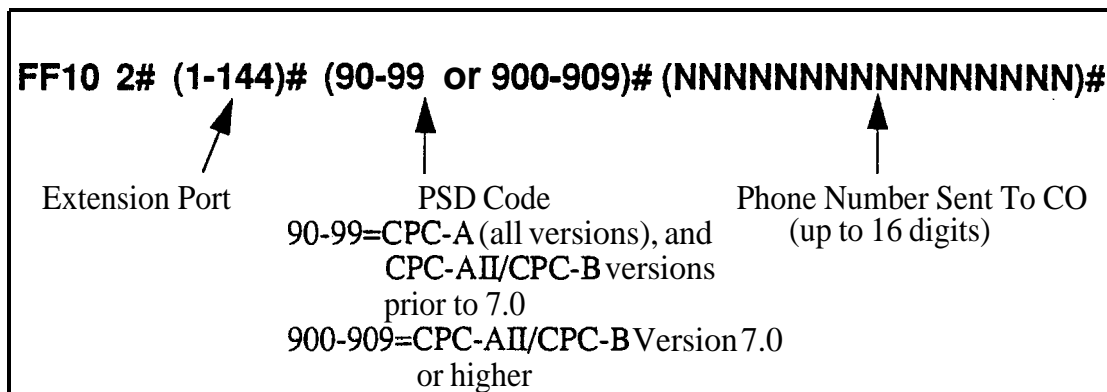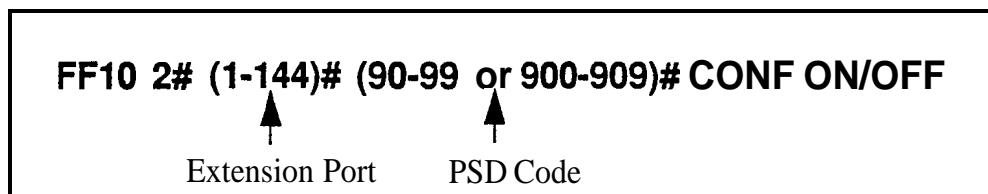
Related Programming

PSD Name Display: FF3 (ExtPort)# 17# (0 or 1)#

Personal Speed Dial Names: FF6 3# (ExtPort)# (PSD)# CONF (Name)#

Notes   *PSD Number Display.* PSD numbers appear on large-display telephones in alphabetical order by PSD name (set in FF6 3#).

DSS Key Functions.   DSS keys can be used for several different tasks in speed dial programming. The keys are described in the following table:

Table 10-2. DSS key functions in Personal Speed Dial programming

DSS Key	Function
CONF	Clears entered data on key phone
<-	Backspaces
BS	Backspaces
->	Forward spaces
P	Inserts a pause
C	Initiates trunk group access

For example:

"CI P5551212" will access pooled trunk group 8 1, then pause, and then dial 555-1212.

Appendix A. Large-Screen Displays

This appendix illustrates the menu screens that can be programmed to appear during different call states (e.g., when the phone is idle, during a trunk call, during an intercom call, etc.) on large-display phones. These screens act as labels for the soft keys surrounding the LCD. The soft keys provide one-touch initiation of a feature, or one-touch access to a directory, during the call state when the screen appears.

There are a total of 39 screens. Screens 1-24 are fixed, pre-programmed screens which cannot be changed. Beginning with CPC-AM3 Version 6.0, Flexible Function screens 25-39 are available, which can be custom-designed using FF1 2# 7# 1# thru 4#. AU of these screens can be assigned to different call states using FF3 (ExtPort)# (26-33)# (0-39)#.

Note: Some screens cannot be set to display during certain call processing operations.

Main Menu FF3 (ExtPort)# (26-33)# 1#

08:14 Tue JAN 31
RICH SMITH   604
PERSONAL DIAL
SYSTEM DIAL
EXTENSION
FUNCTION
HELP

Personal Speed Dial FF3 (ExtPort)# (26-33)# 2#	System Speed Dial FF3 (ExtPort)# (26-33)# 3#

08:14 Tue JAN 31
RICH SMITH   604
PSD90   PSD95
PSD91   PSD96
PSD92   PSD97
PSD93   PSD98
PSD94   PSD99

08:14 Tue JAN 31
RICH SMITH   604
SSD DIRECTORY
ABC   MNO
DEF   PQRS
GHI   TUV
JKL   WXYZ

Extension Index
FF3 (ExtPort)# (26-33)# 4#

08:14 Tue JAN 31
RICH SMITH   604
EXT DIRECTORY
ABC   MNO
DEF   PQRS
GHI   TUV
JKL   WXYZ

Help Menu 1
FF3 (ExtPort)# (26-33)# 5#

08:14 Tue JAN 31
RICH SMITH   604
Absence Message
ACCT Code Entry
Station Lockout
Time Reminder
FF-Key Setting

Help Menu 2
FF3 (ExtPort)# (26-33)# 6#

08:14 Tue JAN 31
RICH SMITH   604
PSD Name/No. Set
CFWD All_Call
CFWD No_Answer
CFWD On_Busy
CFWD OUTSIDE

Help Menu 3
FF3 (ExtPort)# (26-33)# 7#

08:14 Tue JAN 31
RICH SMITH   604
Programming Mode
Park Holding
Don't Disturb
Save Dialing
BGM Setting

Attendant Menu 1
FF3 (ExtPort)# (26-33)# 8#

08:14 Tue JAN 31
RICH SMITH   604
** Att. Features **
Timer Setting
Timer Adjustment
Attendant Cancel
Day/Night Mode

Attendant Menu 2
FF3 (ExtPort)# (26-33)# 9#

08:14 Tue JAN 31
RICH SMITH   604
SSD Name/No. Set
EXT Name Setting
MAINTE. Code Set
Key Code Setting
DISA Code Setting

Attendant Menu 3	Function Screen 1
FF3 (ExtPort)# (26-33)# 10#	FF3 (ExtPort)# (26-33)# 11#

08:14 Tue JAN 31
RICH SMITH   604
Programming Mode
Outgoing Amount
Incoming Amount
Use SSD Amount

08:14 Tue JAN 31
RICH SMITH   604
BGM Off   Mute
DND   Lockout
Reminder
Absence
Call-FWD   Cancel

Function Screen 2	Function Screen 3
FF3 (ExtPort)# (26-33)# 12#	FF3 (ExtPort)# (26-33)# 13#

08:14 Tue JAN 31
RICH SMITH   604
Dial Tone OFF
Headset
Message Callback
Message Cancel
Confirmation

08:14 Tue JAN 31
RICH SMITH   604
Page Answer
Zone 1   Zone 5
Zone 2   Zone 6
Zone 3   Zone 7
Zone 4   All Zone

Function Screen 4	Function Screen 5
FF3 (ExtPort)# (26-33)# 14#	FF3 (ExtPort)# (26-33)# 15#

08:14 Tue JAN 31
RICH SMITH   604
Conference   Mute
Tone
Set Message
Transfer
Release

08:14 Tue JAN 31
RICH SMITH   604
Save   Mute
Repeat
DTMF Conv.
Release
ACCT Code Entry

Function Screen 6 FF3 (ExtPort)# (26-33)# 16#	Function Screen 7 FF3 (ExtPort)# (26-33)# 17#
08:14 Tue JAN 31 RICH SMITH 604 Set Call Waiting Set Message Set Co_Queuing Busy Override Release	08:14 Tue JAN 31 RICH SMITH 604 ACCT Code Entry LCR Call Direct TRK-G81 TRK-G84 TRK-G82 TRK-G85 TRK-G83 TRK-G86

Function Screen 8 FF3 (ExtPort)# (26-33)# 18#	Function Screen 9 FF3 (ExtPort)# (26-33)# 19#
08:14 Tue JAN 31 RICH SMITH 604 UNA Pick-Up Group Pick-Up Direct Pick-Up Paging Pick-Up	08:14 Tue JAN 31 RICH SMITH 604 MCO-Call MUTE LCR-Call PAGE PSD-DIR TONE SSD-DIR EXT-DIR

Function Screen 10 FF3 (ExtPort)# (26-33)# 20#	Function Screen 11 FF3 (ExtPort)# (26-33)# 21#
08:14 Tue JAN 31 RICH SMITH 604 Message Mute Transfer DND Release Tone Conference Park	08:14 Tue JAN 31 RICH SMITH 604 Repeat Release DTMF-Conv. Mute ACCT Code Entry SSD-DIR EXT-DIR PSD-DIR

Function Screen 12
FF3 (ExtPort)# (26-33)# 22#

```
08:14 Tue JAN 31
RICH SMITH      604
Save            Mute
PSD-DIR    Release
SSD-DIR    Transfer
Conf.      Reminder
ACCT Code Entry
```

Function Screen 13
FF3 (ExtPort)# (26-33)# 23#

```
08:14 Tue JAN 31
RICH SMITH      604
Page-Answer  Mute
Headset        UNA
Tone        EXT-DIR
            PSD-DIR
            SSD-DIR
```

Function Screen 14
FF3 (ExtPort)# (26-33)# 24#

```
08:14 Tue JAN 31
RICH SMITH      604
Talkback       DND
Release       Park
Conference
Transfer
```

Flexible Function Screens 1 - 15
F'F3 (ExtPort)# (26-33)# (25-39)#

```
08:14 Tue JAN 31
RICH SMITH      604
(These screens can be
custom-designed; see
FF1 2# 7# addresses
for more information)
```

Appendix B. Terminal Programming

The body of this *Section 400* is devoted to programming the DBS system through a key phone. However. the DBS can also be programmed remotely via the Terminal Programming mode.

Using this mode, commands can be entered on a remote PC or terminal and sent to the DBS via modem. Or, the PC/terminal can be connected directly to the DBS's SMDR port (CN6).

You can enter the Terminal Programming mode using any of the following three methods:

- Direct Connection: Use a local PC or terminal and a communications package to connect directly to CN6.

- *DISA:* Dial into the system through a DISA trunk.

- **Operator Transfer:** Dial into the system through a regular trunk. then have the operator enter the Remote Programming ID Code.

This appendix gives an overview of these programming methods.

Terminal Programming Through a Direct Connection

To program the system through a PC or terminal connected to DBS serial port CN6:

1. Make sure the cables are configured and connected as described in *Section 300-Installation.*

2. Make sure the DBS is in the SMDR mode. Dial the following codes from the Attendant port:

   ON/OFF #93

3. Enter your terminal communications program and make sure your PC or terminal's data communications settings match those of the DBS.

3. From your terminal communications program (terminal emulation in a PC communications package). type the following command:

   #99 xxxx   (where "xxxx" is the site's password: system default is "9999")

5. After the DBS displays "REMT>" on the computer, type P and press ENTER.

6. Follow the directions on the screen to access the desired program.

Terminal Programming Through a CO or DISA Trunk

Note: To enter the Terminal Programming mode through a trunk, the DBS must be equipped with an MFR card (if using DISA) and an RAI card.

To program through a CO or DISA trunk:

1. Dial into the DBS through the trunk.

2. Ask the operator to place you on hold and dial **#6** xxxx   (where "xxxx" is the site's password; system default is "9999"). This will transfer you to the RAI-A&B cards.

3. Wait for the computer to display "**REMT>**", then type P and press ENTER.

4. Follow the directions on the screen to access the desired program.

Terminal Programming Commands

Use the following commands to navigate terminal programming:

Table B-I. *Terminal programming commands*

Command	Description
~01	Access System parameters
~02	Access Trunk parameters
~03	Access Extension parameters
~04	Access Ring assignments
~05	Access FF key assignments
~06	Access Name assignments
-07	Access Toll Restriction data
-08	Access Least Cost Routing data
-09	Access Copy mode
~10	Access Speed Dial data
~B	Back to previous address
~b	Back to previous port
-F	Forward to next address
-f	Forward to next port
~R	Return to previous mode
Ctrl-Z	Quit

Resuming SMDR or Bus Monitor Mode After Terminal Programming

The DBS supports three remote functions --

1) Bus Monitor
2) SMDR
3) Terminal (Remote) Programming

However, only one of these functions can operate at a time. When not in Terminal (Remote) Programming, either SMDR or Bus Monitor is active. When you enter Terminal Programming (**#6-xxxx),** the other function stops. When finished, the SMDR or Bus Monitor function resumes. The DBS can be reset to the desired SMDR or Bus Monitor mode by entering (or having someone at the site enter) one of the following codes at an extension or Attendant phone:

Table B-2. Codes for switching SMDR/Bus Monitor modes

Command	Function
#90	Normal Bus Monitor
#91	Register Bus Monitor
#92	Poll Bus Monitor
#93	SMDR Output

B

C

R

U

V

W

Wink--

X

Y

Yellow Alarms (T1)--

Panasonic®

DBS
Digital Business System

Supports CPC-All/B 8.0
and CPC-EX 1.O

Section 450
Programming
Forms and
Tables

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These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Introduction

This document contains the DBS Programming Forms and Tables for **CPC-AII/B** up to Version 8.0 and CPC-EX 1.0. These tables are useful in planning and configuring a DBS Installation.

These tables are organized as follows:

    Section 1 - System Settings **(FF1)**
    Section 2 - Trunk Settings (FF2)
    Section 3 - Extension Settings (**FF** 3)
    Section 4 - Ringing and Hunt Groups (FF4)
    Section 5 - FF Key Programming (FF5)
    Section 6 - Name and Message Assignments (FF6 and **FF10**)
    Section 7 - Toll Restriction Settings (**FF7**)
    Section 8 - Least Cost Routing (FF **8**)

The programming forms and tables are in the **same** general order as the programming telephone programming **structure.** *However, some tables are combined to group related information.* For instance, the Personal Speed Dial names (FF6 **3#**) and Speed Dial numbers (**FF10 2#**) are recorded on the same table (see Table 21). Also, *some items in the tables may be moved to group related informqtion.* For instance, the System Settings for the Attendant Timers are grouped together; not in programming order.

For ease of reference, a limited number of programming items are referenced in more than one place. Be **sure** to write the same value in each place. For instance, the Hunt Group No Answer Timer setting appears with system parameters and also in the Hunt Group Assignment Table.

When space permits, the related programming address is listed with the item. In some cases, the programming address is listed above or below the table.

Some tables show the possible settings including the default settings. The defaults are indicated in bold type. In some cases, the possible settings are too extensive to list in the tables. This is especially true for the system timing parameters. Most of the parameters with unlisted settings do not need to be changed from the default. If a change is required, refer to the DBS Section 400.

In many cases, the actual programming telephone entry is a 0 or **1** with the meaning determined by the item. These are usually listed in parentheses to the right of the possible settings in the tables.

Do not write on the originals! Instead make copies. Several tables are used repeatedly and may need to be copied multiple times.

Section 1 - System Settings (FF1)

Table 1: System Parameters (Part 1)

PARAMETER	POSSIBLE ENTRY	ADDRESS	SETTING
General System Settings (FF12# 1#)			
Call Duration Display	Not Displayed **(0)**, **Display (1)**	FF1 2# 1# 1#	
SMDR Start Timer for CO Calls	5 sec. (0), 16 sec. (1) or 30 sec. (2)	FF1 2# 1# 2#	
Least Cost Routing (LCR) Access	**Pooled-trunk call (0)**, LCR call(l)	FF1 2# 1# 3#	
Override Toll Restrict with SSD No.	00 - 89, 000 thru 199. or 000 thru 499	FF1 2# 1# 4#.	
SSD Display Restriction	**SSO (80-89, 160-199, or 400-499) dialed digits displayed (0)** / **SSD (80-89, 160-199, or 400-499) dialed digits not displayed (1)**	FF1 2# 1# 5#	
Auto Flash Redial	**Redial does not send flash (0)**, **Redial sends flash (1)**	FF1 2# 1# 6#	
One Touch **Dial**	Disabled **(0)**, **Enabled (1)**	FF1 2# 1# 7#	
Onhook Transfer	Disabled **(0)**, **Enabled (1)**	FF1 2# 1# 8#	
Key Bank Hold	Disabled (0), Enabled (1)	FF1 2# 1# 9#	
Non-Appearing Trunk Hold	Exclusive hold (0), **System hold** (1)	FF1 2# 1# 10#	
SLT Flash Control	2nd SLT hookflash results In intercom **dial** tone (0) **2nd SLT hookflash results in held call (1)**	FF12# 1# 11#	
Extension Number Digits	**2-digit numbers (0), 3-digit numbers (1)**, **4-digit** numbers (CPC-EX In Network Only) (2)	FF1 2# 1# 12#	
Alternate Attendant	Disable Alternate Attendant (0) / Enable Alternate Attendant (1)	FF1 2# 1# 13#	
Attendant Intercom Calling	Ring tone calling **(0)**, **Voice Calling (1)**	FF12# 1# 14X	
Extension Intercom Calling	Tone Calling **(0)**, **Voice Calling (1)**	FF1 2# 1# 15#	
Alert Tone for Voice Calls	Disabled **(0)**, **Enabled (1)**	FF1 2# 1# 16#	
Alert Tone - Busy Override and OHVA	**Disabled** (0), Enabled (1)	FF1 2# 1# 17	
System **Installation** Area Code	1 not **required before** long-distance call (0) **1 required before long-distance call (l)**	FF1 2# 1# 18#	
SSD Name Display	**Display 5 SSD names** (0), Display 10 SSD Names (1)	FF1 211X 19X	
API/SLT Assignment	Analog Extension Slot (2-l 8)	FF12# 1 # 20#	
Voice Mail Busy Tone	**Silence (0), Busy** Tone (1)	FF1 2# 1# 21#	
Analog Transfer Ring Pattern	See Section 400 **(.4 on / 3.6 off - 0)**	FF1 2# 1# 22#	
Delayed Ring	**Disabled** (0), Enabled (1)	FF1 2# 1# 23#	
Second Attendant Position	Extension Number **(101)**	FF12# 1 # 24#	
Third Attendant Position	Extension Number **(*** No entry)**	FF12# 1 # 25#	
Fourth Attendant Position	Extension Number **(*** No entry)**	FF1 2# 1# 26X	
Attendant Transfer Extension	Extension Number **(*** No entry)**	FF1 2# 1 # 27X	
Attendant Override	Disabled **(0)**, **Enabled (1)**	FF1 2# 1# 28#	
Attendant LED Alarm Indication (Attendant Feature Package Only)	Alarm feature can be assigned (0) **Alarm feature can be assigned (1)**	FF1 2# 1# 29#	

Table 1: System Parameters (Part 1)

PARAMETER	POSSIBLE ENTRY	ADDRESS	SETTING
Extension (BLF) Delayed Ring	Off (0), On (1)	FF1 2# 1# 30#	
Transfer Ring Pattern	See Section 400 (.25 on/.25 off/.25 on/3.5 off - 0)	FF1 2# 1# 31#	
Multiple DID/DNIS	Disables Multiple DID/DNIS ringing (0) Enables Multiple DID/DNIS ringing (1)	FF1 2# 1# 32	
Page Duration	Page Circuit Remains Open (0), Open 60 sec. (1)	FF1 2# 1# 33#	
SLT DISA Ring Pattern	1 second on/ 3.0 seconds off (0) Same as CO Transfer ring pattern (1)	FF1 2# 1# 34#	
AEC Disconnect Duration	See Section 400 (No signal sent = 0)	FF1 2# 1# 35#	
DID/DNIS to a Voice Mailbox	No DID/DNIS digits transmitted (only answer code) (0), Answer Code, then final 4 DID/DNIS digits transmitted (1), Answer Code, then final 3 DID/DNIS digits transmitted (2)	FF1 2# 1# 36#	
DID/DNIS Answer Code	Up to 6 characters including 0-9, *, #, or pause (REDIAL)	FF1 2# 1# 37#	
Call Duration Timer	5 sec.(0), 16 sec. (1), 30 sec. (2)	FF1 2# 1# 38#	
Internal Hold Tone	Disabled (0), Enabled (1)	FF1 2# 1# 39#	
Door Opener Access Code Required	Access Code not required (0), Access Code required (1)	FF1 2# 1# 40#	
API Port 1 Port Type	Standard API protocol (0), TSAPI protocol (1)	FF1 2# 1# 41# 1#	
API Port 1 Baud Rate	9600 bps (0), 19200 bps (1)	FF1 2# 1# 41# 2#	
API Port 2 Port Type	Standard API protocol (0), TSAPI protocol (1)	FF1 2# 1# 42# 1#	
API Port 2 Baud Rate	9600 bps (0), 19200 bps (1)	FF1 2# 1# 42# 2#	
SMDR/Maintenance Data (Serial Ports) (FF1 2# 2#)			
Parity Check (SMDR)	Off (0), On (1)	FF1 2# 2# 1#	
Odd/Even Parity (SMDR)	Odd (0), Even (1)	FF1 2# 2# 2#	
Baud Rate (SMDR)	300 (1), 1200 (2), 2400 (3), 9600 (4)	FF1 2# 2# 3#	
Stop Bit Length (SMDR)	1 bit (1), 1.5 bit (2), 2 bits (3)	FF1 2# 2# 4#	
Data Length (SMDR)	7 bits (3), 8 bits (4)	FF1 2# 2# 5#	
SMDR Printing Mode 1: Outbound and Inbound	Outbound Only (0), Inbound and Outbound (1), Inbound, Outbound and Networking (2)	FF1 2# 2# 6#	
SMDR Printing Mode 2: Long-Distance and Local Calls	Long Distance Only (0), Local and Long Distance (1)	FF1 2# 2# 7#	
SMDR Printing Mode 3:Header Title	Off (0), On (1)	FF1 2# 2# 8#	
Serial Port Flow Control (Xon/Xoff)	Disable Xon/Xoff (0), Enable XonXoff (1)	FF1 2# 2# 9#	
RAI Baud Rate	300 bps (0), 1200 bps (1)	FF1 2# 2# 10#	
Parity Check (Maint, CPC-EX)	Off (0), On (1)	FF1 2# 2# 11#	
Odd/Even Parity (Maint, CPC-EX)	Odd (0), Even (1)	FF1 2# 2# 12#	
Baud Rate (Maint, CPC-EX)	300 (1), 1200 (2), 2400 (3), 9600 (4)	FF1 2# 2# 13#	
Stop Bit Length (Maint, CPC-EX)	1 bit (1), 1.5 bit (2), 2 bits (3)	FF1 2# 2# 14#	
Data Length (Maint, CPC-EX)	7 bits (3), 8 bits (4)	FF1 2# 2# 15#	

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Table **1:** System Parameters (Part 1)

PARAMETER	POSSIBLE ENTRY	ADDRESS	SETTING
PBX Settings (FF12# 3#)			
PBX Access Code 1	Access Code (up to 3 **digits**) (******* - No Entry)	FF1 2# 3x 1#	
PBX Access Code 2	Access Code (up to 3 **digits**) (******* - No Entry)	FF1 2x 3x 2#	
PBX Access Code 3	Access Code (up to 3 digits) (******* - No Entry)	FF1 2x 3x 3#	
PBX Access Code 4	Access Code (up to 3 digits) (******* - No Entry)	FF1 2# 3# 4#	
PBX Access Code ·5	Access Code (up to 3 digits) (******* - No Entry)	FF1 2# 3# 5#	
PBX Access Code 6	Access Code (up to 3 **digits**) (******* - No Entry)	FF1 2# 3# 6#	
PBX Access Code 7	Access Code (up to 3 digits) (******* - No Entry)	FF1 2# 3# 7#	
PBX Access Code 6	Access Code (up to 3 digits) (******* - No Entry)	FF1 2# 3# 8#	
Automatic Pause Position for PBX Access Codes beginning with 1	Pause after 1st digit **(1),** pause after 2nd digit **(2),** pause alter 3rd digit (3)	FF12# 3X 9#	
Automatic Pause Position for PBX Access Codes beginning with 2	Pause after 1st digit **(1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF12# 3# 1 0#	
Automatic Pause Position for PBX Access Codes beginning with 3	Pause after 1st diglt **(1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF1 2# 3# 11#	
Automatic Pause Position for PBX Access Codes beginning with 4	Pause after 1st **digit (1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF12# 3#12X	
Automatic Pause Position for PBX Access Codes beginning with 5	Pause after 1st digit **(1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF12# 3#13#	
Automatic Pause Position for PBX Access Codes beginning with 6	Pause after 1st digit **(1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	**FF12#** 3114X	
Automatic Pause Position for PBX Access Codes beginning with 7	Pause after 1st **digit (1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF1 2# 3# 15#	
Automatic Pause Position for PBX Access Codes beginning with 6	Pause after 1st diglt **(1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF12# 3# 16X	
Automatic Pause Position for PBX Access Codes beginning with 9	Pause **after** 1st digit **(1),** pause after 2nd digit **(2),** pause after 3rd **digit** (3)	FF1 2# 3# 17#	
Automatic Pause Position for PBX Access Codes beginning with 0	Pause after 1st digit **(1),** pause after 2nd digit **(2),** pause after 3rd digit (3)	FF12# 3# 18#	
Ring Patterns for UNA Terminals (MI, CI, **& B1)**	**Intermittent; 1 sec. on, 3 sec. off (0)** Continuous (1)	FF1 2# 4# 1#	
External Page interface Control for Paging Group 0	**No External Page and Relay Operation (0),** External Page and **Relay** Operation (1)	FF1 2# 4# 2#	
External Page **Interface** Control for Paging Group 1	**No External Page and Relay Operation (0),** External Page and Relay Operation (1)	FF1 2# 4# 3X	
External Page interface Control for Paging Group 2	**No External Page and Relay Operation (0),** External Page and Relay Operatlon (1)	**FF12# 4#** 4%	
External Page Interface Control for Paging Group 3	**No External Page and Relay Operation (0),** External Page and Relay Operation (1)	FF1 2# 4# 5#	
External Page Interface Control for Paging Group 4	**No External Page and Relay Operation (II),** External Page and Relay Operation (1)	FF1 2# 4# 6#	

These forms may be reproduced as needed by certified DBS Dealers **and** Technicians.

Note: Make certain that features are not in use before disabling. Some features that are disabled from the **Class** of Service while in use cannot be **cancelled** (for example, if BGM is removed from COS while in use, BGM cannot be turned off).

Table 2: Extension Class of Service

Extension Feature (Default is Disabled - 0)	Class of Service # (FF1 2# 5# (1-8)# (1-21)#)							
	1	2	3	4	5	6	7	8
Dial Tone On/Off (#50) FF1 2# 5# (COS)# 1# 0/1#								
Head/Handset Exchange (#51) FF12# 5# (COS)# 2# (0/1)#								
BGM On/Off (#53) FF12# 5# (COS)# 3# (0/1)#								
Absence Message Set/Reset (71) FF1 2# 5# (COS)# 4# (0/1)#								
Call Forward Set/Reset (72) FF1 2# 5# (COS)# 5# (0/1)#								
Do Not Disturb (73) FF1 2# 5# (COS) 6# (0/1)#								
Station Lockout (74) FF12# 5# (COS) # 7# (0/1)#								
Park Hold (75) FF12# 5# (COS)# 8# (0/1)#								
Park Pickup (76) FF1 2# 5# (COS)# 9# (0/1)#								
Meet Me Answer (77) FF1 2# 5# (COS)# 10# (0/1)#								
UNA Pickup (78) FF1 2# 5# (COS)# 11# (0/1)#								
Direct Pickup (79) FF1 2# 5# (COS)# 12# (0/1)#								
Group Pickup (70) A1 2# 5# (COS)# 135 (0/1)#								
Tone/Voice Mode (1) FF1 2# 5# (COS) 14# (0/1)#								
Message Waiting Set (2) FF1 2# 5# (COS)# 15# (0/1)#								
Busy Override (4) FF1 2# 5# (COS)# 16# (0/1)#								
Call Waiting (3) FF1 2# 5# (COS)# 17# (0/1)#								
Offhook Voice Announce (5) FF1 2# 5# (COS)# 18# (0/1)#								
Central Office Call Queuing (2) FF12x 5# (COS)# 19# (0/1)#								
SLT Transfer (8) FF1 2# 5# (COS)# 20# (0/1)#								
Call Forwarding - External FF1 2# 5# (COS)# 21# (0/1)#								

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Table 3: Verified Forced Account Codes

Entry	4-Digit Account Code* (0001-9999)	TRS Type (0-7)**	Entry	4-Digit Account Code* (0001-9999)	TRS Type (0-7)**	Entry	4-Digit Account Code' (0001-9999)	TRS Type (0-7)**	Entry	4-Digit Account Code' (0001-9999)	TRS Type (0-7)**
1			26			51			76		
2			27			52			77		
3			28			53			78		
4			29			54			79		
5			30			55			80		
6			31			56			81		
7			32			57			82		
8			33			58			83		
9			34			59			84		
10			35			60			85		
11			36			61			86		
12			37			62			87		
13			38			63			88		
14			39			64			89		
15			40			65			90		
16			41			66			91		
17			42			67			92		
18			43			68			93		
19			44			69			94		
20			45			70			95		
21			46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

*Verified Forced Account Code -- **FF12# 6#** (Entry 1-100)# 1# (0001-9999)#
TRS Type for Verified Forced Account Code -- **FF12# 6# (Entry 1-100)# 2# (0-7)#. Note that TRS types 0 and 1 do not allow outgoing calls.

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Key 1	➤	DND	OVERRIDE	➤ Key6
Key 2	➤	BGM	TALKBACK	➤ Key 7
Key 3	➤	MUTE	PSD	➤ Key 8
Key 4	➤	FORWARD	SSD	➤ Key 9
Key 5	➤	CONF	LOCKOUT	- Key 10

Table 4: Custom Large LCD Screen Assignments

Screen Number _____ (2539)					
Soft Key #	Feature Code FF1 2# 7# 1# (25-39)# (Soft Key)# (Code)#	Text FFI 2# 7# 2# (25-39)# (Sofl Key)# (Text)#	Soft Key #	Feature Code FF1 2# 7# 1# (25-39)# (Soft Key)# (Code)#	Text FF1 2# 7# 2# (25-39)# (Soft Key)# (Text)#
1			6		
2			7		
3			8		
4			9		
5			10		

Screen Number _____ (25-39)					
Soft Key #	Feature Code FF1 2# 7# 1# (25-39)# (Soft Key)# (Code)#	Text FF1 2# 7# 2# (25-39)# (Soft Key)# (Text)#	Soft Key #	Feature Code FF1 2# 7# 1# (25-39)# (Soft Key)# (Code)#	Text FF1 2# 7# 2# (25-39)# (Soft Key)# (Text)#
1			6		
2			7		
3			8		
4			9		
5			10		

Table 5: Cailer ID Automatic DISA

Phone Number Assignment	Phone Number (Max. 10 Digits)
1 - FF1 2# 8# 1# (Phone No.)#	
2 - FF1 2# 8# 2# (Phone No.)#	
3 - FF1 2# 8# 3# (Phone No.)#	
4 - FF1 2# 8# 4# (Phone No.)#	
5 - FF1 2# 8# 5# (Phone No.)#	
6 - FF1 2# 8# 6# (Phone No.)#	
7 - FF1 2# 8# 7# (Phone No.)#	
8 - FF1 2# 8# 8# (Phone No.)#	
9 - FF1 2# 8# 9# (Phone No.)#	
10 - FF1 2# 8# 10# (Phone No.)#	

Table 6: Door Phones

	Door Phone 1	Door Phone 2	Door Phone 3	Door Phone 4
Door Phone Extension Port Number FF1 2# 9# (Door Phone #1-4)# 1# (3-144)				
Ring on Extension Port(s) . FF1 2# 9# (1-4)# 2# (1-144)# (0 or 1)#				
Door Opener Access Code **(Default -9999)** FF1 2# 9# (1-4)# 3# (0000-9999)#				
Door Phone Tone Type **(Slow Chime - 0, Fast Chime - 1)** FF1 2# 9# (1-4)# 4# (0 or 1)#				
Door Phone Ring Time-out **(20 sec. - 3)** FF1 2# 9# (1-4)# 5# (0-15)#				
Door Phone Ring Pattern **(4 sec. between rings - 1)** FF1 2# 9# (1-4)# 6# (0-5)#				
Door Opener Relay Timer **(4 sec. - 1)** FF1 2# 9# (1-4)# 7# (0-5)#				

Note:

See also "Door Opener Access Code Required" setting (FF1 2# 1# 40#) on page 3.

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Table 7: System Parameters (Timers/Access Codes)

PARAMETER	POSSIBLE ENTRY	PROGRAM	SETTING
System Timers (FF1 3#)			
Auto Day Mode **Start Time**	Start Time (in **24-hour** format) (********)	RI **3# 29#** (0000-2359)P	
Auto Night 1 Mode Start Timer	Start time (in 24 hour format) (********)	**FF13# 1# (0000-2359)#**	
Auto Night 2 Mode Start Time	Start Time (in **24-hour** format) (********)	RI **3# 30# (0000-2359)#**	
Attnd Hold Recall Timer for CO Calls	See Section 400, (20 sec. ▪ 1)	FF 1**3#2#** (O-I**2)#**	
Attnd Transfer Recall Timer for CO Calls	See Section 400, (20 sec. ▪ 1)	RI **3# 4#** (O-I **2)#**	
Attnd Park Hold Recall Timer	See Section 400, (20 sec. -1)	**FF13# 8#** (O-I **2)#**	
Attnd Call Reversion Timer	See Section 400, **(190 sec. ▪ 9)**	**FF13# 1 0#** (O-I **2)#**	
Attnd Hold Recall Timer for Intercom Calls	See Section 400. (40 sec. ▪ 2)	FF 1**3#22#** (O-I**2)#**	
Attnd Transfer Recall Timer for Inter-**com** Calls	See Section 400. (20 sec. ▪ **1)**	**FF1**3% **24#** (O-I **2)#**	
Attnd Hunt Group Recall Timer	See Section 400, (20 sec. ▪ 1)	FF 1 **3#** 61 (O-I **2)#**	
Ext Hold Recall Timer for CO Calls	See Section 400, (140 sec. ▪ 7)	**FF13# 3#** (O-I **2)#**	
Ext Transfer Recall Timer for CO Calls	See Section 400, (140 sec. ▪ 7)	**FF13# 5#** (O-I 2)X	
Ext Park Hold Recall Timer	See Section 400, (140 sec. ▪ 7)	AI **3# 8#** (O-I **2)#**	
Ext Delayed Ring Timer	See Section 400, **(12** sec. ▪ 2)	**FF13#** 27X (O-I **5)#**	
Ext Hold Recall Timer for Intercom Calls	See Section 400, (140 sec. ▪ 7)	**FF13# 23#** (O-I **2)#**	
Ext Transfer Recall Timer for **Inter-com** Calls	See Section 400, (140 sec. ▪ 7)	**FF13# 25#** (O-I **2)#**	
Ext Hunt Group Recall Timer	See Section 400, (140 sec. ▪ 7)	**FF13# 7#** (O-1 **2)#**	
Unsupervised Conference Timer	See Section 400, **(10 min. ▪ 2)**	**FF13# 1 1#** (O-I **5)#**	
Automatic Pause Timer	See Section 400, (3.5 sec. ▪ 7)	**FF13# 12#** (O-I **5)#**	
CO Flash Timer	See Section 400. (1 sec. ▪ 9)	**FF13# 13#** (O-I 5)X	
SLT **Onhook** Flash Timer	See Section 400, (200 to 1500 ms ▪ 4) (Power down and restart the system after changing this parameter)	**FF13# 14# (0-6)#**	
CO Ring Cycle Detection Timer	4 sec. (0), 6 sec. **(I),** 8 **sec (2),** 10 **sec (3)**	**FF1** 3115X **(0-3)#**	
Inbound Ring Cycle Expansion Timer	See Section 400, (350 **ms ▪ 7)**	**FF1**3% 1 **6#** (O-I**5)#**	
Dial Pause Timer	See Section 400, (1.5 sec. ▪ **1)**	**FF1** 3X **17#** (O-I **5)#**	
PBX Flash Timer	See Section 400, **(.8** sec. ▪ 7)	**FF13# 18#** (O-I 0)#	
Call Forward -- No Answer Timer	See Section 400. (12 sec. ▪ 2)	**FF13# 19#** (O-I **5)#**	
Outbound Ground Start Detection **Timer**	1-8 sec. (4 sec.)	**FF1 3# 20#'(1-8)#**	

PARAMETER	POSSIBLE ENTRY	PROGRAM	SETTING
Inbound Ground Start Detection Timer	1-8 sec. (4 sec.)	FF13# 21# (1-8)#	
CO Delayed Ring Timer	See Section 400, (12 sec. - 2)	FF13# 26# (O-I 6)X	
Hunt Group No Answer Timer	See Section 400, (12 sec. - 2)	FF13# 28# (O-1 5)#	
Remote Programming and DISA Codes (FF1 4# through FF16#)			
Remote Programming ID Code	4-digit ID code, (9999)	FF1 45 (0000-9999)#	
DISA Inbound Call ID	4-digit ID code	FF1 5X (0000-9999)P	
DISA Outbound Call ID Code 1	4digit ID code, (1111)	FF16# 1 # (0000-9999)#	
DISA Outbound Call ID Code 2	4-digit ID code, (9999)	FF16# 2# (0000-9999)#	
Programming Authorization Code (FF17#)			
ID Code for System Programming	4-digit ID code, (9999)	FF17# (0000-9999)#	
T1 Settings (CPC-B 4.0 or higher/CPC-EX)			
System Configuration	See Section 400, (DBS 40 - 0)	FF1 8# 4# 1 # 1# (0-8)#	
Sync Source 1	T1 master cabinet (1), T1 slave cabinet (2), Free run (internal clock) (3)	FF1 8# 4# 1# 2X (1-3)#	
Sync Source 2	None (0), T1 master cabinet (1), T1 slave cabinet (2), Free run (internal clock) (3)	FF1 8# 4 X 1# 3# (0-3)#	
Sync Source 3	None (0), T1 master cabinet (1), T1 slave cabinet (2), Free run (internal . clock) (3)	FF1 8% 4# 1# 4# (0-3)#	
Trunk Configuration for master cabinet (CPC-B 4.0 to 6.02)	Analog trunks only (0), T1 and Analog trunks (1)	FF1 8# 4# (4)# 1# 1# (0 or 1)#	
Number of T1 Channels in master cabinet	0-24, 0 (None)	FF1 8# 4# (4)# 1# 2# (0-24)#	
Frame Format for master cabinet	Supertrams - 0, Extended Superframe (ESF) - 1	FF1 8# 4# (4)# 1# 3X (0 or 1)#	
Frame Format for slave cabinet	Superframe - 0, Extended Superframe (ESF) - 1	FF1 8# 4# (5)# 1# 3# (0 or 1)#	
Line Coding for master cabinet	AMI (0), B8ZS (1)	FF1 8# 4X (4)# 1# 4# (0 or 1)#	
Trunk Configuration for slave cabinet (CPC-B 4.0 to 6.02)	Analog trunks only (0), T1 and Analog trunks (1)	FF1 8X 4# (5)# 1# 1# (0 or 1)#	
Number of T1 Channels in slave cabinet	0-24, 0 (None)	FF1 8# 4# (5)R 1# 2# (0-24)#	
Line Coding for slave cabinet	AMI (0), B8ZS (1)	FF1 8# 4X (5)# 1X 4# (0 or 1)#	
T1 Trunk Type Emulation	Loop Start (0), (reserved -1), Ground Start (2), E&M (3), E&M Network (4)	FF1 8# 4X 6X (1-64)# 1# (0-3)#	
Outgoing Signaling Type	Immediate start (0), Wink Start (1), Dial Tone Start (2)	FF1 8# 4# 6# (1-64)# 3X (0-2)#	
Incoming Signaling Type	Immediate Start/Ringdown (0), Wink Start (1)	FF1 8X 41 6# (1-64)# 4# (0 or 1)#	

Vertical labels at left: System Timers / T1 Initialization

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PARAMETER	POSSIBLE ENTRY	PROGRAM	SETTING
Network Re-Sync Timer	Immediate (0), Hourly retries (1-24), No retries (25)	FF1 8# 4# 2# 1# (0-25)#	
Disconnect Timer	See Section 400. (200 ms - 1)	FF1 8# 4# 2# 2# (0-12)#	
Guard Timer	See Section 400, (1200 ms - 6)	FF1 8# 4# 2# 3 X (0-15)#	
Release Acknowledge Timer	See Section 400, (240 sec - 9)	FF1 8# 4# 2# 4# (0-15)#	
Outpulse Delay Timer	See Section 400, (500 ms - 2)	FF1 8# 4# 2# 5# (0-8)#	
Wink Time-out Timer	See Section 400, (5500 ms - 15)	FF1 8# 4# 2 X 6# (0-15)#	
Incoming Detection Timer	See Section 400, (90 ms - 7)	FF1 8# 4% 2# 7# (0-15)#	
Answer Supervision Timer	See Section 400, (600 ms - 3)	FF1 8# 4# 2# 8# (0-8)#	
Immediate Glare Timer	See Section 400, (60 ms - 3)	FF1 8# 4# 2# 9# (0-15)#	
Wink Glare Timer	See Section 400, (60 ms - 3)	FF1 8# 4# 2# 10% (0-15)#	
Digital Pad Settings	See Section 400, (-2 dB - 16)	FF1 8# 4# 3# (1-12)# (1-12)# (0-30)#	Do not change from default without direction from Panasonic Technical support.
Failure Mode for master cabinet	T1 continues to operate after error detected (0), T1 shuts down if errors are detected	FF1 8# 4# (4)# 1# 5# (0 or 1)#	
Remote Loopback for master cabinet	Reserved for future use	FF1 8# 4# (4)X 1# 6# (0 or 1)#	
Yellow Alarm Send for master cabinet	No (0), Yes (1)	FF1 8# 4# (4)X 1# 7# (0 or 1)#	
Flash Key Operation for master cabinet	Release and reseize (0), future use (1)	FF1 8% 4# (4)# 1# 8# (0 or 1)#	
Red Alarm Detection for master cabinet	See Section 400, (6 -2)	FF1 8# 4# (4)# 2# 1 X (0-5)#	
Yellow Alarm Detection for master cabinet	See Section 400, (50 ms - 1)	FF1 8# 4# (4)X 2# 2# (0-15)#	
Yellow Alarm Recovery for master cabinet	See Section 400, (10 ms - 1)	FF1 8# 4# (4)# 2# 3# (0-15)#	
Other Alarms Detection for master cabinet	See Section 400, (250 ms - 1)	FF1 8# 4# (4)# 2 X 4# (0-15)#	
Other Alarms Recovery for master cabinet	See Section 400, (250 ms - 1)	FF1 8# 4# (4)Y 2# 5# (0-15)#	
Frame Loss Counter for master cabinet	O - 9 0 0 0	FF1 8# 4# (4)# 3# 1 5 (0-9000)#	
Slip Counter for master cabinet	O-9000	FF1 8# 4# (4)f 3# 2# (0-9000)X	
Red Alarm Counter for master cabinet	0-9000	FF1 8# 4# (4)# 3# 3 X (0-9000)#	

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PARAMETER	POSSIBLE ENTRY	PROGRAM	SETTING
Loss of Signal Counter for master cabinet	O-9000	FF1 8# 4# (4)R 3% 4# (0-9000)#	
Sync Loss Counter for master cabinet	O-9000	FF1 8# 4# (4)# 3# 5# (0-9000)#	
Yellow Alarm Counter for master cabinet	O-9000	FF1 8# 4# (4)# 3# 6# (0-9000)#	
Yellow Alarm Relay for master cabinet	Off (0), On (1)	FF1 8X 4% (4)# 4X 1# (0 or 1)#	
Red Alarm Relay for master cabinet	Off (0), On (1)	FF1 8# 4# (4)# 4# 2# (0 or 1)#	
Sync Loss Relay for master cabinet	Off (0), On (1)	FF1 8X 4# (4)R 4# 3# (0 or 1)#	
Frame Loss Relay for master cabinet	Ott (0), On (1)	FF1 8# 4# (4)R 4# 4# (0 or 1)#	
AIS Relay for master cabinet	Off (0), On (1)	FF1 8# 4# (4)R 4# 5# (0 or 1)#	
Relay Reset for master cabinet	Automatically cleared (0) Manually cleared (1)	FF1 8# 4# (4)# 4# 6# (0 or 1)#	
Failure Mode for slave cabinet	T1 continues to operate after error detected (0), T1 shuts down if errors are detected	FF1 8# 4# (5)X 1# 5# (0 or 1)#	
Remote Loopback for slave cabinet	Reserved for future use	FF1 8# 4# (5)# 1# 6# (0 or 1)#	
Yellow Alarm Send for slave cabinet	No (0), Yes (1)	FF1 8# 4# (5)X 1# 78 (0 or 1)#	
Flash Key Operation for slave cabinet	Release and reseize (0), future use (1)	FF1 8# 4# (5)# 1# 8# (0 or 1)#	
Red Alarm Detection for slave cabinet	See Section 400, (9 -2)	FF1 8X 4# (5)# 2# 1# (0-5)#	
Yellow Alarm Detection for slave cabinet	See Section 400, (50 ms - 1)	FF1 8# 4# (5)# 2# 2# (0-15)#	
Yellow Alarm Recovery for slave cabinet	See Section 400, (10 ms - 1)	FF1 8# 4X (5)# 2% 3# (0-15)#	
Other Alarms Detection for slave cabinet	See Section 400, (250 ms - 1)	FF1 8# 4# (5)R 2# 4# (0-15)Y	
Other Alarms Recovery for slave cabinet	See Section 400, (250 ms - 1)	FF1 8# 4# (5)R 25 5# (0-15)#	
Frame Loss Counter for slave cabinet	O-9000	FF1 8# 4# (5)# 3# 1# (0-9000)#	
Slip Counter for slave cabinet	O-9000	FF1 8# 4# (5)X 3# 2# (0-9000)#	
Red Alarm Counter for slave cabinet	O-9000	FF1 8# 4# (5)# 3# 3# (0-9000)#	
Loss of Signal Counter for slave cabinet	O-9000	FF1 8# 4X (5)# 3# 4# (0-9000)R	
Sync Loss Counter for slave cabinet	O-9000	FF1 8# 4# (5)R 3# 5# (0-9000)X	
Yellow Alarm Counter for slave cabinet	O-9000	FF1 8# 4# (5)# 3# 6# (0-9000)#	

PARAMETER	POSSIBLE ENTRY	PROGRAM	SETTING
Yellow Alarm Relay for slave cabinet	Off (0), On (1)	FF1 8# 4# (5)# 4# 1# (0 or 1)#	
Red Alarm Relay for slave cabinet	Off (0), On (1)	FF1 8# 4# (5)X 4# 2# (0 or 1)#	
Sync Loss Relay for slave cabinet	Off (0), On (1)	FF1 8# 4X (5)# 4# 3# (0 or 1)#	
Frame Loss Relay for slave cabinet	Off (0), On (1)	FF1 8# 4# (5)# 4# 4# (0 or 1)#	
AIS Relay for slave cabinet	Off (0), On (1)	FF1 8# 4# (5)# 4# 5# (0 or 1)#	
Relay Reset for slave cabinet	Automatically cleared (0) Manually cleared (1)	FF1 8# 4# (5)# 4# 6# (0 or 1)#	
Trunk Mode	Incoming and outgoing (0), Outgoing only (1)	FF1 6% 41 6# (1-64)# 5# (0or 1)#	
Robbed Bit Setting	Robbed Bit Off, Robbed Bit On (1)	FF1 8# 4% 6% (1-64)# 6# (0 or 1)#	
Incoming Dialing Method	1 (DTMF)	FF1 8# 4X 6# (1-64)# 7# (0 or 1)#	
Dial Tone Transmission	Reserved for future use	FF1 8# 4# 6# (1-64)# 8# (0or 1)#	
Busy Tone Transmission	Reserved for future use	AI 8# 4# 6# (1-64)# 9# (0 or 1)#	
Dial Tone Receive	Off(O), On (1)	A I 8# 4# 6# (1-64)# 10# (0 or 1)#	
Ringback Tone Transmission	Off (0), On (1)	FF1 8# 4# 6# (1-64)# 11# (0 or 1)#	1
T1 Trunk Closure	0 (Open)	FF1 8# 7% (1/2)# (1-4)# (1-8)# (0 or 1)#	

Site _____ Date _____ Page ____ of ____

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DID ____ or DNIS ____

Table 8: DID/DNIS Assignments

DID or DNIS Number	Ext. # FF18# 3# (0000-9999)# (Ext. No.)#	Ext. Ring FF18#5# (Ext No)# (00000-111111)#						Additional Ext. # FF1 8# 3# (0000-9999)# (Ext. No.)#	Additional Ext. Ring FF18#5# (Ext No)# (00000-111111)#					
		Day	Night	Night 2	Delayed Day	Delayed Night	Delayed Night 2		Day	Night	Night 2	Delayed Day	Delayed Night	Delayed Night 2

Notes:

For Multiple DID/DNIS ringing, set FF1 2# 1# 32# 1#

Enter DID or DNIS numbers with FF18# 3# (0000-9999)# (Ext No.)#

Enter additional DNIS numbers with FF18# 4# (0000-9999)# Ext No.)#

Specify DID or DNIS per trunk with FF1 8# 4# 6# (Trunk)# 2#

Specify Flexible Ring Assignments with FF18# 5# (DID No.)# (Ext No.)# (Day (O/l), Night (O/l), Night2 (O/l), Delayed Day (O/l), Delayed Night (O/l), Delayed Night2 (0/1))#

Section 2 - Trunk Settings (FF2)

Table 9: Trunk Programming

	Trunk Port (1-64)							
Trunk Telephone Number (For reference only)								
Name (See Table 25 on page 42 for trunk name assignments)								
Trunk Port Operation (**In service - 0**, Out of service - 1) FF2 (1-64)# 1# (0/1)#								
DTMF (0)/Pulse (1) FF2 (1-64)# 2#								
Pool Access Group 9 (Not included - 0, **Included - 1**) FF2 (1-64)# 3# (0/1)#								
Pool Access Group 81 (**Not included - 0**, Included - 1) FF2 (1-64)# 4# (0/1)#								
Pool Access Group 82 (**Not included - 0**, Included - 1) FF2 (1-64)# 5# (0/1)#								
Pool Access Group 83 (Nat included - 0, included - 1) FF2 (1-64)# 6# (0/1)#								
Pool Access Group 84 (**Not included - 0**, Included - 1) FF2 (1-64)# 7# (0/1)#								
Pool Access Group 85 (Not included - 0. Included - 1) FF2 (1-64)# 8# (0/1)#								
Pool Access Group 86 (**Not included - 0**, Included - 1) FF2 (1-64)# 9# (0/1)#								
Trunk Port Type (**CO - 1**, PBX - 2) FF2 (1-64)# 10# (0/1)#								
DISA Auto Answer (**No - 0**, Yes - 1) FF2 (1-64)# 11# (0/1)#								
Private Trunk Line Ext Port # (No default - ****) FF2 (1-64)# 12# (1-144)#								
AutoPause For PBX Line (**Enabled - 0**, Disabled - 1) FF2 (1-64)# 13# (0-1)#								

Table 9: Trunk Programming

	Trunk Port (l-64)							
Dial Tone Detection (Dial Pause Timer - 0, D. T. Detection - 1) FF2 (1-64)R 146 (0/1)#								
Outbound DTMF Signal (75 ms on/50 ms off - 1 125 ms on/125 ms off - 2 250 ms on/250 ms off - 3) FF2 (1-64)# 15# (1-3)#								
Unsupervised Trunk Cont. (No - 0, Yes - 1) FF2 (1-64)# 16# (0-1)#								
Inbound Ring Pattern (Sync with CO - 0, l-9) FF2 (l-64)R 17# (0-9)#								
Trk Disconn. Detect. Timer (O-15, >350 ms default - 7) FF2 (1-64)# 18# (0-15)#								
DISA Start Time FF2 (1-64)# 19# (HHMM)#								
DISA End Time FF2 (1-64)# 20# (HHMM)#								
Trunk Circuit Type (LS - 0, Caller ID - 1) FF2 (1-64)# 21# (0/1)#								
DID Immediate or Wink Stat-l (Wink Start - 0, Immed. Start - 1) FF2 (1-64)# 22# (0 or 1)#								
Wink Start Timer (See Section 400,200 ms - 3) FF2 (1-64)# 23# (0-15)#								
Time Out for Dialed DID Digits (See Section 400, 18 sec. - 4) FF2 (1-64)# 24# (O-l 5)#								
DID Interdigit Time-out (See Section 400, 80 ms - 5) FF2 (1-64)# 25# (O-l 5)#								
Trunk Port Class Analog CO trunk - 4 master cabinet T1- 5 slave cabinet T1- 6 Option 1 - 7 Option 2 - 8 FF2 (1-64)# 26# (0-15)#								

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Section 3 - Extension Settings (FF 3)

Table 10: Extension Programming Features

Feature	Extension Port # (1 - 144)							
Extension Number **FF3 (1-144)# 1#** (10-69, 100-699 or N100-N699)# (System defaults to 3 digit numbers. See also Table 21 on page 39.)								
Terminal Type (Usually Automatic, See Section 400) **FF3 (1-144)#** 2% **(1-15)#**								
EM/24 Port **FF3 (1-144)# 3#** (1-144)#								
Forced LCR or LCFUNRS Ott (0) or On (1) **FF3 (1-144)# 4#** (0 or 1)#								
Forced Account Codes **None (0),** Verified (1) Forced Unverified (2) **FF3** (1-144)X **5#** (0.1, or 2)X								.
Extension Lockout Code (4 digits) (No default - ● ***) **FF3** (I-I **44)# 6# (0000-9999)#**								
Offhook Signal (CO) **Off (0), On (1)** FF3 (I-1 44)P **7#** (0 **or 1)#**								
Call **Waiting/OHVA** **Off (0), On (1)** FF3 (1-144)# **8#** (0 or 1)#								
Busy Override Send **Cannot barge in (0),** can barge in (1) **FF3** (I-1 44)P **9#** (0 or **1)#**								
Busy Override Receive **Cannot receive barge in (0)** **Can receive barge in (1)** **FF3 (1-144)# 10#** (0 or **1)#**								
Prime Line Pickup **Off (0),** On (1) **FF3 (1-144)# 11#** (0 or 1)#								
Auto Pickup (Ringing Line) Disabled (0), **Enabled (1)** **FF3** (I-144)P **12#** (0 or 1)#								

Site _____ Date _____ Page o___ f ___

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Table 10: Extension Programming Features

Feature	Extension Port # (1-144)							
Unsupervised Conference **Cannot initiate (0)**, can initiate (1) FF3 (1-144)# 13# (0 or 1)#								
SMDR Report Exclude (0), **include (1)** FF3 (1-144)# 14# (0 or 1)#								
OffhookSignal Vol. (O-4, 2 Default) **FF3**(1-144)# 15# (0-4)#								
OffhookSignal Pattern Repeated burst (0), Single burst(l) FF3 (1-144)# 16# (0 orl)#								
PSD Name Display on Large LCD Phones - 5 names (0), 10 names(l) FF3 (1-144)# 17# (0 or 1)#								
Page Group 0 Member Exclude (0), Include(1) FF3(1-144)# 18# (0 orl)#								
Page Group 1 Member Exclude (0), Include(1) FF3 (1-144)# 19# (0 or 1)#								
Page Group2 Member Exclude (0), Include (1) FF3 (1-144)# 20# (0orl)#								
PageGroup Member Exclude (0), Include (1) FF3(1-144)# 21# (0 orl)#								
Page Group 4 Member Exclude (0), Include (1) FF3 (1-144)# 22# (0orl)#								
Page Group5 Member Exclude (0), Include(1) FF3 (1-144)# 23# (0 or 1)#								
PageGroup Member Exclude(O), Include(1) FF3 (1-144)# 24# (0orl)#								
PageGroup 7 Member Exclude (0), Include(1) FF3 (1-144)# 25# (0orl)#								

Table 10: Extension Programming Features

Feature	Extension Port # (1 - 144)							
Display when Idle (Menu 0 - 39) **(No Change - 0)** FF3 (I-l 44)# 26# (0-39)#								
Display During Intercom D.T. **(No Change - 0)** FF3 (1-144)# 27# (0-39)#								
Display When Calling an Ext. **(No Change - 0)** FF3 (I-1 44)# 28# (0-39)#								
Display When Accessing CO D.T. **(No Change - 0)** FF3 (I-l 44)# 29# (0-39)#								
Display When Conversing on a CO Trunk **(No Change - 0)** FF3 (I-l 44)# 30# (0-39)#								
Display when Receiving a Page **(No Change - 0)** FF3 (I-1 44)# 31 # (0-39)#								
Display After Receiving a CW Tone **(No Change - 0)** FF3 (I-l 44)# 32# (0-39)#								
Display When Dialing a Busy Ext. **(No Change - 0)** FF3 (I-l 44)# 33# (0-39)#								
Extension Directory Display 5 names **(0),** 10 names (1) FF3 (1-144)# 34# (0 or 1)#								
Extension COS Assignment (O-8) FF3 (1-144)# 35# (0-8)#								
Ringback Tone from ML Keys **Ringback followed by busy (0),** Busy tone **(1), Ringback** tone (2) FF3 (I-l 44)# 36# (0-2)#								
Station Port Class Key Tel - 1, SLT - 2, Option 1 - 7, Option 2 - 8. FF3 (1-144)# 37# (1, 2, 7, or 8)#								
SLT Hookflash **Brokers Hold (0),** Conference (1) FF3 (I-1 44)# 38# (0 or 1)#								
Extension Ring Pattern (O-9) FF3 (1-144)# 39# (0-9)#								

Table 10: Extension Programming Features

Feature	Extension Port # (1 - 144)							
DSLT Receiving Volume **Normal (0)**, Loud (1) FF3 (1-144)# 40# (0 or 1)#								
Auto Set Relocation Code (4 digits) FF3 (1-144)# 41# (0001-9999)#								
Permanent Call Forward Type **Off (0) (Displays as *)**, Busy/No Answer (1), Busy (2), No Answer (3) FF3 (1-144)# 42# (0-3)#								
Permanent Call Forward Extension Default= ● ***;no extension assigned FF3 (1-144)#43#**(1 0-69 or 1 00-** 699)#								
MUMCO Separ. - **MCO (0)**, ML (1) FF3(1-144)# 44# (0 **or** 1)#								
VAU Hunting Priority - **No Priority (0), Priority (1)** FF3 (1-144)# 45# (0 or 1)#								
SLT Disconnect Signal Disabled **(0), Enabled (1)** FF3 (1-144)# 46# (0 or 1)#								
VAU Port Assignment **Nat** VAU **(0), VAU (1)** FF3 (1-144)# 47# (0 or 1)#								
Hot Dial Pad Disabled**(0)**, Enabled **(1)** FF3 (1-144)# 48# (0 or 1)#								
Auto-Redial on Extensions Disabled**(0)**, Enabled **(1)** FF3 (1-144)# 49# (0 or 1)#								
Analog Port Support Disabled **(0), Enabled (1)** FF3 (1-144)# 51# (0**orl**)#								
Analog Port Data Security Disabled **(0), Enabled (1)** FF3 (1-144)# 52# (0 or 1)#								
Message Key Enable (used with 44- **Series Large LCD Phone)** Disabled (0), **Enabled (1)** FF3 (1-144)# 53# (0 or 1)#								

Section 4 - Ringing and Hunt Groups (FF4)

Trunk Number _____ **(l-64)**
Trunk Name _____
Trunk Telephone Number _____ **(For reference only)**

Table 11: Trunk to Extension Ring Assignments

Call Type	Extension Port(s) to Ring (1 to 144)
CO Day Ring Assignment -Extension Ports (No ring - 0, Ring - 1) FF4 1# (Ext Port)# (1-64)# (0/1)#	
CO Delayed Day Ring - Extension Ports (No ring - 0, Ring - 1) FF4 5# (Ext Port)# (1-64)# (0/1)#	
CO Night 1 Ring -Extension Ports (No ring - 0, Ring - 1) FF4 2# (Ext Port)# (1-64)# (0/1)#	
CO Delayed Night 1 Ring Extension Ports (No ring - 0, Ring - 1) FF4 6# (Ext Port)# (1-64)# (0/1)#	
CO Night 2 Ring Assignments Extension Ports (No ring - 0, Ring - 1) FF4 9#1# (Ext Port)# (1-64)# (0/1)#	
CO Delayed Night 2 Ring Assignments Extension Port (No ring - 0, Ring - 1) FF4 9# 2# (Ext Port)# (1-64)# (0/1)#	

Notes:

With CPC-A and CPC-AII, use 1 - 72 for Extension ports, 73 for UNA.

With CPC-B/EX, use 1 - 144 for Extension ports. 145 for UNA.

By default, all trunks ring ports 1 and 2 for CO Day, Night1 and Night2 Ring Assignments.

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Trunk Number _____ (l-64)

Tabie 12: Trunk to Hunt Group Ring Assignments

Call Type	Hunt Group to Ring (Circle)							
	Hunt Group 1	Hunt Group 2	Hunt Group 3	Hunt Group 4	Hunt Group 5	Hunt Group 6	Hunt Group 7	Hunt Group 8
CO Day Ring -Hunt Group Numbers(1 - 8) (No ring - 0, Ring - 1) FF4 1# (Hunt Group)# (1-64)# (0/1)#	CPC-All (79) CPC-B/ EX(151)	CPC-All (80) CPC-B/ EX(152)	CPC-All (81) CPC-B/ EX(153)	CPC-All (82) CPC-B/ EX(154)	CPC-All (83) CPC-B/ EX(155)	CPC-All (84) CPC-B/ EX(156)	CPC-All (85) CPC-B/ EX(157)	CPC-All (86) CPC-B/ EX(156)
CO Delayed Day Ring Assignments - Hunt Groups (No ring - 0, Ring - 1) FF4 5# (Hunt Group)# (1-64)# (0/1)#	CPC-All (79) CPC-B/ EX(151)	CPC-All (80) CPC-B/ EX(152)	CPC-All (81) CPC-B/ EX(153)	CPC-All (82) CPC-B/ EX(154)	CPC-Ail (83) CPC-B/ EX(155)	CPC-All (84) CPC-B/ EX(156)	CPC-All (85) CPC-B/ EX(157)	CPC-All (86) CPC-BJ EX(158)
CO Night1 Ring Assignments -Hunt Groups (No ring- 0, Ring - 1) FF4 2# (Hunt Group)# (1-64)# (0/1)#	CPC-All (79) CPC-B/ EX (151)	CPC-All (80) CPC-B/ EX(152)	CPC-All (81) CPC-B/ EX(153)	CPC-All (82) CPC-B/ EX(154)	CPC-All (83) CPC-B/ EX(155)	CPC-All (84) CPC-B/ EX(156)	CPC-All (85) CPC-BJ EX(157)	CPC-All (86) CPC-B/ EX(158)
CO Delayed Night1 Ring Assignment - Hunt Groups (No ring - 0, Ring -1) FF4 6# (Hunt Group)# (1-64)# (0/1)#	CPC-Ail (79) CPC-B/ EX(151)	CPC-All (80) CPC-B/ EX(152)	CPC-All (81) CPC-B/ EX(153)	CPC-All (82) CPC-B/ EX(154)	CPC-All (83) CPC-B/ EX(155)	CPC-All (84) CPC-B/ EX(156)	CPC-All (85) CPC-B/ EX(157)	CPC-All (86) CPC-B/ EX(158)
CO Night2 Ring Assignments - Hunt Groups (No ring- 0, Ring - 1) FF4 9# 2# (Hunt Group)# (1-64)# (0/1)#	CPC-All (79) CPC-B/ EX(151)	CPC-All (80) CPC-B/ EX(152)	CPC-All (81) CPC-B/ EX(153)	CPC-All (82) CPC-B/ EX(154)	CPC-All (83) CPC-BJ EX(155)	CPC-All (84) CPC-B/ EX(156)	CPC-All (85) CPC-B/ EX(157)	CPC-All (86) CPC-B/ EX(158)
CO Delayed Night2 Ring Assignments - Hunt Groups (No ring - 0, Ring - 1) FF4 9# 2# (Hunt Group)# (1-64)# (0/1)#	CPC-All (79) CPC-B/ EX(151)	CPC-All (80) CPC-B/ EX(152)	CPC-All (81) CPC-B/ EX(153)	CPC-All (82) CPC-B/ EX(154)	CPC-All (83) CPC-B/ EX(155)	CPC-All (84) CPC-B/ EX(156)	CPC-All (85) CPC-B/ EX(157)	CPC-All (86) CPC-B/ EX(158)

Notes:
With CPC-AII, enter 79 for Hunting Group 1, 80 for HG2, 8 1 for HG3, 82 for HG4, 83 for HG5, 84 for HG6, 85 for HG7, and 86 for HG8.
With CPC-B/EX, enter 151 for Hunting Group 1,152 for HG2, 153 for HG3, 154 for HG4, 155 for HG5, 156 for HG6, 157 for HG7, and 158 for HG8.

Table 13: Hunt Group Assignments

Hunt Group Assignments	Hunt Group 1	Hunt Group 2	Hunt Group 3	Hunt Group 4	Hunt Group 5	Hunt Group 6	Hunt Group 7	Hunt Group 8
Hunt Group Name (See Table 26 on page 44)								
Pilot Extension # FF4 3# (1-8)# 1# (11-69 or 101-699)#								
Hunt Group Type **Terminal (0)**, Distributed (1), **Longest Idle (2)** FF4 3# (1-8)# 2# (0-2)#								
Hunt Group No Answer Timer 0-15, **Default = 12 sec. - 2** FF1 3# 24# (0-15)# (*Also on page 14*)								
Transfer (Overflow) Extension Number FF4 3# (1-8)# 3# (10-69 or 100-699)#								
Hunt Group Transfer Timer No transfer - 0, 1 - 32 sec. (**Default = 2 sec. - 2**) FF4 3# (1-8)# 4# (0-32)#								
Hunt Group Member - Position 1 Extension # FF4 3# (1-8)# 5# (10-69 or 100-699)#								
Hunt Group Member - Position 2 Extension # FF4 3# (1-8)# 6# (10-69 or 100-699)#								.
Hunt Group Member - Position 3 Extension # FF4 3# (1-8)# 7# (10-69 or 100-699)#								
Hunt Group Member - Position 4 Extension # FF4 3#(1-8)#8# **(I0- 69 or** 100-699)#								
Hunt Group Member - Position 5 Extension # **FF4 3X**(1-8)#9#(10-69 or 100-699)#								
Hunt Group Member - Position 6 Extension # FF4 3# (1-8)# 10# (10-69 **or** 100-699)##								
Hunt Group Member - Position 7 Extension # FF4 3#(1-8)#11# **(1 0- 69 or** 100-699)#								
Hunt Group Member - Position 8 Extension # FF4 3%(1-8)# 12# **(1 0- 69 or 1** 00-699)#								
Hunt Group Member - Position 9 Extension # **FF4 3X (1- 8) R**13#(10-69 or 100-699)#(CPC-AII/B/EX)								
Hunt Group Member - Position 10 Extension # FF4 3# **(1- 8) f** 14#(10-69 or 100-699)#(CPC-AII/B/EX)								
Hunt Group Member - Position 11 Extension # FF4 3# (1-8)# 15# (10-69 **or** 100-699)#(CPC-AII/B/EX)								
Hunt Group Member - Position 12 Extension # FF4 3%(1-8)#16# **(1 0- 69 or** 100-699)#(CPC-AII/B/EX)								
Hunt Group Member - Position 13 Extension # FF4 3# (1-8)#17# (10-69 **or** 100-699)# (CPC-AII/B/EX)								
Hunt Group Member - Position 14 Extension # FF4 3# (1-8)# 18# (10-69 **or** 100-699)# (CPC-AII/B/EX)				.				
Hunt Group Member - Position 15 Extension # FF4 3# (1-8)#19# (10-69 **or** 100-699)# (CPC-AII/B/EX)								
Hunt Group Member - Position 16 Extension # FF4 3# (1-8)# 20# (10-69 **or** 100-699)#(CPC-AII/B/EX)								

These forms may be reproduced as needed by certified DBS Dealers **and** Technicians.

Table 14: Call Coverage Group Member

Call Coverage Group	Position 1 secretary (1st covering position) FF4 4# (1-16)# 1# (10-69 or 100-699)#	Position 2 secretary (2nd covering position) FF44# (1-16)# 2# (10-69 or 100-699)#	Position3 member FF44# (1-16)# 3# (10-69 or 100-699)#	Position 4 member FF4 4# (1-16)# 4# (10-69 or 100-699)#	Position 5 member FF44# (1-16)# 5# (10-69 or 100-699)#	Position6 member FF44# (1-16)# 6# (10-69 or 100-699)#	Position 7 member FF4 4# (1-16)# 7# (10-69 or 100-699)#	Position 8 member FF44# (1-16)# 8# (10-69 or 100-699)#
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Nlo tes:

Position 2 secretary does not cover until position 1 secretary is set to Do Not Disturb, Call Forward, Absence Message or Busy on all **MCO/ML** keys.

Position 1 and Position 2 phones require a **DSS/BLF** key for all members.

a

Table 15: Extension Ring (BLF) Table

Extension Port Receiving Call (Source Extension Port, 1-144)	IMMEDIATE RING - Extension Port(s) with DSS/BLF Keys (Target Extension) FF4 7# (Target Ext. Port)# (Source Ext. Port)# (0/1)#	DELAYED RING - Extension Port(s) With Delayed DSS/BLF Keys (Target Extension) FF4 8# (Target Ext. Port)# (Source Ext. Port)# (0/1)#
Example: Port 5	Port 6, 7	Port 5

Section 5 - FF Key Programming (FF5)

PSD (One Touch) Keys

95/905	96/906	97/907	98/908	99/909	PROG
90/900	91/901	92/902	93/903	94/904	CONF
19	20	21	22	23	24
13	14	15	16	17	18
7	8	9	10	11	12
1	2	3	4	5	6

FF Keys

Port ._____

Extension # _____

Table 16: FF Key Assignment for Extension Ports
FF5 (Ext Port)# (Key No.)# (Feature Code)#

Key	Feature Code	Key	Feature Code	Key	Feature Code	Key	Feature Code	Key	Feature Code	Key	Feature Code
19		20		21		22		23		24	
13		14		15		16		17		18	
7		8		9		10		11		12	
1		2		3		4		5		6	

16 Key Telephone (VB-42210, 42211, 42213) = FF Keys 1 to 6
22 Key Telephone (VB-43220, 43221, 43223, 43225) = FF Keys 1 to 12
34 Key Telephone (VB-43230, 43231, 43233) = FF Keys 1 to 24

Select One

1st DSS 72 Consoie for 1st Attendant ____	FF5 (73-CPC-A/AII or 145-CPC-B/EX)# (Key No.)# (Feature Code)#
2nd DSS 72 Console for 1 st Attendant ___	FF.5 (74-CPC-A/AII or 146-CPC-B/EX)# (Key No.)# (Feature Code)#
1st DSS 72 Console for 2nd Attendant ___	FF5 (75-CPC-A/AII or 147-CPC-B/EX)# (Key No.)# (Feature Code)#
2nd DSS 72 Console for 2nd Attendant __	FF5 (76-CPC-A/AII or 148-CPC-B/EX)# (Key No.)# (Feature Code)#

Table 17: DSS 72 (New 44-Series Version) Key Assignments
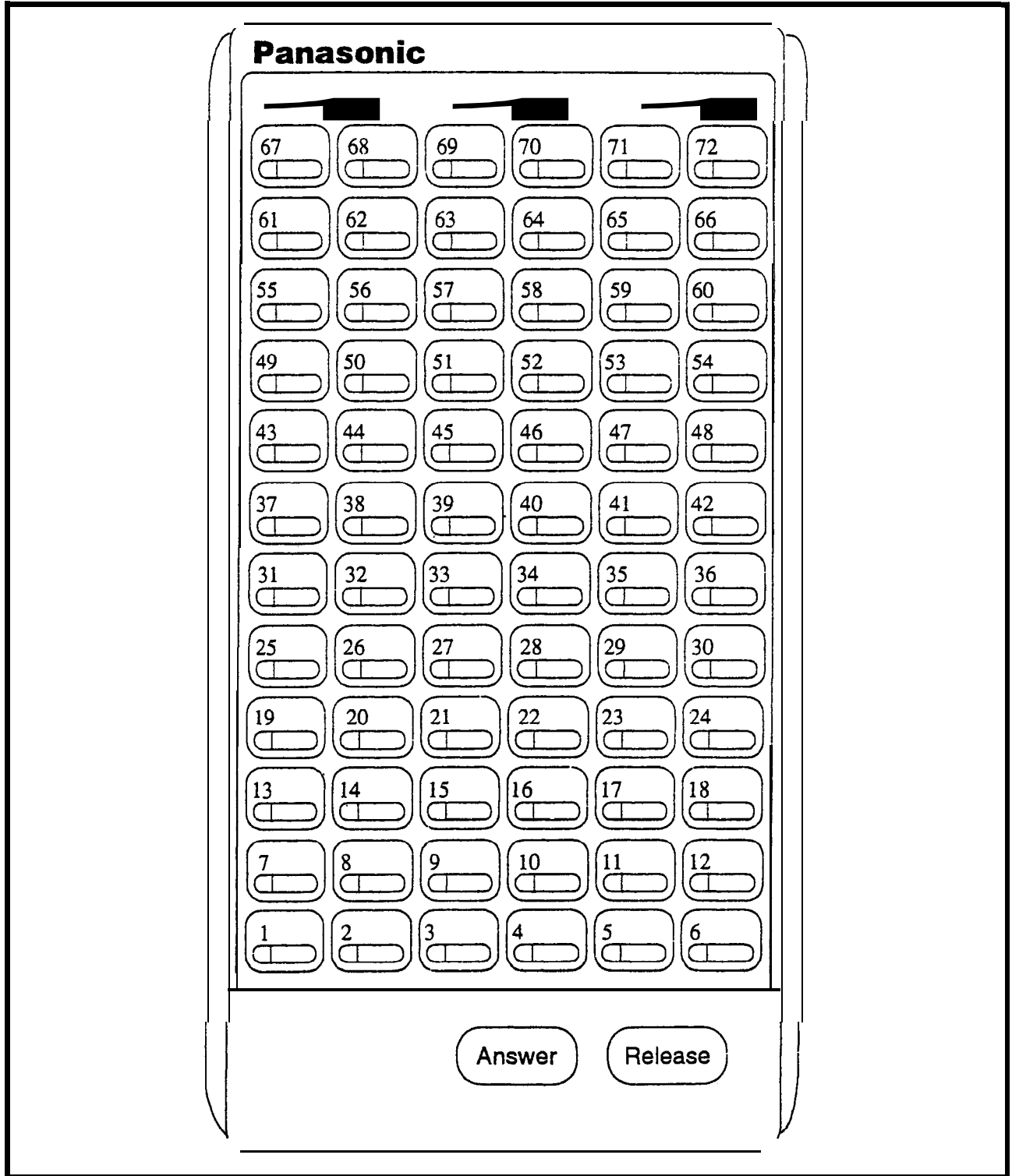
These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Select One:
1st DSS 72 Console for 1st Attendant ____
2nd DSS 72 Console for 1st Attendant (No Default)
1st DSS 72 Console for 2nd Attendant ____
2nd DSS 72 Console for 2nd Attendant ____ (No Default)

Default DSS 72 (New 44-Series Version) Key Assignments (3-Digit Numbering)
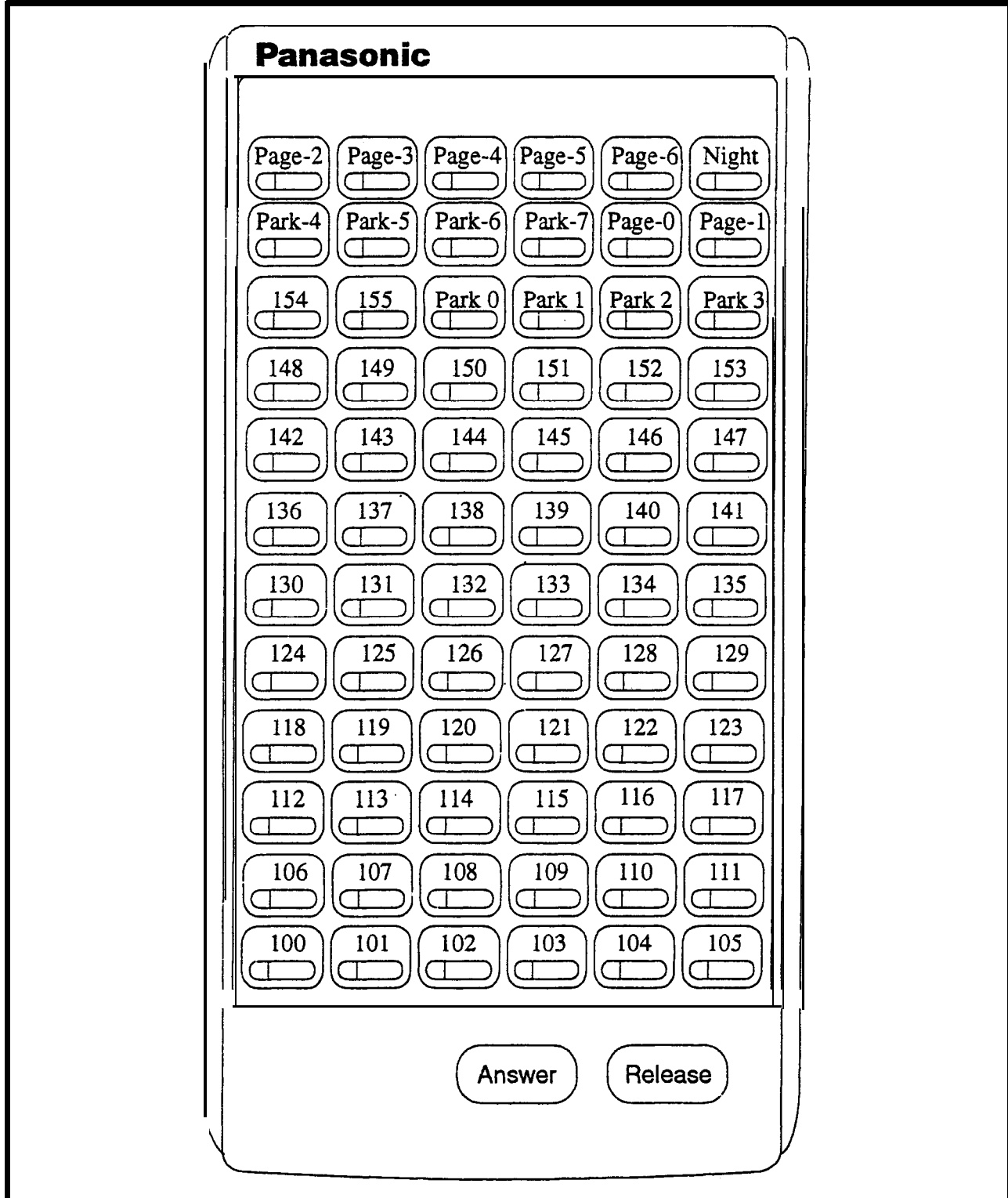
Panasonic

Page-2	Page-3	Page-4	Page-5	Page-6	Night
Park-4	Park-5	Park-6	Park-7	Page-0	Page-1
154	155	Park 0	Park 1	Park 2	Park 3
148	149	150	151	152	153
142	143	144	145	146	147
136	137	138	139	140	141
130	131	132	133	134	135
124	125	126	127	128	129
118	119	120	121	122	123
112	113	114	115	116	117
106	107	108	109	110	111
100	101	102	103	104	105

Answer   Release

Select One

1st DSS 72 Console for 1st Attendant ___	FF5 (73-CPC-A/AII or 145-CPC-B/EX)# (Key No.)# (Feature Code)#
2nd DSS 72 Console for 1st Attendant ___	FF5 (74-CPC-A/AII or 146-CPC-B/EX)# (Key No.)# (Feature Code)#
1st DSS 72 Console for 2nd Attendant ___	FF5 (75-CPC-A/AII or 147-CPC-B/EX)# (Key No.)# (Feature Code)#
2nd DSS 72 Console for 2nd Attendant ___	FF5 (76-CPC-A/AII or 148-CPC-B/EX)# (Key No.)# (Feature Code)#

Table 18: DSS 72 (Original Version) Key Assignments

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Select One:
1st DSS 72 Console for 1st Attendant
2nd DSS 72 Console for 1st Attendant (No Default)
1st DSS 72 Console for 2nd Attendant ___
2nd DSS 72 Console for 2nd Attendant D e f (No u l t)

Default DSS 72 (Original Version) Key Assignments (3-Digit Numbering)

FF12 00 (Page All) 65	FF12 01 (Page 01) 66	FF12 02 (Page 02) 67	FF12 03 (Page 03) 68		FF12 04 (Page 04) 69	FF12 05 (Page 05) 70	FF12 06 (Page 06) 71	FF12 520 (Night) 72
75 00 (Park 0) 57	75 01 (Park 1) 58	75 02 (Park 2) 59	75 03 (Park 3) 60		75 04 (Park 4) 61	75 05 (Park 5) 62	75 06 (Park 6) 63	75 07 (Park 7) 64
Ext 148 49	Ext 149 50	Ext 150 51	Ext 151 52		Ext 152 53	Ext 153 54	Ext 154 55	Ext 155 56
Ext 140 41	Ext 141 42	Ext 142 43	Ext 143 44		Ext 144 45	Ext 145 46	Ext 146 47	Ext 147 48
Ext 132 33	Ext 133 34	Ext 134 35	Ext 135 36		Ext 136 37	Ext 137 38	Ext 138 39	Ext 139 40
Ext 124 25	Ext 125 26	Ext 126 27	Ext 127 28		Ext 128 29	Ext 129 30	Ext 130 31	Ext 131 32
Ext 116 17	Ext 117 18	Ext 118 19	Ext 119 20		Ext 120 21	Ext 121 22	Ext 122 23	Ext 123 24
Ext 108 9	Ext 109 10	Ext 110 11	Ext 111 12		Ext 112 13	Ext 113 14	Ext 114 15	Ext 115 16
Ext 100 1	Ext 101 2	Ext 102 3	Ext 103 4		Ext 104 5	Ext 105 6	Ext 106 7	Ext 107 8

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

EM/24 Extension_Port_   Related Key Phone Extension Port _____

Table 19: EM/24 (New 44-Series) Key Assignments
FF5 (Ext Port)# (Key No.)# (Feature Code)#
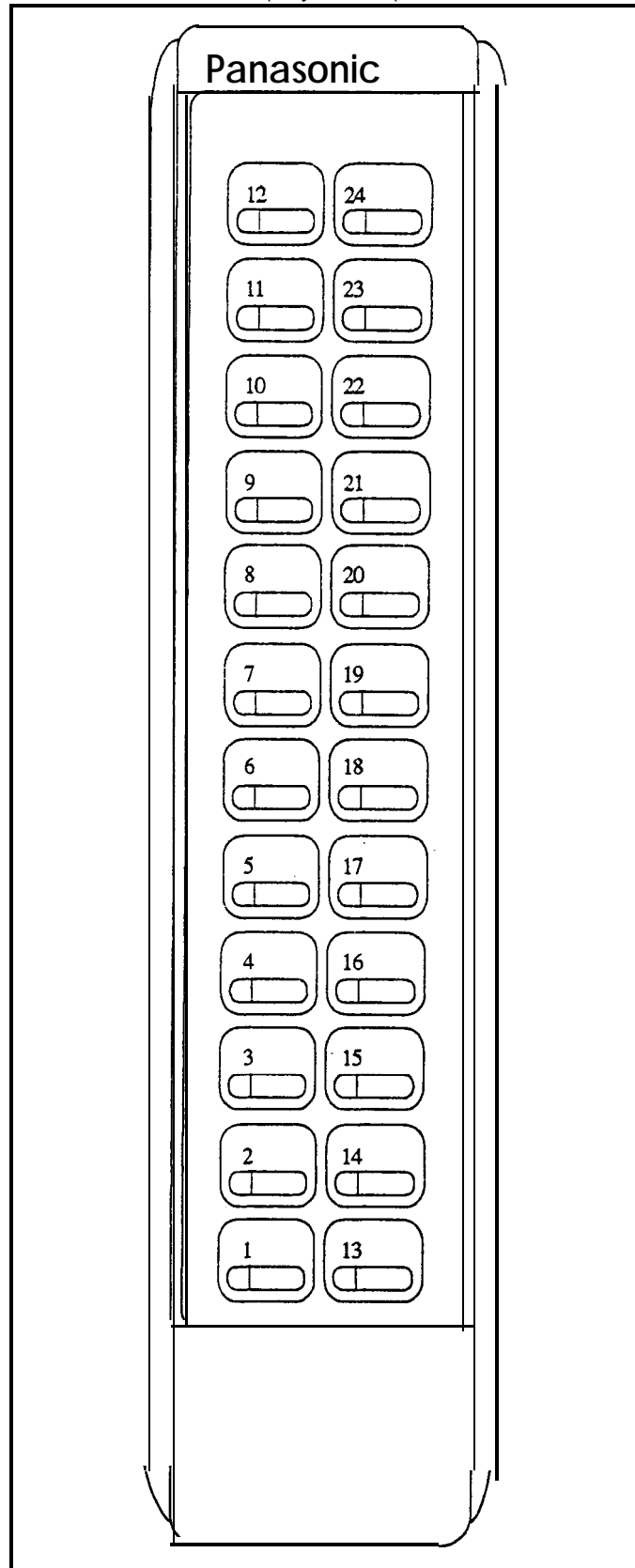
These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Default EM/24 (New 44-Series) Key Assignments

Panasonic h

CO12	CO24
CO11	CO23
CO10	CO22
CO9	CO21
CO8	CO20
CO7	CO19
CO6	CO18
CO5	CO17
CO4	CO16
CO3	CO15
CO2	CO14
CO1	CO13
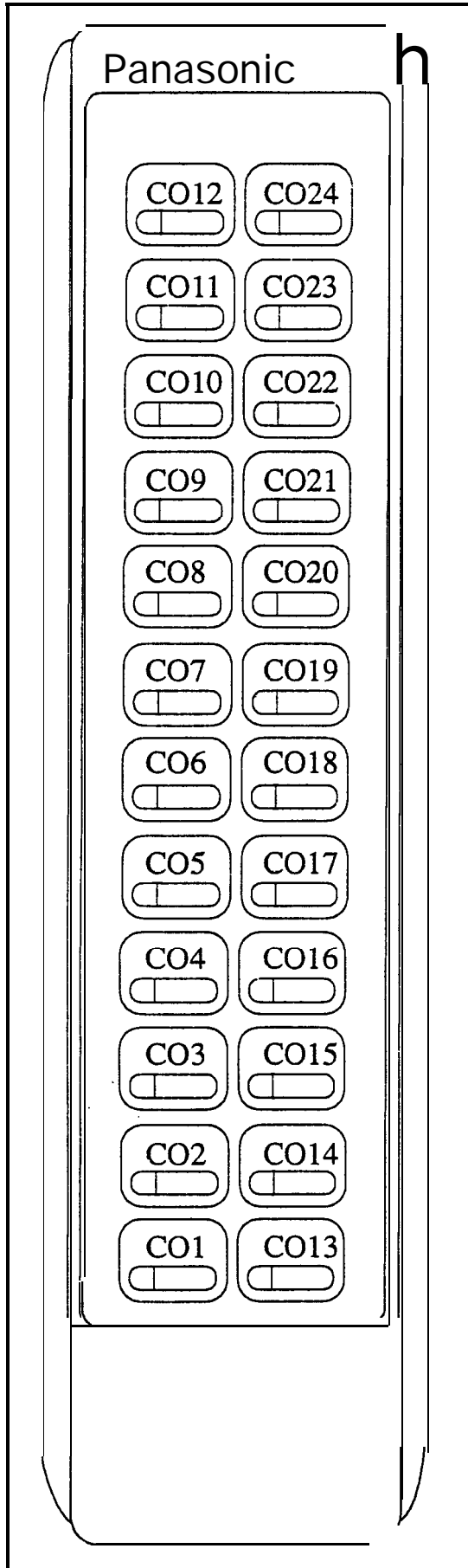
EM/24 Extension Port _____   Related Key Phone Extension Port _____

Table 20: EM/24 (Original Version) Key Assignments
FF5 (Ext Port)# (Key No.)# (Feature Code)#

Default EM/24 (Original Version) Key Assignments

08 8 (TRK8)	16 16(TRK16)	24 24(TRK24)
07 7 (TRK7)	15 15(TRK15)	23 23(TRK23)
06 6 (TRK6)	14 14(TRK14)	22 E22(TRK22)I
05 5 (TRK5)	13 13(TRK13)	21 21(TRK21)
04 4 (TRK4)	12 12(TRK12)	20 20(TRK20)
03 3 (TRK3)	11 11(TRK11)	19 19(TRK19)
02 2 (TRK2)	10 10(TRK10)	18 18(TRK18)
01 1 (TRK1)	09 9 (TRK9)	17 17(TRK17)

Section 6 - Name and Message Assignments (FF6)

Table 21: Extension Names

Extension Port	Extension No. FF3 (1-144)# 1# (Ext No)#	Name (Up to 10 Characters) FF6 1# (Ext Port)# CONF (Name)#

Note:

Name assignments require a DSS/72 for programming

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Table 22: System Speed Dials

System Speed Dial # (2 digits 00-89 or 3 digits 000-I 99)	Name (Up to 16 Characters) FF6 2# (SSD)# CONF (Name)#	Number (Up to 16 Digits) FF101# (SSD)# (PhoneNo.)#	System Speed Dial # (2 digits 00-89 or 3 digits 000-I 99)	Name (Up to 16 Characters) FF6 2# (SSD)# CONF (Name)#	Number (Up to 16 Digits) FF10 1# (SSD)# (PhoneNo.)#

Note:

Name assignments require a DSS/72 for programming.

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Port # _____   Ext # _____

Table 23: Personal Speed Dii

Personal Speed Dial # (2 digits 90-99 or 3 digits 900-909)	Name (Up to 16 Characters) FF6 3# (Ext Port)# (PSD)# CONF (Name)#	Number (Up to 16 Digits) FF10 2# (Ext Port)# (PSD) (Phone Number)#
90/900		
91/901		
92/902		
93/903 ___		
94/904 ___		
95/905		
961906		
971907		
961909		
991909		

Notes:

Name assignments require a DSS/72

Table 24: Absence Messages

Absence Message #	Message Text (Up to 15 Characters) (Requires DSS/72)
Message 5 (FF6 4# 5# CONF (Message)#	
Message 6 (FF6 4# 6# CONF (Message)#	
Message 7 (FF6 4# 7# CONF (Message)#	
Message 6 (FF6 4# 8# CONF (Message)#	
Message 9 (FF6 4# 9# CONF (Message)#	

Table 25: Trunk Name Assignments

Trunk Number	Name Text (Up to 6 Characters) (Requires DSS/72)
Trunk1 (FF6 5# 1# CONF (Name)#)	
Trunk 2 (FF6 5# 2# CONF (Name)#)	
Trunk 3 (FF6 5# 3# CONF (Name)#)	
Trunk 4 (FF6 5# 4# CONF (Name)#)	
Trunk 5 (FF6 5# 5# CONF (Name)#)	
. Trunk 6 (FF6 5# 6# CONF (Name)#)	
Trunk 7 (FF6 5# 7# CONF (Name)#)	
Trunk 6 (FF6 5# 8# CONF (Name)#)	
Trunk8 (FF6 5# 9# CONF (Name)#)	
Trunk 10 (FF6 5# 10# CONF (Name)#)	
Trunk 11 (FF6 5# 11# CONF (Name)#)	
Trunk 12 (FF6 5# 12# CONF (Name)#)	
Trunk 13 (FF6 5# 13# CONF (Name)#)	
Trunk 14 (FF6 5# 14# CONF (Name)#)	
Trunk 15 (FF6 5# 15# CONF (Name)#)	
Trunk 16 (FF6 5# 16# CONF (Name)#)	
Trunk17 (FF6 5# 17# CONF (Name)#)	
Trunk 16 (FF6 5# 18# CONF (Name)#)	
Trunk 18 (FF6 5# 19# CONF (Name)#)	
Trunk 20 (FF6 5# 20# CONF (Name)#)	
Trunk 21 (FF6 5# 21# CONF (Name)#)	1
Trunk 22 (FF6 5# 22# CONF (Name)#)	
Trunk 23 (FF6 5# 23# CONF (Name)#)	
Trunk 24 (FF6 5# 24# CONF (Name)#)	
Trunk 25 (FF6 5# 25# CONF (Name)#)	
Trunk 26 (FF6 5# 26# CONF (Name)#)	
Trunk 27 (FF6 5# 27# CONF (Name)#)	
Trunk 26 (FF6 5# 28# CONF (Name)#)	
Trunk 28 (FF6 5# 29# CONF (Name)#)	
Trunk 30 (FF6 5# 30# CONF (Name)#)	
Trunk 31 (FF6 5# 31# CONF (Name)#)	
Trunk 32 (FF6 5# 32# CONF (Name)#)	

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Table 25: Trunk Name Assignments

Trunk Number	Name Text (Up to 6 Characters) (Requires **DSS/72**)
Trunk 33 (**FF6 5# 33#** CONF (Name)#)	
Trunk 34 (**FF6** 5% 34X CONF (Name)#)	
Trunk 35 (**FF6** 5X **35#** CONF (Name)#)	
Trunk 36 (**FF6 5# 36#** CONF (Name)#)	
Trunk 37 (FF6 **5# 37#** CONF (Name)#)	
Trunk 38 (**FF6 5# 38#** CONF (Name)#)	
Trunk 39 (**FF6 5# 39#** CONF (Name)#)	
Trunk 40 (**FF6** 5% **40#** CONF (Name)#)	
Trunk 41 (**FF6 5# 41#** CONF (Name)#)	
Trunk 42 (**FF6 5# 42#** CONF (Name)%)	
Trunk 43 (**FF6 5# 43#** CONF (Name)#)	
Trunk 44 (**FF6 5# 44#** CONF (Name)%)	
Trunk 45 (**FF6 5#** 45% CONF (Name)#)	
Trunk 46 (**FF6 5# 46#** CONF (Name)%)	
Trunk 47 (FF6 **5#** 47% CONF (**Name)#**)	
Trunk 48 (**FF6 5#** 48% CONF (**Name)#**)	
Trunk 49 (**FF6 5# 49#** CONF (Name)#)	
Trunk 50 (**FF6 5# 50#** CONF (Name)%)	
Trunk 51 (**FF6 5# 51#** CONF (**Name)#**)	
Trunk 52 (**FF6 5# 52#** CONF (**Name)#**)	
Trunk 53 (**FF6 5# 53#** CONF (**Name)#**)	
Trunk 54 (**FF6 5#** 54X CONF (Name)%)	
Trunk 55 (**FF6 5#** 55X CONF (**Name)#**)	
Trunk 56 (**FF6 5# 56#** CONF (Name)#)	
Trunk 57 (**FF6 5# 57#** CONF (Name)#)	
Trunk 58 (**FF6 5# 58#** CONF (Name)#)	
Trunk 59 (**FF6 5# 59#** CONF (**Name)#**)	
Trunk 60 (**FF6 5# 60#** CONF (**Name)#**)	
Trunk 61 (**FF6 5# 61#** CONF (**Name)#**)	
Trunk 62 (**FF6 5# 62#** CONF (Name)#)	
Trunk 63 (**FF6 5# 63#** CONF (Name)#)	
Trunk 64 (**FF6 5#** 64X CONF (**Name)#**)	

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Table 26: Hunt Group Name Assignments

Hunt Group #	Name Text (Up to 10 Characters) (Requires DSS/72)
Hunt Group 1 (FF6 6# 1# CONF (Name)#)	
Hunt Group 2 (FF6 6# 2# CONF (Name)#)	
Hunt Group 3 (FF6 6% 3# CONF (Name)#)	
Hunt Group 4 (FF6 6# 4# CONF (Name)#)	
Hunt Group 5 (FF6 6# 5# CONF (Name)#)	
Hunt Group 6 (FF6 6# 6# CONF (Name)#)	
Hunt Group 7 (FF6 6# 7# CONF (Name)#)	
Hunt Group 8 (FF6 6# 8# CONF (Name)#)	

Table 27: Call Waiting/OHVA Text Reply

Message #	Message Text (Up to 15 Characters) (Requires DSS/72)
Message 1 (FF6 7# 1# CONF (Message)#)	(Default) Take A Message
Message 2 (FF6 7# 2X CONF (Message)#)	(Default) Please Hold
Massage 3 (FF6 7X 3# CONF (Message)#)	(Default) Will Call Back
Message 4 (FF6 7% 4# CONF (Message)#)	(Default) Transfer
Message 6 (FF6 7X 5# CONF (Message)#)	(Default) Unavailable

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Section 7 - Toil Restriction Settings (FF7)

Table 28: TRS Settings

Parameter	Setting
International Calling for TRS Types 3-6 **Restricted** (Old Dialing Plan) or Check Country Code Table (New NANP) (0), No **Restriction**(1) FF7 1# 1 # (0/1)#	
Dialing Restriction During Inbound Trunk Calls for TRS Types 3-6 **When an incoming call is received, DTMF cannot be outdialed (0),** DTMF **can be outdialed** FF7 1# 2# (0/1)#	
Maximum Dialed Digits for TRS Types 3-6 (from 15 (1) to 29 (15) digits) FF7 1# 3#(1-15)# (**indicates **no** limit, **use** CONF to clear entry and change to no limit)	
3-Digit Toll **Restrictions** for TRS Types 2-6:	
211 (Allow - 0, Deny - 1) - FF7 1# 4# (0/1)#	
311 (Allow- **0**, Deny - 1) - FF7 1# 5# (0/1)#	
411 (Allow- 0, Deny- 1) -FF7 1# 6# (0/1)#	
511 (Allow- 0, Deny- 1) -FF7 1# 7# (0/1)#	
611 (Allow- **0**, Deny **1)** - FF7 1# 8# (0/1)#	
711 (**Allow** - **0**, Deny - 1) - FF7 1# 9# (0/1)#	
811 (Allow-0, **Deny** - **1)** - FF7 1# 10# (0/1)#	
Dialing Plan Switch Old Plan (0), New NANP **(1)** FF7 1# 17# (0/1)#	
Equal Access Code Format **Old** Format 1 0XXX (0) New Format 101XXXX (1) FF7 1# 21# (0/1)#	

Table 29: TRS Restrictions for Extension Ports*

Extension Port	Operator Access **Restrict** (0) or Permit (1) FF7 1#18# (Ext Port)# (0/1)#	International Calling on Extensions **Restrict** (0) or Check International Calls Switch (1) FF7 1#19# (Ext Port)# (0/1)#

* Set FF7 1#17#1# for New NANP

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Table 30: TRS Country Codes Allowed*

Entry	Allowed Country Code (Up to 3 Digits)
1 (FF7 1# 20# 1# (0-999)#)	
2 (FF7 1# 20# 2# (0-999)#)	
3 (FF7 1# 20# 3# (0-999)#)	
4 (FF7 1# 20# 4# (0-999)#)	
5 (FF7 1# 20# 5# (0-999)#)	
6 (FF7 1# 20# 6# (0-999)#)	
7 (FR 1# 20# 7# (0-999)#)	
8 (FF7 1# 20# 8# (0-999)#)	
9 (FF7 1# 20# 9# (0-999)#)	
10 (FF7 1# 20# 1 0# (0-999)#)	

* Set FF7 1#1#0# for International Caller, FF71#17#1# for New NANP

Table 31: TRS Office Code Restrictions for Types 2-6[*]

Entry	Denied Office Code (3 Digits)
1 (FF7 1# 22# 1# (000-999)#)	
2 (FF7 1# 22# 2# (000-999)#)	
3 (FF7 1# 22# 3# (000-999)#)	
4 (FF7 1# 22# 4# (000-999)#)	
5 (FF7 1# 22# 5# (000-999)#)	
6 (FF7 1# 22# 6# (000-999)#)	
7 (FF7 1# 22# 7# (000-999)#)	
8 (FF7 1# 22# 8# (000-999)#)	
9 (FF7 1# 22# 9# (000-999)#)	
10 (FF7 1# 22# 10# (000-999)#)	

* The entered office codes are always restricted regardless of any area code dialed. Set FF71#17#1# for New NANP.

Table 32: 7-Digit Toll Restriction for TRS Types 2-6

Parameter	Setting
7-Digit Toll Restriction for TRS Types 2-6 00 not check 7-Digit table (0), Check Special 7-digit table for TRS Types 2-6 (1) (See below) FF7 1# (11 for Type 2 to 15 for Type 6)# (0/1)#	

Table 33: Special 'I-Digit Table for TRS Types 2-6
FF7 6# (1-50)#

Entry #	Restricted 7-Digit Number		Entry #	Restricted 7-Digit Number
			26	
2			27	
3			28	
4			29	
5			30	
6			31	
7			32	
8			33	
9			34	
10			35	
11			36	
12			37	
13			38	
14			39	
15			40	
16			41	
17			42	
18			43	
19			44	
20			45	
21			46	
22			47	
23			48	
24			49	
25			50	

____ Day FF7 7# (Ext Port)# (Trunk)# (TRS Type)#

Night FF7 8# (Ext Port)# (Trunk)# (TRS Type)#

Table 34: Day/Night TRS Types for Trunk

Extension Port	TRS Type (0 - 7)							
	Trunk ___	Trunk ___	Trunk ___	Trunk ___	Trunk ___	Trunk ___	Trunk ___	Trunk ___
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								
Ext. Port ___								

Table 35: Special Area Code Table for TRS Types 3-6

Special Area Code Table Number	Special Area Code (000-999)
Special Area Code Table 1 (FF7 4# 1# (000-999)#)	
Special Area Code Table 2 (FF7 4# 2# (000-999)#)	
Special Area Code Table 3 (FF7 4# 3# (000-999)#)	
Special Area Code Table 4 (FF7 4# 4# (000-999)#)	

TRS AREA CODE AND OFFICE CODE PLANNING NOTES

When planning the TRS Type settings, use higher numbered TRS types for less restrictive calling. The defaults for the TRS Types are as follows:

TRS Type 3 Defaults -	All Area Codes **Restricted**	All **Office** Codes **Restricted**
TRS Type 4 Defaults -	All Area Codes **Restricted**	All **Office Codes Restricted**
TRS Type 5 Defaults -	All Area Codes **Allowed**	**All Office** Codes **Allowed**
TRS Type 6 Defaults -	All Area Codes **Allowed**	All **Office** Codes **Allowed**

When planning Special Area Codes, use higher numbered Special Area Codes for less restrictive calling. The defaults for the Special Area Code are as follows:

Special Area Code 1 Defaults -	All Special Office Codes **Restricted**
Special Area Code 2 Defaults -	All Special Office Codes **Allowed**
Special Area Code 3 Defaults -	All Special Office Codes **Allowed**
Special Area Code 4 Defaults -	All Special Office Codes **Allowed**

Select one of the following:

Area Code Table for TRS Type ___ (3-6)   FF7 2# (3-6)# (000-999)# (0/1)#
Office Code Table for TRS Type ___ (3-6)   FF7 3# (3-6)# (000-999)# 0/1)#
___ Special Office Code Table ___ (1-4)   FF7 5# (1-4)# (000-999)# 0/1)#

Table 36: TRS Area Code/Office Code Table (000-249)

Allow (Circle) or Deny (X-Out)									
000	001	002	003	004	005	006	007	008	009
010	011	012	013	014	015	016	017	018	019
020	021	022	023	024	025	026	027	028	029
030	031	032	033	034	035	036	037	038	039
040	041	042	043	044	045	046	047	048	049
050	051	052	053	054	055	056	057	058	059
060	061	062	063	064	065	066	067	068	069
070	071	072	073	074	075	076	077	078	079
080	081	082	083	084	085	086	087	088	089
090	091	092	093	094	095	096	097	098	099
100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129
130	131	132	133	134	135	136	137	138	139
140	141	142	143	144	145	146	147	148	149
150	151	153	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169
170	171	172	173	174	175	176	177	178	179
180	181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198	199
200	201	202	203	204	205	206	207	208	209
210	211	212	213	214	215	216	217	218	219
220	221	222	223	224	225	226	227	228	229
230	231	232	233	234	235	236	237	238	239
240	241	242	243	244	245	246	247	248	249

Notes:

TRS Type 3 Area Code and Office Code defaults restrict dialing.
TRS Type 4 Area Code defaults restrict dialing and Office Code defaults allow dialing.
TRS Type 5 Area Code defaults allow dialing and Office Codes defaults allow dialing.
TRS Type 6 Area Code defaults allow dialing and Office Codes defaults allow dialing.
Special Office Code Table 1 and 2 defaults restrict dialing.
Special Office Code Table 3 and 4 defaults allow dialing.

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Select one of the following:

Area Code Table for TRS Type ____ (3-6)   FF7 2# (3-6)# (000-999)# (0/1)#
____ Office Code Table for TRS Type ____ (3-6)   FF7 3# (3-6)# (000-999)# (0/1)#
Special Office Code Table ____ (1-4)   FF7 5# (1-4)# (000-999)# (0/1)#

Table 37: TRS Area Code/Office Code Table (250-499)

Allow (Circle) or Deny (X-Cut)									
250	251	252	253	254	255	256	257	256	259
260	261	262	263	264	265	266	267	268	269
270	271	272	273	274	275	276	277	278	279
280	281	282	283	284	285	286	287	288	289
290	291	292	293	294	295	296	297	298	299
300	301	302	303	304	305	306	307	308	309
310	311	312	313	314	315	316	317	318	319
320	321	322	323	324	325	326	327	328	329
330	331	332	333	334	335	336	337	338	339
340	341	342	343	344	345	346	347	348	349
350	351	352	353	354	355	356	357	358	359
360	351	362	363	364	365	366	367	368	369
370	371	372	373	374	375	376	377	378	379
380	381	382	383	384	385	386	387	388	389
390	391	392	393	394	395	396	397	398	399
400	401	402	403	404	405	406	407	408	409
410	411	412	413	414	415	416	417	418	419
420	421	422	423	424	425	426	427	428	429
430	431	432	433	434	435	436	437	438	439
440	441	442	443	444	445	446	447	448	449
450	451	452	453	454	455	456	457	458	459
460	461	462	463	464	465	466	467	468	469
470	471	472	473	474	475	476	477	478	479
480	481	482	483	484	485	486	487	488	489
490	491	492	493	494	495	496	497	498	499

Notes:

TRS Type 3 Area Code and Office Code defaults restrict dialing.
TRS Type 4 Area Code defaults restrict dialing and Office Code defaults allow dialing.
TRS Type 5 Area Code defaults allow dialing and Office Codes defaults allow dialing.
TRS Type 6 Area Code defaults allow dialing and Office Codes defaults allow dialing.
Special Office Code Table 1 and 2 defaults restrict dialing.
Special Office Code Table 3 and 4 defaults allow dialing.

⌐⌐⌐ _____ Date _____ Page ____ of ____

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Select one of the following:

____ Area Code Table for TRS Type ____ (3-6)   FF7 2# (3-6)# (000-999)# (0/1)#
Office Code Table for TRS Type ____ (3-6)   FF7 3# (3-6)# (000-999)# (0/1)#
Special Office Code Table ____ (1-4)   FF7 5# (3-6)# (000-999)# (0/1)#

Table 38: TRS Area Code/Office Code Table (500-749)

Allow (Circle) or Deny (X-Out)									
500	501	502	503	504	505	506	507	508	509
510	511	512	513	514	515	516	517	518	519
520	521	522	523	524	525	526	527	528	529
530	531	532	533	534	535	536	537	538	539
540	541	542	543	544	545	546	547	548	549
550	551	552	553	554	555	556	557	558	559
560	561	562	563	564	565	566	567	568	569
570	571	572	573	574	575	576	577	578	579
580	581	582	583	584	585	586	587	588	589
590	591	592	593	594	595	596	597	598	599
600	601	602	603	604	605	606	607	608	609
610	611	612	613	614	615	616	617	618	619
620	621	622	623	624	625	626	627	628	629
630	631	632	633	634	635	636	637	638	639
640	641	642	643	644	645	646	647	648	649
650	651	652	653	654	655	656	657	658	659
660	661	662	663	664	665	666	667	668	669
670	671	672	673	674	675	676	677	678	679
680	681	682	683	684	686	686	687	688	689
690	691	692	693	694	695	696	697	698	699
700	701	702	703	704	705	706	707	708	709
710	711	712	713	714	715	716	717	718	719
720	721	722	723	724	725	726	727	728	729
730	731	732	733	734	735	736	737	738	739
740	741	742	743	744	745	746	747	748	749

Notes:

TRS Type 3 Area Code and Office Code defaults restrict dialing.
TRS Type 4 Area Code defaults restrict dialing and Office Code defaults allow dialing.
TRS Type 5 Area Code defaults allow dialing and Office Codes defaults allow dialing.
TRS Type 6 Area Code defaults allow dialing and Office Codes defaults allow dialing.
Special Office Code Table 1 and 2 defaults restrict dialing.
Special Office Code Table 3 and 4 defaults allow dialing.

Select one of the following:

____ Area Code Table for TRS Type (3-6)	FF7 2# (3-6)# (000-999)# (0/1)#
Office Code Table for TRS Type (3-6)	FF7 3# (3-6)# (000-999)# (0/1)#
Special Office Code Table ____ (1-4)	FF7 5# (3-6)# (000-999)# (0/1)#

Table 39: TRS Area Code/Office Code Table (750-999)

Allow (Circle) or Deny (X-Out)									
750	751	752	753	754	755	756	757	758	759
760	761	762	763	764	765	766	767	768	769
770	771	772	773	774	775	776	777	778	779
780	781	782	783	784	785	786	787	788	789
790	791	792	793	794	795	796	797	798	799
800	801	802	803	804	805	806	807	808	809
810	811	812	813	814	815	816	817	818	819
820	821	822	823	824	825	826	827	828	829
830	831	832	833	834	835	836	837	838	839
840	841	842	843	844	845	846	847	848	849
850	851	852	853	854	855	856	857	858	859
860	861	862	863	864	865	866	867	868	869
870	871	872	873	874	875	876	877	878	879
880	881	882	883	864	885	886	887	888	889
890	891	892	893	894	895	896	897	898	899
900	901	902	903	904	905	906	907	908	909
910	911	912	913	914	915	916	917	918	919
920	921	922	923	924	925	926	927	928	929
930	931	932	933	934	935	936	937	938	939
940	941	942	943	944	945	946	947	948	949
950	951	952	953	954	955	956	957	958	959
960	961	962	963	964	965	966	967	968	969
970	971	972	973	974	975	976	977	978	979
980	961	982	983	984	985	986	967	988	969
990	991	992	993	994	995	996	997	996	999

Notes:

TRS Type 3 Area Code and Office Code defaults restrict dialing.
TRS Type 4 Area Code defaults restrict dialing and Office Code defaults allow dialing.
TRS Type 5 Area Code defaults allow dialing and Office Codes defaults allow dialing.
TRS Type 6 Area Code defaults allow dialing and Office Codes defaults allow dialing.
Special Office Code Table 1 and 2 defaults restrict dialing.
Special Office Code Table 3 and 4 defaults allow dialing.

Section 8 - Least Cost Routing (FF 8)

Table 40: LCR Trunk Group Assignments

		LCR Trunk Group 1 For Long Distance or -	LCR Trunk Group 2 For Local or -	LCR Trunk Group 3 For Backup or -	LCR Trunk Group4 For -	LCR Trunk Group 5 For -	LCR Trunk Group 6 For -	LCR Trunk Group 7 For -	LCR Trunk Group 8 for -
Priority	Priority 1 Trunk Port FF8 6# (LCR Trunk Group No.)# 1# (Trunk Port)#								
	Priority 2 Trunk Port FF8 6# (LCR Trunk Group No.)# 2# (Trunk Port)#								
	Priority 3 Trunk Port FF8 6# (LCR Trunk Group No.)# 3# (Trunk Port)#								
	Priority 4 Trunk Port FF8 6X (LCR Trunk Group No.)# 4# (Trunk Port)#								
	Priority 5 Trunk Port FF8 6# (LCR Trunk Group No.)# 5# (Trunk Port)#								
	Priority 6 Trunk Port FF8 6# (LCR Trunk Group No.)# 6# (Trunk Port)#								
	Priority 7 Trunk Port FF8 6# (LCR Trunk Group No.)# 7# (Trunk Port)#								
	Priority 8 Trunk Port FF8 6# (LCR Trunk Group No.)# 8# (Trunk Port)#								
Add/ Delete Digits	Deletion Digits (Up to 16 Digits) FF8 7# (LCR Trunk Group No.)# (Deletion Digits)#								
	Addition Digits (Up to 16 Digits) FF8 8# (LCR Trunk Group No.)# (Addition Digits)#								

Table 41: Time Priority Route Table 1-8 (Periods l-24)
FF8 5# (Time Priority Route Table)# (Priority)# (LCR Trunk Group)#

Time Priority Period Position	LCR Trunk Group (l-8)							
	Time Priority Route Table 1 for Long Distance or	Time Priority Route Table 2 for Local or	Time Priority Route Table 3 For Backup or	Time Priority Route Table 4 for	Time Priority Route Table 5 for	Time Priority Route Table 6 for	Time Priority Route Table 7 for	Time Priority Route Table a for
:00 a.m. - :59 a.m. — Priority 1								
Priority 2								
Priority 3								
Priority 4								
Priority 5								
Priority 6								
Priority 7								
Priority 8								
I:00 a.m. - :59 p.m. — Priority 9								
Priority 10								
Priority 11								
Priority 12								
Priority 13								
Priority 14								
Priority 15								
Priority 16								
:00 p.m. - :59 p.m. — Priority 17								
Priority 18								
Priority 19								
Priority 20								
Priority 21								
Priority 22								
Priority 23								
Priority 24								

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Table 42: **Time Priority Route Table l-8 (Periods 25-48)**

FF8 5# (Tie **Priority** Route Table)# (Priority)# (LCR Trunk Group)#

Time Period Priority Position		LCR Trunk Group (l-6)							
		Time Priority Route Table 1 for Long Distance or	Time Priority Route Table 2 for Local or	Time Priority Route Table 3 For Backup or	Time Priority Route Table 4 for	Time Priority Route Table 5 for	Time Priority Route Table 6 for	Time Priority Route Table 7 for	Time Priority Route Table 8 for
l:00 p.m. - 11:59 p.m.	Priority 25								
	Priority 26								
	Priority 27								
	Priority 28								
	Priority 29								
	Priority 30								
	Priority 31								
	Priority 32								
12:00 a.m. - l:59 a.m.	Priority 33								
	Priority 34								
	Priority 35								
	Priority 36								
	Priority 37								
	Priority 38								
	Priority 39								
	Priority 40								
Weekend	Priority 41								
	Priority 42								
	Priority 43								
	Priority 44								
	Priority 45								
	Priority 46								
	Priority 47								
	Priority 48								

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Table 43: Time Priority Route Table 9-15 (Periods l-24)

FF8 5# (Time Priority Route Table)# (Priority)# (LCR Trunk Group)#

Time Period/ Priority Position		LCR Trunk Group (l-8)						
		Time Priority Route Table 9 for	Time Priority Route Table 10 for	Time Priority Route Table 11 for	Time Priority Route Table 12 for	Time Priority Route Table 13 for	Time Priority Route Table 14 for	lime Priority Route Table 15 for
':00 a.m. - ':59 a.m.	Priority 1							
	Priority 2							
	Priority 3							
	Priority 4							
	Priority 5							
	Priority 6							
	Priority 7							
	Priority 8							
3:00 a.m. - l:59 p.m.	Priority 9							
	Priority 10							
	Priority 11							
	Priority 12							
	Priority 13							
	Priority 14							
	Priority 15							
	Priority 16							
5:00 p.m. - ':59 p.m.	Priority 17							
	Priority 18							
	Priority 19							
	Priority 20							
	Priority 21							
	Priority 22							
	Priority 23							
	Priority 24							

Table 44: Time Priority Route Table 9-15 (Periods 25-48)

FF8 5# (Time Priority Route Table)# (Priority)# (LCR Trunk Group)#
(Note: Time Priority Route Tables 9-15 are not available with CPC-EX)

Time Period/ Priority Position		LCR Trunk Group (1-8)						
		Time Priority Route Table 9 for ___	Time Priority Route Table 10 for ___	Time Priority Route Table 11 for ___	Time Priority Route Table 12 for ___	Time Priority Route Table 13 for ___	Time Priority Route Table 14 for ___	Time Priority Route Table 15 for ___
:00 p.m. - 1:59 p.m.	Priority 25							
	Priority 26							
	Priority 27							
	Priority 28							
	Priority 29							
	Priority 30							
	Priority 31							
	Priority 32							
12:00 a.m. - :59 a.m.	Priority 33							
	Priority 34							
	Priority 35							
	Priority 36							
	Priority 37							
	Priority 38							
	Priority 39							
	Priority 40							
Veekend	Priority 41							
	Priority 42							
	Priority 43							
	Priority 44							
	Priority 45							
	Priority 46							
	Priority 47							
	Priority 46							

Select one of the following:

_____ LCR Area Code Time Priority Route Table Number _____ (1-6)   FF8 1# (1-6)# (000-999)# (0/1)#

_____ LCR Office Code Time Priority Route Table Number _____ (1-6)   FF8 2# (1-6)# (000-999)#   (0/1)#
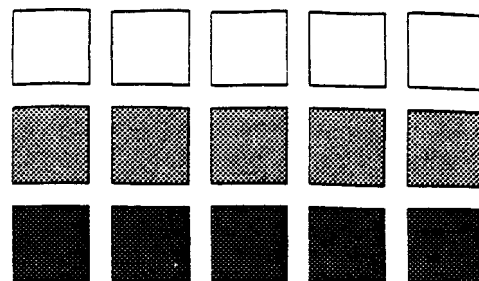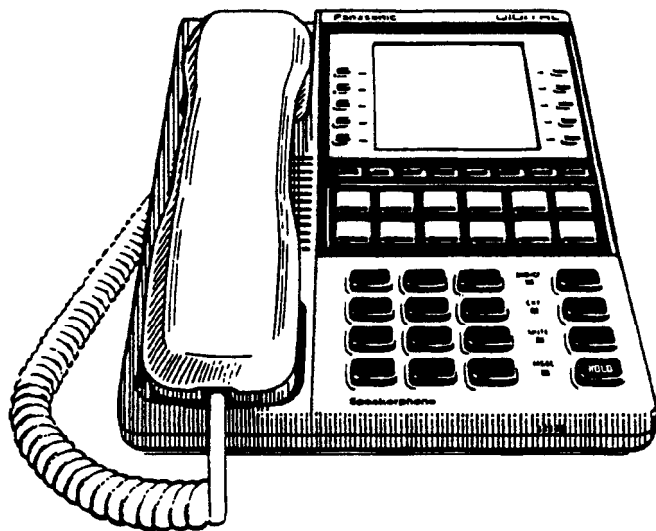
Table 45: LCR Area Code/Office Code Table (000-249)

Circle All Codes To be Included:									
000	001	002	003	004	005	006	007	008	009
010	011	012	013	014	015	016	017	018	019
020	021	022	023	024	025	026	027	028	029
030	031	032	033	034	035	036	037	038	039
040	041	042	043	044	045	046	047	048	049
050	051	052	053	054	055	056	057	058	059
060	061	062	063	054	065	066	067	068	069
070	071	072	073	074	075	076	077	078	079
080	081	082	083	084	085	086	087	088	089
090	091	092	093	094	095	096	097	098	099
100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129
130	131	132	133	134	135	136	137	138	139
140	141	142	143	144	145	146	147	148	149
150	151	153	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169
170	171	172	173	174	175	176	177	178	179
180	181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198	199
200	201	202	203	204	205	206	207	208	209
210	211	212	213	214	215	216	217	218	219
220	221	222	223	224	225	226	227	228	229
233	231	232	233	234	235	236	237	238	239
240	241	242	243	244	245	246	247	248	249

Note:
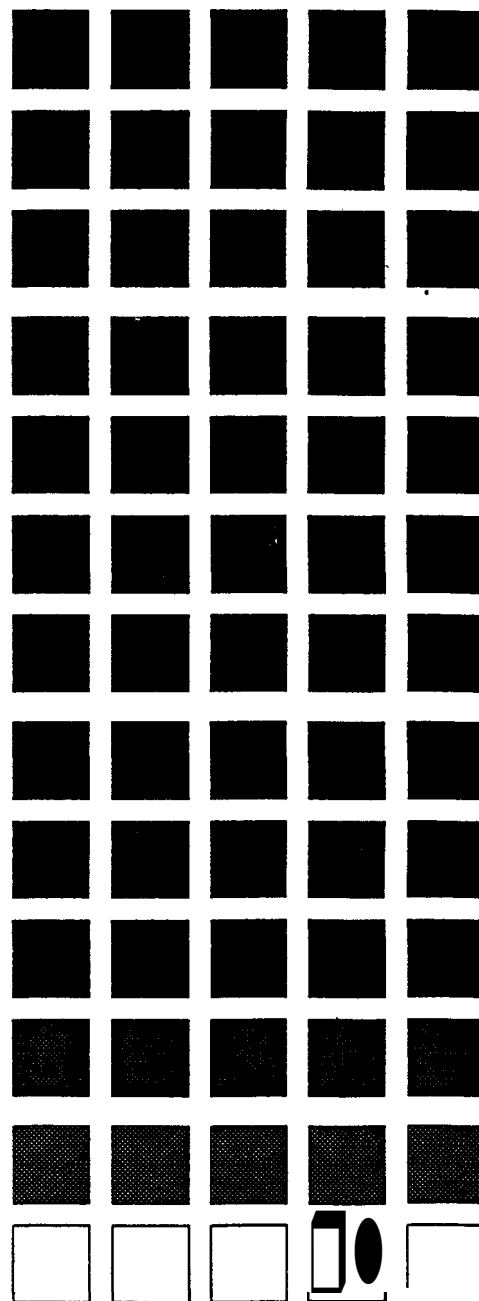
There are no default settings for LCR. All applicable appropriate area codes and office codes must be entered.

Select one of the following:

____ LCR Area Code Tie Priority Route Table Number ____ (1-6)   FF8 1# (1-6)# (000-999)# (0/1)#

____ LCR Office Code Time Priority Route Table Number ____ (l-6)   FF8 2# (1-6)# (000-999)# (0/1)#

Table 46: LCR Area Code/Office Code Table (250-499)

Circle All Codes To be Included:									
250	251	252	523	254	256	256	257	258	259
260	261	262	263	264	265	266	267	268	269
270	271	272	273	274	275	276	277	278	279
280	281	282	283	284	285	286	287	288	289
290	291	292	293	294	295	296	297	298	299
300	301	302	303	304	305	306	307	308	309
310	311	312	313	314	315	316	317	318	319
320	321	322	323	324	325	326	327	328	329
330	331	332	333	334	335	336	337	338	339
340	341	342	343	344	345	346	347	348	349
350	351	352	353	354	355	356	357	358	359
360	361	362	363	364	365	366	367	368	369
370	371	372	373	374	375	376	377	378	379
380	381	382	383	384	385	386	387	388	389
390	391	392	393	394	395	396	397	398	399
400	401	402	403	404	405	406	407	408	409
410	411	412	413	414	415	416	417	418	419
420	421	422	423	424	425	426	427	428	429
430	431	432	433	434	435	436	437	438	439
440	441	442	443	444	445	446	447	448	449
450	451	452	453	454	455	456	457	458	459
460	461	462	463	464	465	466	467	468	469
470	471	472	473	474	475	476	477	478	479
480	481	482	483	484	485	486	487	488	489
490	491	492	493	494	495	496	497	498	499

Note:

There are no default settings for LCR. All applicable appropriate area codes and office codes must be entered.

Select one of the following:

____ LCR Area Code Time Priority Route Table Number ____ (1-6)   **FF8** 1# (1-6)# (000-999)# (0/1)#

____ LCR Office Code Tie Priority Route Table Number ____ (1-6)   FF8 2# (1-6)# (000-999)# (0/1)#

Table 47: LCR Area Code/Office Code Table (500-749)

Circle All Codes To be Included:									
500	501	502	503	504	505	506	507	508	509
510	511	512	513	514	515	516	517	518	519
520	521	522	523	524	525	526	527	528	529
530	531	532	533	534	535	536	537	538	539
540	541	542	543	544	545	546	547	648	549
550	551	552	553	554	555	556	557	558	559
560	561	562	563	564	565	566	567	568	569
570	571	572	573	574	575	576	577	678	579
580	581	582	583	584	585	586	587	588	589
590	591	592	593	594	595	596	597	598	599
600	601	602	603	604	605	606	607	608	609
610	611	612	613	614	,615	616	617	618	619
620	621	622	623	624	625	626	627	628	629
630	631	632	633	634	636	636	637	638	639
640	641	642	643	644	645	646	647	648	649
650	651	652	653	664	656	656	657	668	659
660	661	662	663	664	665	666	667	668	669
670	671	672	673	674	675	676	677	678	679
680	681	682	683	684	685	686	687	688	689
690	691	692	693	694	695	696	697	698	699
700	701	702	703	704	705	706	707	708	709
710	711	712	713	714	715	716	717	718	719
720	721	722	723	724	725	726	727	728	729
730	731	732	733	734	735	736	737	738	739
740	741	742	743	744	746	746	747	748	749

Note:

There are no default settings for LCR. All applicable appropriate area codes and office codes must be entered.

These forms may be reproduced as needed by certified DBS Dealers and Technicians.

Check one of the following:

____ LCR Area Code Time Priority Route Table Number ____ (1-6)   FF8 1# (1-6)# (000-999)# (0/1)#
____ LCR Office Code Time Priority Route Table Number ____ (I-6)   FF8 2# (1-6)# (000-999)# (0/1)#

Table 48: LCR Area Code/Office Code Table (750-999)

Circle All Codes To be Included:									
750	751	752	753	754	755	756	757	758	759
760	761	762	763	764	765	766	767	768	769
770	771	772	773	774	775	776	777	778	779
780	781	782	783	784	785	786	787	788	789
790	791	792	793	794	795	796	797	798	799
800	801	802	803	804	805	806	807	808	809
810	811	812	813	814	815	816	817	818	819
820	821	822	823	824	825	826	827	828	829
830	831	832	833	834	835	836	837	838	839
840	841	842	843	844	845	846	847	848	849
850	851	852	853	854	855	856	857	858	859
860	861	862	863	864	865	866	867	868	869
870	871	872	873	874	875	876	877	878	879
880	881	882	883	884	885	886	887	888	889
890	891	892	893	894	895	896	897	898	899
900	901	902	903	904	905	906	907	908	909
910	911	912	913	914	915	916	917	918	919
920	921	922	923	924	925	926	927	928	929
930	931	932	933	934	935	936	937	938	939
940	941	942	943	944	945	946	947	948	949
950	951	952	953	954	955	956	957	958	959
960	961	962	963	964	965	966	967	968	969
970	971	972	973	974	975	976	977	978	979
980	981	982	983	984	985	986	987	988	989
990	991	992	993	994	995	996	997	998	999

Note:

There are no default settings for LCR. All applicable appropriate area codes and office codes must be entered.

Table 49: Special LCR Area Code Table

Special Area Code Table Number	Special LCR Area Code (000-999)
Special LCR Area Code Table 1 (FF8 3# 1# (000-999)#	
Special LCR Area Code Table 2 (FF83# 2# (000-999)#	I I
Special Area Code Table 3 (FF8 3# 3# (000-999)#	I I
Special Area Code Table 4 (FF8 3# 4# (000-999)#	I I

Special LCK **Office** Codes for LCR Area Code Table _____ **(1-4)**

Table 50: Special LCR Office Code Table

Enter All Codes To be Included:									

Panasonic"

DBS
Digital Business System

Section 700
Feature
Operation

⚠️ **Warning:** This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

FCC Warning

This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take necessary measures to correct the interference.

Battery Recycling Statement

The following statement applies if you purchased backup batteries with your system.

The product you have purchased contains rechargeable batteries. The batteries are recyclable. At the end of their useful life, under various state and local laws, it may be illegal to dispose of these batteries into the municipal waste stream.. Check with your local solid waste officials for details on recycling options or proper disposal.

Contents

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Chapter 1. List of Features

Chapter 2. System Features

Chapter 3. Attendant Features

Chapter 4. Key Telephone Features

Chapter 5. DSLT Features

Chapter 6. SLT Features

.

About This Manual

Software Versions Covered by This Manual

This manual covers all versions of CPC-A, all versions of CPC-AII software through Version 7.0 and CPC-B software through Version 7.0.

Differences in feature availability or operation are noted within each feature description.

If you are using this manual for a single DBS system, make note of its software version in the following table. This note may be referenced by technicians or owners of the system.

Software version information for systems shipped with this document	
CPC Model:	Software Version:

Organization

This manual contains detailed descriptions of DBS features. The feature descriptions are organized according to the following categories:

Feature Categories	Description
System Features	System Features are either available on a system-wide basis or aid in the overall administration of the DBS.
Attendant Features	Attendant Features assist the attendant in serving as a central answering point. In addition, attendant features also provide special capabilities for monitoring and programming extensions.
Key Telephone Features	Key Telephone Features are available to DBS key phones. DBS key phones are proprietary digital sets that provide feature access through a combination of feature keys and access codes.

Digital Single-Line Telephone (DSLT) Features	DSLT Features are available to Digital Single-Line Telephones. DSLTs provide digital audio quality and limited feature key access in a single-line set.
Single Line Telephone Features	SLT Features are available to industry-standard 2500 sets. Since SLTs are not equipped with feature keys, most features are accessed by using the dialpad and/or the switchhook.

Purpose

The purpose of this manual is to provide an overview of feature operation and requirements. Where applicable, the following types of information are provided for each feature.

Types of information	Purpose
Description	The Description section provides an overview of how the feature works and, in some cases, what it is typically used for.
Operation	The Operation section includes step-by-step instructions on how to use the feature,
Hardware Require- men ts	This section lists any special hardware that is required to use the feature.
Related Programming	The Related Programming section lists the pro- gramming subsystems associated with the fea- ture.
Considerations	This section provides details on feature interac- tions and limitations.

Chapter 1. List of Features

The following tables list the features available with the DBS.

The following tables are included in this chapter:

Table 1-1.   System Features

Feature	CPC-A				CPC-AII			CPC-B							
	3.0	3.1	3.2	3.3	6	6.1	7	1	2	3.1	4	5	6	6.1	7
Account Codes: Non-verified	x	x	x	x	x	x	x	x	x				x	x	x
Account Codes: Verified					x	x	x			x	x	x	x	x	x
Answer Supervision for Voice Mail					x	x	x					x	x	x	x
Auto Day Mode					x	x	x				x	x	x	x	x
Auto Set Relocation					x	x	x			x	x	x	x	x	x
Background Music	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Battery Backup	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Forward ID Code for Voice Mail		x	x	x	x	x	x	x	x	x	x	x	x	x	x
Caller ID					x	x								x	x
Caller ID Auto DISA					x	x								x	x
Centrex/PBX Compatibility			x	x	x	x	x		x	x	x	x	x	x	x
DID (Direct Inward Dialing)								x	x	x	x	x	x	x	x
DID Night Ringing Assignment											x	x	x	x
DID Delayed Ringing											x	x	x	x
DID/DNIS Flex. Ring Assign.											x	x	x	x
DID/DNIS Text Name Assign.											x	x	x	x
DID/DNIS To a Voice Mailbox													x	x	x
DISA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Direct Trunk Access	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Distinctive Ringing					x	x	x			x	x	x	x	x	x
Door Box (Extension Port)							x								x
Door Box (Trunk Port)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DP/DTMF Stations	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DP to DTMF Signal Conversion	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hunting Priority for VAUs					x	x	x					x	x	x	x
Independent Timers					x	x	x			x	x	x	x	x	x
Internal Hold Tone							x								x
Key Bank Hold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Least Cost Routing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Music-on-Hold	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Night Service	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Night Service (2 Modes)							x								x
Off-Premises Extension	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Paging	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Feature	CPC-A				CPC-AII			CPC-B							
	3.0	3.1	3.2	3.3	6	6.1	7	1	2	3.1	4	5	6	6.1	7
Power Failure Transfer	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Remote Maintenance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sensor	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Station Class of Service					x	x	x			x	x	x	x	x	x
Station Hunting: Terminal and Circular	x	x	x	x				x							
Station Hunting: Terminal, Distributed, Longest Idle					x	x	x		x	x	x	x	x	x	x
Station Message Detail Recording (SMDR)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
T1 Interface											x	x	x	x	x
Telephony Services							x								x
Toll Restriction	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Trunk Groups	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Trunk Name Assignment					x	x	x		x	x	x	x	x	x	x
Trunk Queuing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Universal Night Answer	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Voice Mail Ringing					x	x	x			x	x	x	x	x	x
VAU (Voice Announce Unit)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
VAU Port Assignment					x	x	x					x	x	x	x
Walking TRS Class of Service					x	x	x			x	x	x	x	x	x

Table 1-2. Attendant Features

Feature	CPC-A				CPC-A II			CPC-B							
	3.0	3.1	3.2	3.3	6	6.1	7	1	2	3.1	4	5	6	6.1	7
Alternate Attendant	x	x	x	x				x							
Attendant Assignment of Speed Dialing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Attendant Busy Override					x	x	x		x	x	x	x	x	x	x
Attendant Call Park	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Attendant Control of Absence Messages, Call Forwarding, and DND	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Attendant-Controlled Text Assignment	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Attendant Feature Package									x	x	x				
Attendant Groups					x	x	x		x	x	x	x	x	x	x
Dial Tone Disable	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DSS/72	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Headset Operation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
One-Touch VM Transfer					x	x	x					x	x	x	x
Station Lockout Code Assignment	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
System Time and Date Control	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Traffic Measurement	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Voice Mail Transfer Key					x	x	x						x	x	x
Walking COS Confirmation					x	x	x		x	x	x	x	x	x	x

Table l-3. Extension Features

Feature	CPC-A				CPC-A II			CPC-B							
	3.0	3.1	3.2	3.3	6	6.1	7	1	2	3.1	4	5	6	6.1	7
Absence Message	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Auto Redial							x								x
Barge-In for Direct Lines					x	x	x					x	x	x	x
Busy Override	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Coverage Groups	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Duration Display	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Forwarding	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Hold: Exclusive and System	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x
Call Park	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Pickup: Direct and Group	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Transfer: Blind and Screened	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x
Call Waiting	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Call Waiting/OHVA Text Reply					x	x	x				x	x	x	x	x
Caller ID Call Log						x	x							x	x
Camp-on	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
CO Line Key Trunk Access	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Conference Calls	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Delayed Ringing					x	x	x		x	x	x	x	x	x	x
Dial "0" for Attendant	x	x'x		x	x	x	x	x	x	x	x	x	x	x	x
Direct Trunk Access	x	x	x	x	x -	x t	x+	x	x	x	x	x	x	x	x
Do-Not-Disturb (DND)	x	x	x		x-x	x	x	x	x	x	x	x	x	x	x
EM/24 Console	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Flexible Function (FF) Keys	x	x	x	x	x	x	x	x	x	x	x	5	x	x	x
Handsfree Answerback	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Handsfree Operation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Headset Operation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hot Dial Pad					x	x	x						x	x	x
Intercom Calling	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Last Number Redial	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Line Appearances	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DSS/BLF Appearances: Direct Line (DL)					x	x	x		x	x	x	x	x	x	x
DSS/BLF Appearances: Multi-CO (MCO)	x	x	x	x	x	x	x	x			x	x	x	x	x

Feature	CPC-A				CPC-A II			CPC-B							
	3.0	3.1	3.2	3.3	6	6.1	7	1	2	3.1	4	5	6	6.1	7
DSS/BLF Appearances: Multi-Line (ML) Appearances					x	x	x		x	x	x	x	x	x	x
ML/MCO Separation					x	x	x				x	x	x	x	x
Meet-Me Answer	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Message Waiting/Callback Request	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Non-appearing Outside Line	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Offhook Signaling	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Off-Hook Voice Announce (OHVA)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
One-Touch Keys	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
One-Touch VM Access					x	x	x				x	x	x	x	x
Onhook Dialing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Pooled Trunk Access	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Prime Line Preference	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Private Line	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Reminder Call	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ringing Line Preference	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Saved Number Redial	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Speed Dial Linking	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Speed Dialing: System and Personal	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Station Lockout	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Trunk-to-Trunk Transfer (Unsupervised Conference)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Chapter 2. System Features

This chapter contains detailed descriptions of DBS System Features. System Features are either available on a system-wide basis or aid in the overall administration of the DBS.

This chapter covers the following topics:

Account Codes

You can assign account codes to clients to facilitate billing and to track call dates and times, numbers called, and outside line numbers used. This information is printed for each account on the SMDR record.

Non-Verified Account Codes

(CPC-A, CPC-AII, and CPC-B Versions prior to 3.1 and 6.0 and higher)

Description

In CPC-A and CPC-B Versions prior to 3.1, account codes are not verified. With CPC-AII and with CPC-B Versions 6.0 and higher, account codes may be verified or non-verified depending on system programming.

Non-verified account codes can be *forced* or *voluntary,* depending on extension programming.

With voluntary account codes, the user is not forced to enter an account code before making a call. With forced account codes, the user must enter an account code before accessing an outside line.

Non-verified accountcodes can be assigned to incoming and outgoing calls. To assign an account code to an outgoing call, the user enters the account code before making the call or during the call. To assign an account code to an incoming call, the user enters the account code during the call.

To enter an Account Code before dialing:

1. Press the ON/OFF key.

   • The phone issues intercom dial tone.

   • The ON/OFF LED lights.

2. Press the AUTO key, then press **"#."**

   • "Enter Account **#**" appears on the display.

   • If you are using a Single Line Telephone (SLT) or Digital Single Line Telephone (DSLT), dial **"#7."**

3. Enter the Account Code (up to 10 digits).

4. Press **"#."**

"Entered Account **#**" appears on the display.

5. Press a vacant CO key or dial a trunk access code.

6. Dial the telephone number.

To enter an Account Code during an outside call:

1. **Press the AUTO** key.

2. Press **"#."**

"Enter Account **#**" appears on the display.

3. Enter the Account Code (up to 10 digits).

The Account Code entered appears on the display.

4. Press **"#."**

Hardware Requirements

- An SMDR printer or external call accounting system is required to collect account code records.

Related Programming

- FF3 (Extension): Forced Account Codes

Considerations

- SLTs cannot assign account codes during a call.

Verified Account Codes

(CPC-AII and CPC-B, Version 3.1 or higher)

Description

Extensions with the Verified Account Codes feature *enabled* are restricted from making outside calls without the user first entering a valid Account Code. After a valid Account Code is entered, the Toll Restriction Service (TRS) type assigned to the code is substituted for the extension TRS type, thus temporarily allowing calls based on the new TRS type.

Extensions with *the* Verified Account Codes feature *disabled* can place outside calls based on the TRS type assigned to the extension. If a user wishes to place a call that would normally be restricted at the extension, the user can enter a valid Verified Account Code to upgrade the TRS type assigned to the extension.

Operation

1. Pick up the handset.

    The phone issues intercom dial tone.

2. Dial "#11."

3. Enter the four-digit Account Code.

4. Press "#."

    The phone issues intercom dial tone.

5. Press an available CO key or dial a trunk access code.

    The phone issues outside dial tone.

6. Dial the telephone number.

    The Verified Account Code TRS type remains in effect until the call is completed. .

Related Programming

- FF1 (System): Verified Forced Account Codes

- FF1 (System): Toll Restriction for Verified Forced Account Codes

- FF3 (Extension): Verified Forced Account Codes

- FF7 (TRS): Toll Restrictions

Hardware Requirements

- An SMDR printer or external call accounting system is required to collect account code records.

Considerations

- Verified account codes are for outgoing calls only.

- The maximum number of verified account codes is 100.

- Each verified account code must consist of 4 digits.

- "0000" cannot be used for a verified account code.

- Verified account codes do not override station lockout.

- Verified account codes do not override Least Cost Routing (LCR) settings.

- With **CPC-AII** and CPC-B Version 3.1 to 5.04, non-verified account codes can be used. However, they can only be used on a voluntary basis. Forced ***non-verified*** account codes are not available with CPC-B 3.1 to 5.04.

Answer Supervision for Voice Mail
(CPC-AII and CPC-B Version 5.0 or higher)

Description

This feature allows the DBS to send an answer signal to third-party voice mail systems.

In previous releases, a third-party voice mail did not receive a signal to indicate that a DBS extension had answered. To determine that the extension had answered, the voice mail system had to wait until it stopped receiving ringback tone. Waiting for the ringback to stop often delayed connection times for calls from voice mail to extensions. Sending an answer signal provides quicker response time between the DBS and the voice mail system.

Operation

The following programming can be performed from an attendant phone or any other phone that has entered the programming access code.

To assign an answer signal code:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the PROG key.

3. Dial **"#94."**

4.   Enter the Answer Signal Code (1 to 5 digits).

5.   Press the HOLD key.

To view an answer signal code:

1.   Press the ON/OFF key.

2. Press the CONF key.

3. Dial "#94."

Considerations

- The digits used for the answer signal code are determined by the requirements of the voice mail system.

- If the called extension does not answer and is forwarded to voice mail, the DBS sends a call forward ID code back to the voice mail system.

- During transmission of the answer signai code, other DTMF digits and functions from the DBS extension are ignored.

Auto Day Mode

(CPC-AII prior to 7.0 and CPC-B Version 4.0 to 6.11)

Description

Auto Day Mode allows the DBS to go into day mode automatically.

The DBS can also be programmed to go into night mode automatically (see "Night Service," page 2-35).

If only one of the auto modes is turned on, the NIGHT key is used to turn off the auto mode. For instance, if night mode has been activated automatically, the attendant must press the NIGHT key to go into day mode.

If only one of the auto modes is turned on, the NIGHT key can also be used to go into an auto mode before the scheduled time.

If both auto day and auto night modes are turned on, the attendant NIGHT key **cannot** be used.

Related Programming

- FF1 (System): Automatic Day Mode Start Time

- FF1 (System): Automatic Night Mode Start Time

Considerations

- If both auto modes are set, the starting times must differ by at least one hour.

- When one auto mode is turned on, the mode cannot be reset by the NIGHT key until 3 minutes after the auto mode is activated. (When both auto modes are set, the NIGHT key cannot be used.)

- If a NIGHT key is not assigned, the access code #52 can be used instead.

Auto Day Mode
(CPC-B Version 7.0 or higher and CPC-A II Version 7.0 and higher)

Description

Auto Day Mode allows the DBS to go into day mode automatically.

The DBS can also be programmed to go into night mode automatically (see "Night Service," page 2-37).

If only one of the auto modes is turned on, the **DAY/NIGHT1/NIGHT2** toggle key or the DAY, **NIGHT1,** or NIGHT2 is used to turn off the auto mode. For instance, if NIGHT1 mode has been activated automatically, the attendant must press the **DAY/NIGHT1/NIGHT2** toggle key or the DAY key to go into day mode. (Note: You must wait at least 3 minutes after the automatic mode is activated before manually changing the mode. Otherwise the system will immediately revert back to the automatic mode.)

If only one of the auto modes is turned on, the **DAY/NIGHT1/NIGHT2** toggle key or the DAY, **NIGHT1,** or NIGHT2 key can also be used to go into an auto mode before the scheduled time. If auto day and both auto night modes are turned on, the manual mode keys **can** be used,

Related Programming

- FF1 (System): Auto Day Mode Start Timer

- FF1 (System): Auto Night1 Mode Start Timer

Background Music
(All Versions)

Description

If your system is set up to provide Background Music, music can be played from the speakers of idle telephones. If a call is made to an extension receiving Background Music, the music stops and the phone rings. Background Music is also interrupted when the phone goes offhook.

The system can also provide music-on-hold using the Background Music source or a separate music source. If Music-on-Hold is provided, callers automatically hear music when they are placed on hold. (See page 2-34 for more information on Music-on-Hold.)

Operation

To turn Background Music on:

1. Press the ON/OFF key.

    . The phone issues intercom dial tone.

    . The ON/OFF LED lights.

2. Dial "#53."

    "BGM ON" appears on the display.

3. Press the ON/OFF key.

    The ON/OFF LED goes off.

To turn Background Music off:

1. Press the ON/OFF key.

    . The phone issues intercom dial tone.

    . The ON/OFF LED lights.

2. Dial "#53."

    "BGM OFF" appears on the display.

3. Press the ON/OFF key.

- The ON/OFF LED goes off.

- The date and time appear on the display.

Related Programming

- **FF1** (System) Extension Class of Service Setting (**CPC-AII** and CPC-B 3.1 or higher)

- FF3 (Extension) Extension Class of Service Assignment (**CPC-AII** CPC-B 3.1 or higher)

Hardware Requirements

- The music source must be purchased separately. It is not provided with the DBS.

- If a single music source is used for both Music-on-Hold and Background Music, the music source connects to the CN5 on the DBS. If a separate music source is used for background music, it connects directly to the SCC card. See *Installation (Section 300)* for instructions. Be sure to correctly set the-option straps.

- The input impedance for the music source is 10k ohms.

- The maximum input level is 10 **dB**.

⚠ | **Important:** A license may be required from the American Society of Composers, Authors, and Publishers (ASCAP) or similar organizations to transmit radio or recorded music through the Music-On-Hold feature. Panasonic Communications **&** Systems Company, its distributors, and affiliates assume no liability should users of Panasonic equipment fail to obtain such a license.

Battery Backup
(All Versions)

Description

The DBS two 12-volt batteries for battery backup. (Some DBS 72 and 96 systems use four older-style 6-volt batteries.) The backup batteries are connected in a series circuit, using cables provided with the DBS. With maximum traffic, the backup batteries last up to 40 minutes for the DBS 40 and 72, and up to 30 minutes for the DBS 96. The backup batteries should be replaced about every 3 years.

Call Forward ID Code for Voice Mail

(CPC-A Version 3.1. CPC-AII, and all CPC-B Versions)

Description

Call Forward ID Code for Voice Mail allows users to call forward to a third-party voice mail system. The ID Code sends the digits that are required by the voice mail to identify the DBS extension and allow it to retrieve messages.

With CPC-A or CPC-B Version 1 .O, you can only set the ID Code from the phone to be forwarded. Beginning with CPC-B Version 2.0, ID Codes can be set from any key phone; this is also true of CPC-AII.

Operation

To set a Call Forward ID Code for Voice Mail:

1. Press the **PROG** key.

2. Press the **AUTO** key.

3. Press "*****."

4. If you are using **CPC-AII** or CPC-B Version 2.0 or later, enter the extension number to be forwarded. If you are using CPC-A or CPC-B Version 1.0, go to Step 5.

5. Enter up to 16 digits (O-9) for the mail box ID code. (Press the **REDIAL** key to insert a pause.)

6. Press the **HOLD** key.

To clear the ID Code:

1. Press the **PROG** key.

2. Press the **AUTO** key.

3. Press "*****."

4. Enter the extension number.

5. Press the **HOLD** key.

Considerations

- In CPC-A 3.1 and CPC-B Versions prior to 5.0, callers could hear the tones as the ID code was transmitted to the voice mail system. Beginning with CPC-A Version 3.3, CPC-AII and CPC-B Version 5.0, external callers do not hear the tones.

- The Extension Copy program (FF9 2# 1-144# 1-144##) should not be used to copy extension settings that include a Call Forward ID Code. Copying extension settings in this manner allows the copy "destination" to retrieve the messages of the copy "source." For example, if you copy extension settings from extension 200 to extension 300, extension 300 can retrieve 200's messages. Extension 300 can retrieve 200's messages because the Call Forward ID Code for 200 is also assigned to 300.

Caller ID

(CPC-A II Version 6.1 or higher and CPC-B Version 6.1 or higher)

Description

A properly equipped DBS supports Caller ID (CID), a service offered by the network telephone service provider. The CO sends calling number information to the DBS after the first ring. Users who have display telephones can see CID information as incoming calls ring at their extension and can have access to previous calls via the Caller ID Call Log feature. The CID number is recorded in SMDR.

Related Programming

- FF1 (System Programming): Call Duration Display

- FF1 (System Programming): Call Duration Timer

- FF5 (Key Assignments): FF Key Assignments for Extensions

- FF2 (Trunk): Trunk Type

Hardware Requirements

- Loop-start trunk card (VB-43511A)

- Caller ID circuit card (VB-435 11)

- MFR card (for Caller ID Auto DISA)

Considerations

- Caller ID service must be ordered from the local telephone operating company or the interexchange carrier.

Caller ID' Auto DISA

(CPC-A II Version 6.1 or higher and CPC-B Version 6.1 or higher)

Description

A DBS equipped for Caller ID (CID) can provide automatic DISA dial tone based on Caller ID information. This allows up to 10 predetermined users to access the DISA feature without requiring a trunk be left in the DISA mode.

When a CID call is sent to the DBS, the CID number is checked against the table. If the number is found, the caller will automatically be connected to DISA dial tone.

Related Programming

. FF1 (System Programming): Automatic DISA

Hardware Requirements

- Loop-start trunk card (VB-435 11.4)

- Caller ID circuit card (VB-435 11)

- MFR card (Caller ID Auto DISA)

Considerations

- Caller ID feature must be enabled.

Centrex/PBX Compatibility

(CPC-A Version 3.2 or higher. CPC-AII, and CPC-B Version 2.1 or higher)

Description

Centrex/PBX Compatibility allows the DBS to be connected to centrex or PBX lines.

The DBS supports up to 8 access codes for dialing centrex or a PBX. These access codes allow the DBS SMDR output to exclude the number dialed to reach a centrex or PBX line.

The DBS also supports transmission of a flash signal over the centrex or PBX link.

Related Programming

- FF1 (System): PBX Access Code(s)

- FF2 (Trunks): Trunk Type

- FF8 (Least Cost Routing): LCR Add Tables

Considerations

- The LCR Add Table can be used to prefix digits for outgoing calls through Centrex.

Direct Inward Dialing (DID)

(CPC-B Version 2.0 or higher)

Description

The Direct Inward Dialing (DID) feature allows an extension to have a dedicated direct number. The dedicated number allows calls to be made directly to the extension, without the caller going through the attendant.

Prior to CPC-B Version 3.1, only one DID number could be assigned to an extension. Beginning with CPC-B Version 3.1, one DID number can be assigned to several extensions, and one extension can have more than one DID number; this is also true of CPC-AII.

If a DID number is assigned to more than one extension, incoming calls to the DID number ring at all the assigned extensions simultaneously.

Related Programming

- FF1 (System): Multiple DID (CPC-B Version 3.1 or higher)

- FF3 (Extension): Inbound DID Dial Number (CPC-B Version 2.0 to 2.16)

- FF4 (Ring): DID, Delayed, Night , Delayed Night, Night 2, and Delayed Night 2 Ring Assignments

Hardware Requirements

- Either the T-l Card or DID trunk card is required. Each DID trunk card provides 8 ports.

- The DID trunk card requires an external 48V power supply. See *Installation (Section 300)* for instructions.

Considerations

- The DID Trunk card supports 4-digit, dial-pulse DID.

. The T1 card supports 4-digit, dial-pulse or DTMF DID.

- DID numbers must be between 0000 and 9999.

- Beginning with CPC-B Version 3.1, a maximum of 500 DID/extension settings is allowed.

DID Night Ringing Assignment

(CPC-B Version 5.0 or higher)

Description

For a description of this feature, see "DID/DNIS Flexible Ring Assignments" on page 2- 18.

DID Delayed Ringing

(CPC-B Version 5.0 or higher)

Description

· For a description of this feature, see "DID/DNIS Flexible Ring Assignments" on page 2-18.

DID/DNIS Flexible Ring Assignments

(CPC-B Version 5.0 or higher)

Description

DID/DNIS Flexible Ring Assignments allow night ringing and delayed ringing for specific DID/DNIS numbers.

Related Programming

. FF1 (System): Delayed Ring

. FF1 (System): Central Office Delayed Ring Timer

. FF1 (System): Inbound DID Dial Numbers

. FF1 (System): DMS Number Setting

Considerations

● Timing for DID/DNIS delayed ringing is controlled by the Central Office Delayed Ring Timer.

● The system uses a DID Numbers Table for DID assignment. The DID Numbers Table allows up to 500 DID assignments. Each assignment consists of the DID number and an associated extension.

● The system uses a separate DMS Numbers Table for DMS assignment. The DMS Numbers Table allows up to 500 DMS assignments, with each assignment consisting of the DNIS number and an associated extension.

● When multiple extensions are assigned delayed ringing for the same DID/ DMS number, unanswered delay ringing forwards based on the extension with the lowest port number.

For example, if port numbers 125 and 126 both have delayed ringing for the

same DNIS number and both ports do not answer a delayed ringing call, the call follows the call forwarding settings of port 125.

DID/DNOS Text Name Assignment
(CPC-B Version 5.0 or higher)

Description

DID/DNIS Text Name Assignment allows the assignment of text names to specific DID/DNIS numbers. The text name can include up to six characters.

Text name assignments are especially useful when multiple DID or DNIS lines terminate to the same extension or group. For example, a call center may handle inquiries for three different companies. To easily identify which customer is being called, individual DID or DNIS numbers can be assigned for each customer, and then corresponding text names can be assigned to the DID or DNIS trunks.

Up to 200 DID text names and 200 DNIS text names can be assigned.

Related Programming

- FF1 (System): Inbound DID Dial Numbers

- FF1 (System): DNIS Number Setting

Considerations

- A DSS/72 is required to assign text names to DID/DNIS trunks.

- If text is assigned to a DID/DNIS number that rings at multiple extensions, all of the extensions will receive the text display.

- The text display follows forwarded calls and transferred calls.

- If text is not assigned to a DID/DNIS line, the number will display.

DID/DNIS to a Voice Mailbox

(CPC-B Version 6.0 and higher)

Description

DID/DNIS to a voice mailbox allows DID/DNIS calls to be routed to a voice mailbox that is not connected to a physical extension.

To implement this feature, the DID/DNIS trunks must be assigned to ring at the voice mail system. Once voice mail answers, the DBS sends a DID/DNIS Answer Code required by the voice mail system plus the final DID/DNIS digits to the voice mail system. The DID/DNIS Answer Code signals the voice mail system to open with a greeting and the DID/DNIS digits specify the appropriate mailbox.

Operation

To assign a DID/DNIS Answer Code:

1. Pick up the receiver or press the ON/OFF key.

2. Press PROG.

3. Dial **#95**.

4. Enter the DID/DNIS Answer code required 'by the voice mail system (1 to 6 digits).

5. Press HOLD.

6. Press the **ON/OFF** key.

   The **ON/OFF** LED goes off.

To display a DID/DNIS Answer Code:

1. Pick up the receiver or press the ON/OFF key.

2. Press CONF.

3. Dial **#95**.

4. Press the ON/OFF key.

   The ON/OFF LED goes off.

To delete a DID/DNIS Answer Code:

1. Pick up the receiver or press the ON/OFF key.

2. Press PROG.

3. *Dial #95.*

4. Press HOLD.

5. Press the ON/OFF key.

    The ON/OFF LED goes off.

Related Programming

- FF1 (System): Number of DID/DNIS Digits to Voice Mail

- FF1 (System): DID/DNIS Flexible Ringing Assignments

Considerations

DID/DNIS digit transmission. The DID/DNIS digits are only sent to ports that are assigned as voice mail.

Answer code entry. The DID/DNIS Answer Code can be entered from an attendant phone or a key phone that has entered the programming access code.

VM ports and hunt groups. The DID/DNIS digits can be sent to a specific voice mail port or a. voice mail hunt group.

Second hunt group. If the DID/DNIS call rings into a hunt group that in turn transfers the call to a second hunt group, the DID/DNIS calls are not transmitted to the second hunt group.

Third-par@ VM. This feature can be used third-party voice mail systems. If the feature is used with third-party voice mail systems, the voice mail can be connected through analog extension ports or OPX ports.

Call forward ID. When DID/DNIS calls are forwarded to voice mail, the Call Forward ID Code is transmitted to the voice mail. The DID/DNIS digits are not.

DID/DNIS data transmission. The DID/DNIS digits are transmitted over the API link using the existing API key code packet.

Direct Inward System Access (DISA)

(All Versions)

Description

Direct Inward System Access (DISA) gives off-site users dial-in access to the DBS. Users access DISA by dialing a 'I-digit number assigned to a DISA trunk.

For security reasons, one incoming DISA code and two outgoing DISA codes can be assigned. If an incoming code is assigned, it must be entered as soon as the DISA trunk answers. An outgoing code must be entered before the user dials an outgoing call.

Operation

To make a DISA call to an extension:

1. Dial the DISA trunk number.

2. Once you hear DISA dial tone from the DBS, enter the 4-digit DISA code (if an incoming DISA code is assigned). If the incoming DISA code is not programmed, you can proceed to the next step.

3. Dial the extension number.'

To make a DISA call to an outside number:

1. Dial the DISA trunk number.

2. Once you hear DISA dial tone from the DBS, enter the 4-digit DISA code (if an incoming DISA code is assigned). If the incoming DISA code is not programmed, you can proceed to the next step.

3. Dial #7 plus the 4-digit Outgoing DISA Code.

   Two outgoing DISA codes are assigned. Either may be used after the #7.

4. Dial the trunk group number you want to use (81-86 or 9).

5. Dial the desired telephone number.

Related Programming

- FF1 (System): Direct Inward System Access (DISA) ID Code

. FF1 (System): DISA Outbound Call ID Code 1

. FF1 (System): DISA Outbound Call ID Code 2

. FF2 (Trunk): DISA Auto Answer

. FF2 (Trunk): DISA Start Time

. FF2 (Trunk): DISA End Time

To program an incoming code from an attendant phone:

In addition to the DISA ID Setting in FF1, the following procedure can be used to program an incoming code.

1. Press the ON/OFF key.

   . The phone issues intercom dial tone.

   . The ON/OFF LED lights.

2. Press the CONF key.

3. Dial "#7."

4. Enter the DISA code.

5. Press the HOLD key.

6. Press the ON/OFF key.

   The ON/OFF LED goes off.

Hard ware Requirements

. An MFR card is required for DISA. The MFR card is required to detect DTMF tones entered via the DISA connection.

Considerations

- DISA can be used to access extensions as well as outside numbers.

- Once an incoming DISA code is entered, you cannot blank it out without entering the programming mode.

. Busy override cannot be used for a DISA line.

- With CPC-A and CPC-I3 Versions 2.0 to 2.1, DISA calls cannot access hunt groups.

Direct Trunk Access
(All Versions)

Description

Extensions can access a specific trunk for outgoing calls. Extensions can also use Direct Trunk Access to test trunks or to access data trunks.

Operation

1. Press the ON/OFF key:

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Dial "88," then enter the desired line number (01-64).

    - The phone issues outside dial tone.

    - "CO TALK #XX" (where "XX" is the line number) appears on the display.

3. Dial the telephone number.

    The number appears on the display.

4. Complete the call and replace the handset.

Distinctive Ringing
(CPC-AII and CPC-B Version 3.1 or higher)

Description

Distinctive trunk call ringing patterns can be set up for each extension using the Distinctive Ringing feature. Distinctive Ringing allows users to determine which extension is ringing when several telephones are in the same area. If no distinctive ringing pattern is set, the extension rings based on the incoming ring pattern assigned to the trunk.

Related Programming

- FF3 (Extension): Extension Ring Pattern

Hardware Requirements

- SCC-B Version 1.2 or higher is required for this feature.

Considerations

- One of ten ringing patterns can be selected.

- The ringing patterns are different for key phones and SLT/OPX phones.

Door Box (Using Extension Adaptor)
(CPC-B Version 7.0 and higher and CPC-A II Version 7.0 and higher)

Description

Door boxes (also called door phones) and door openers work together. The door box is an intercom that allows visitors to announce their presence from the office door. The door opener enables a user to unlock the door using a telephone. Door openers are not sold by Panasonic; they can be purchased separately from an electronics dealer.

There are two types of door phone adaptors available for the DBS. The first type (VB-43701) utilizes a trunk connection to connect to the door box. See ***Door Box- (Using Trunk Adaptor)*** for more information. The second type (VB-437 11) utilizes a digital port extension to connect to the door box and door opener and is described below.

Operation

To Open a Door When Talking to the Door Box:

1. Answer the Door Box.

2. While still connected to the call, dial:

   #3 NNNN ***** (where NNNN is the Door Opener Access Code, if required - 9999 by default)

3. The door will unlock. Listen for the person to enter the building before hanging up.

To Open the Door When Not Talking to the Door Box:

1. Press the ON/OFF key (or pick up the handset).

2. While still connected to the call, dial:

    #3 XXX NNNN ***** (where XXX is the Door Box extension number and
    NNNN is the Door Opener Access Code, if required - 9999 by default)

3. The door will unlock. Listen for the person to enter the building before
    hanging up.

Related programming

- FF4 (Ringing and Hunt Groups): Ringing Assignments (all)

- FF1 (System Programming): Door Phone Assignments (all)

- FF1 (System Programming): Door Opener ID Requirement

Hardware Requirements

- The Door Box feature requires a Door Box Adaptor (VB-43711), Door
  Box (Door Phone) (VA-43705), and door opener. The door opener can be
  purchased from an electronics dealer.

- One Door Box can be connected to a Door Box Adaptor.

- Each Door Box Adaptor uses one digital extension port.

- Up to 4 Door Boxes may be connected.

Considerations

- The Door Box extension cannot take part in conference calls or be
  overridden.

- Door Box calls cannot be call forwarded or be hunting or coverage group
  m e m b e r s .

- The Door Opener can be set to open for 2 to 12 seconds.

Door Box (Using Trunk Adaptor)
(All Versions)

Description

Door Boxes (also called door phones) and door openers work together. The door box is an intercom that allows visitors to announce their presence from the office door. The door opener enables a user to unlock the door using a telephone. Door openers are not sold by Panasonic: they can be purchased separately from an electronics dealer.

There are two types of door box adaptors available for the DBS. The first type (VB-43701) utilizes a trunk connection to connect to the door box and is described below. The second type (VB-437 1 1) utilizes a digital port extension to connect to the door phone and door opener. See "Door Box (Using Extension Adaptor)" on page 2-25 for more information.

Operation

1. Answer the door box. (Door Box calls ring in on a dedicated FF key.)

2. Press "3" while connected to the door box extension.

    The door opens automatically.

Related Programming

- FF4 (Ringing and Hunt Groups): Ringing Assignments (all)

- FF2 (Trunk Programming): DTMF/Pulse Dialing for Trunks

Hardware Requirements

- The Door Box requires a Door Box Adaptor (VB-43701), Door Box (VA-43705), and door opener. The door opener can be purchased from an electronics dealer.

- Up to two Door boxes can be connected to a Door Box Adaptor and utilize the same trunk.

- The Door Box extension cannot take part in conference calls.

- The Door Opener can. be set to open for 15 seconds, 30 seconds, or one minute.

- While the Door Opener is functioning, a call from another Door Box on the same door box adaptor cannot be answered.

Considerations

- The trunk connected to the Door Box Adaptor must be set to dial pulse.

Sensor

(All Versions)

Description

The sensor is a device that detects when a circuit is opened or closed. Sensors can be used to detect events such as the opening of windows or doors. When the sensor is tripped, a tone sounds at a designated extension. Sensors are not sold by Panasonic; they can be purchased separately from an electronics dealer.

Hard ware Requirements

The sensor is attached to the Door Box Adaptor (VB-43701).

Trunk lines connected to the Door Box Adaptor signal the designated extension when the sensor is tripped.

Related Programming

- FF2 (Trunks): DTMF/Pulse Dialing for Trunks

- FF4 (Ring Assignments): CO Day Ring Assignments

- FF4 (Ring Assignments): CO Night Ring Assignments

Considerations

- The trunk connected to the sensor must be a dial-pulse trunk.

DP/DTMF Stations

(All Versions)

Description

The DBS allows both dial pulse and DTMF extension types.

Related Programming

- FF2 (Trunk): DTMF/Pulse Dialing for Trunks

Considerations

- DP to DTMF Signal Conversion allows DTMF extensions to use either dial pulse or DTMF trunks.

DP to DTMF Signal Conversion

(All Versions)

Description

This feature allows an extension user to switch from DP to DTMF signaling when using a DP trunk.

For instance, if a user dials into a voice mail system using a DP trunk, the user can switch to DTMF signaling to communicate with the voice mail system.

DTMF tones can be sent either during the call or while the call is being dialed.

Operation

To switch from dial pulse to DTMF dialing, press "*" or "#."

Related Programming

- FF2 (Trunk): DTMF/Pulse Dialing for 'Trunks

Considerations

- DTMF dialing remains in effect for the duration of the call. Pulse dialing is restored when the handset is replaced.

- Once DTMF dialing is invoked, the user cannot switch back to pulse dialing without disconnecting the call.

- Changing from dial pulse to DTMF is possible even if the "*" or "#" key is programmed for speed dialing.

Hunting Priority for VAUs

(CPC-AII and CPC-B Version 5.0 or higher)

Description

This feature allows hunting priority to be assigned to calls that overflow from the hunt group to the VAU. If the caller hears the VAU message and then decides to dial back into the hunt group, he or she is placed before other calls that have just entered the hunt group queue. For an illustration of the flow of calls, see Figure 2-l on page 2-3 1.

To further improve VAU operation, DID, DISA, and transferred calls are now routed to the first VAU message. (In previous releases, these calls were routed to the second VAU message.)

In addition, a digital port can now be assigned as a VAU through system programming. In previous releases, VAUs were assigned as standard digital ports. Using the standard digital port assignment required the installer to make the following program changes:

- The CO Offhook Signal option had to be set to "on" (FF3 1-144# 7#).

- The Call Waiting Notification Tone/OHVA option had to be set to "off' (FF3 1-144# 8#).

- Auto Pickup had to be set to "on" (FF3 1-144# 12#).

- All FF keys for the extension port had to be cleared.

The VAU assignment now eliminates the need to make these program changes. Once a port is assigned as a VAU, the system treats that port as if these changes have been made.

Note: Though the VAU assignment treats the VAU port as if the program settings have been made, it does not actually change the settings. If the port is later assigned as a standard digital port, the original program settings will still be in effect.

Figure 2-1. VAU hunting priority
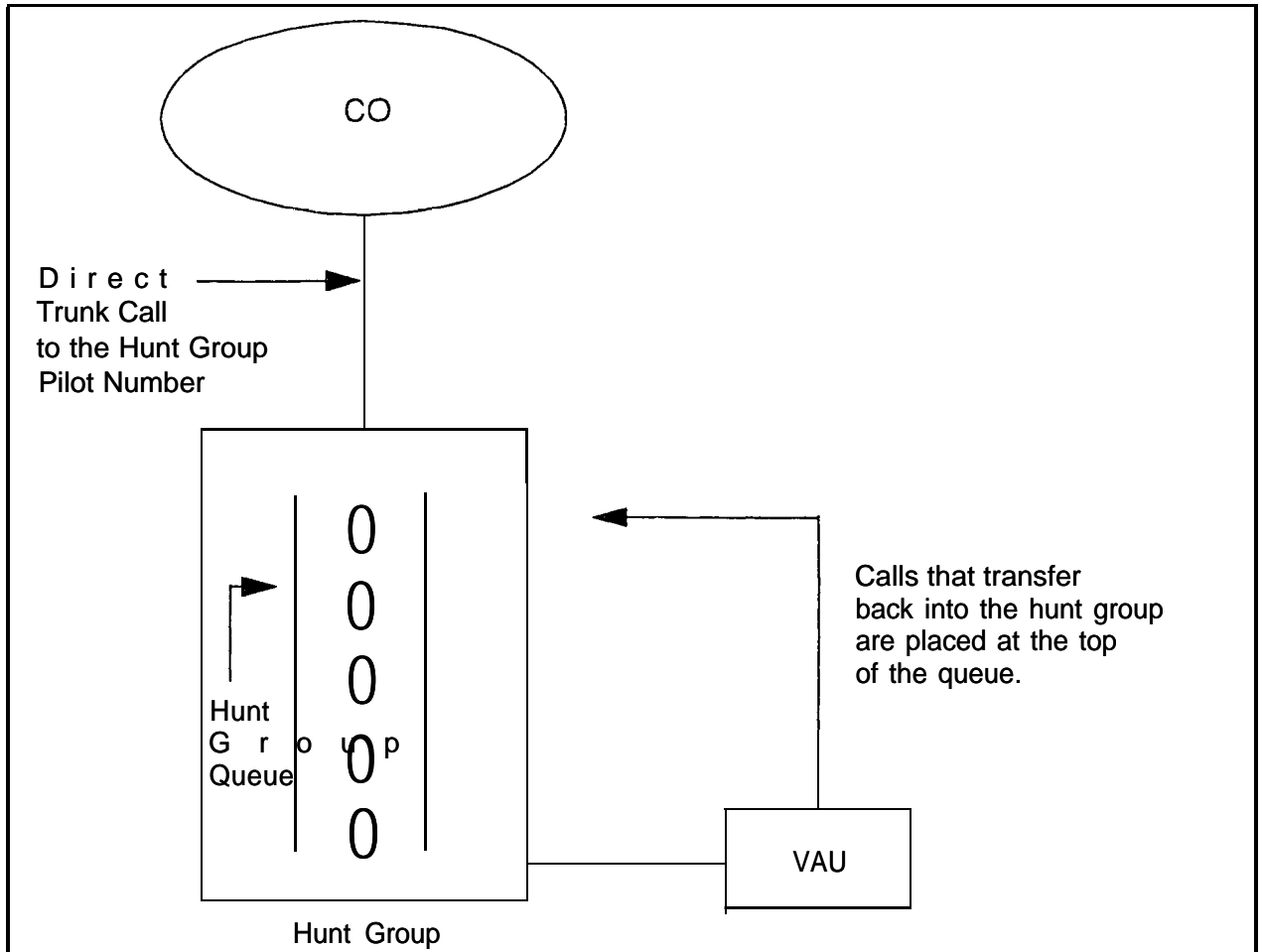
Related Programming

- FF3 (Extension): VAU Port Assignment

- FF3 (Extension): VAU Hunting Priority

Considerations

- The following call types are routed to the first VAU message:

- Trunk calls (including DID and DNIS calls)

- Transferred trunk calls

- Intercom calls

- Transferred intercom calls.

  All recalls are routed to the second VAU message.

Independent Timers

(CPC-AII and CPC-B, Version 3.1 or higher)

Description

Beginning with CPC-B Version 3.1, the DBS provides separate timers for Call Forwarding-No Answer, CO Delayed Ring, Extension Delayed Ring, and Hunt Group--No Answer.

The Call Forwarding-No Answer timer determines how long a call will ring an extension before forwarding.

The CO Delayed Ring and Extension Delayed Ring timers determine how long a call will ring an extension before ringing other extensions assigned to delayed ringing.

The Hunt Group-No Answer timer determines how long a call will ring an idle member of a hunt group before hunting to the next idle group member.

Related Programming

- FF1 (System): Call Forward--No Answer Timer

- FF1 (System): Central Office Delayed Ring Timer

- FF1 (System): Extension Delayed Ring Timer

- FF1 (System): Hunt Group.No Answer Timer

Internal Hold Tone

(CPC-AII Version 7.0 and higher and CPC-B Version 7.0 and higher)

Description

If a music-on-hold sound source is unavailable, a periodic hold tone generated in the DBS can be provided to caller.

Related Programming

- FF1 (System): Internal Hold Tone

Least Cost Routing (LCR)

(All Versions)

Description

Least cost routing (LCR) automatically selects the least expensive route available for toll calls.

LCR is accessed by dialing "9" before placing a call.

Related Programming

Primary Program Areas:

- **FF1** (System): Least Cost Routing (LCR) Access

- FF3 (Extension): Forced Least Cost Routing

- FF8 (LCR): Time Priority Tables

- FF8 (LCR): LCR Trunk Group Tables

- FF8 (LCR): Least Cost Routing Area Codes

- FF8 (LCR): Special LCR Area Codes

- FF8 (LCR): Least Cost Routing (LCR) Office Codes

- FF8 (LCR): Special LCR Office Codes Tables

Other Program Areas:

- FF8 (LCR): LCR Add Tables

- FF8 (LCR): LCR Delete Tables

Considerations

- If LCR is enabled, ML and MCO keys can be assigned for trunk group 89. However, the FF keys will not light.

- If the LCR feature is deactivated, Pooled Trunk Access is selected automatically.

- Your system can be programmed to use the LCR feature for *all* outgoing calls.

Music-on-Hold

(All Versions)

Description

The DBS can provide Music-on-Hold to parties on hold on a CO line. The Music-on-Hold feature can also be used to play announcements or advertisements if desired.

The system can provide Music-on-Hold using the background music source or a separate music source. See "Background Music" on page 2-1 1 for more information.

Beginning with CPC-AII Version 7.0 and CPC-B Version 7.0, if no music-on-hold sound source is available, an internally generated periodic hold tone can be supplied to calls on hold. See "Internal Hold Tone" on page 2-32 for more information,

Hardware Requirements

- The music source must be purchased separately. It is not provided with the DBS.

- If a single music source is used for both Music-on-Hold and background music, the music source connects to the CN5 on the DBS. If a separate music source is used for background music, it is connected directly to the *SCC* card. *See Installation (Section 300)* for instructions. Make sure the option straps.are correctly set.

- The input impedance for the music source is 10k ohms.

- The maximum input level is 10 dB.

⚠ **Important:** A license may be required from the American Society of Composers, Authors, and Publishers (ASCAP) or similar organizations to transmit radio or recorded music through the Music-On-Hold feature. Panasonic Communications & Systems Company, its distributors, and affiliates assume no liability should users of Panasonic equipment fail to obtain such a license.

Night Service

(CPC-AII prior to Version 7.0 and CPC-B Prior to Version 7.0)

Description

The Attendant can switch the system between Day and Night Modes for answering outside calls. It is also possible to program the system to automatically switch between night and day modes. (CPC-AII or CPC-B Version 4.0 or higher is required for automatic day mode settings.)

While in Night Mode (generally used at night or any time when your office is closed), incoming calls can ring at selected extensions (a night watchman's extension, for example), an extension connected to an answering machine. or to a Universal Night Answer point. Universal Night Answer (UNA) is used to allow calls to be picked up from any extension.

See page 2-64 for information on setting a UNA point.

See "Auto Day Mode" (page 2-6) for information on a CPC-B Version 4.0 enhancement (also available in CPC-AII) that allows automatic switching between day and night modes.

Operation

To switch to Night Mode:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Dial "#52."

3. Press the ON/OFF key.

   - The ON/OFF LED goes off.

   - "NIGHT MODE" appears on the display.

To switch to Day Mode:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

- The ON/OFF LED lights.

2. Dial "#52."

3. Press the ON/OFF key.

- The ON/OFF LED goes off.

- "DAY MODE" appears on the display.

Related Programming

- FF1 (System): Ring Patterns for UNA Terminals (M, C, & B)

- FF4 (Ringing and Hunt Groups): CO Day Ring Assignment

- FF4 (Ringing and Hunt Groups): CO Night Ring Assignment

Hardware Requirements

- Calls during Night Mode are often directed to external paging speakers or to an external ringing device, such as a night bell. External paging and ringing devices are not provided with the DBS; they must be purchased separately.

Considerations

- If "#52" is assigned to an FF key on an attendant phone, the attendant can switch between Day and Night Modes simply by pressing the key. The FF key lights red when the system is in night mode.

- If there are two Attendant Phones and both DSS consoles have a NIGHT key (programmed on a FF key), both NIGHT indicators will light red when Night Mode is activated.

- If the system is programmed to switch between night and day modes automatically, you **cannot** switch between modes by using "#52."

Night Service

(CPC-AII Version 7.0 and higher and CPC-B Version 7.0 and higher)

Description

The Attendant can switch the system between Day and two Night Modes for answering outside calls. It is also possible to program the system to automatically switch between night and day modes.

While in a Night Mode (generally used at night or any time when your office is closed), incoming calls can ring at selected extensions (a night watchman's extension, for example), an extension connected to an answering machine, or to a Universal Night Answer point. Universal Night Answer (UNA) is used to allow calls to be picked up from any extension.

See page 2-64 for information on setting a UNA point.

See "Auto Day Mode"-(page 2-8) for information that allows automatic switching between day and night modes.

Operation

To switch to a Night Mode:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Dial "**#522**" for Night1 mode or "**#523**" for Night 2 mode. (Note: **#520** can be used to toggle between Day, Night1 and Night2 modes.)

3. Press the ON/OFF key.

   - The ON/OFF LED goes off.

   - "NIGHT MODE" or "NIGHT2 MODE" appears on the display.

To switch to Day Mode:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

. The **ON/OFF** LED lights.

2. Dial "**#521**." (Note: #520 can be used to toggle between modes.)

3. Press the **ON/OFF** key.

. The **ON/OFF** LED goes off.

. "DAY MODE" appears on the display.

Related Programming

. FF1 (System): Ring Patterns for UNA Terminals (M, C, & B)

. FF4 (Ringing and Hunt Groups): CO Day Ring Assignments

. FF4 (Ringing and Hunt Groups): CO Night Ring Assignments

. FF4 (Ringing and Hunt Groups): CO Night2 Ring Assignments

Hardware Requirements

• Calls during a Night Mode are often indicated by external paging speakers or an external ringing device, such as a night bell. External paging and ringing devices are not provided with the DBS; they must be purchased separately.

Considerations

. Day, Night and Night 2 modes can be assigned to FF keys on an attendant phone. The attendant can switch between Day, Night and Night 2 modes simply by pressing the appropriate key. The FF key lights red when the system is in the assigned mode. Alternatively a DAY/NIGHT1/NIGHT2 toggle mode key can be assigned. Pressing the key toggles between modes. When in Day mode, the FF key LED is not lit. When in NIGHT1 mode, the LED lights red. When in NIGHT2 mode, the LED lights green.

• If the same mode key is assigned on different attendant positions, each key indicates the current mode. For instance, if a **NIGHT1** key is assigned for two attendants, both light when in **NIGHT1** mode.

• If the system is programmed to switch between night and day modes automatically, you **can manually switch** between modes by using the "**#520/#521/#522/#523.**" (This is different than earlier versions of software.)

Off-Premises Extension

(All Versions)

Description

SLTs that are located in remote locations can be connected to the DBS
through the Off-Premises Extension (OPX) Adaptor.

Off-premise phones can be connected through a direct line to the DBS or
through the central office, depending on how far they are from the main
cabinet. For specifications, see *Installation (Section 300).*

Operation

Feature operation for OPX extensions is the same as for local SLTs connected
to the DBS.

Related Programming

- FF3 (Extension): Terminal Type

Hardware Requirements

- One OPX Adaptor (VB-43702) is required for each OPX extension.

- When OPX extensions are connected through the central office, an
  external ringer supply may be required. If required, the ringing supply is
  connected to the OPX Adaptor.

Considerations

- Up to 8 OPX extensions can be connected to a system.

- The DBS side of the OPX Adaptor is connected to a *digital* estension port.

Paging

(All Versions)

Description

Internal paging is accomplished through the speakers of your system's key
phones. The Paging feature allows you to contact someone temporarily away

from an extension, give instructions to an entire group, or Communicate with several people at once. If an external paging system is connected to your system, pages can also be sent through its speakers.

Beginning with CPC-B Version 3.1, the Paging feature can also be programmed to time out after sixty seconds. When a page call times out, a busy tone is sent to the extension that initiated the page.

Operation

To use the Paging feature:

1. Pick up the handset.

2. Press "#," then enter the number of the desired Paging Group (00-07).

   The **EXT** LED lights.

3. Make your announcement.

4. Replace the handset,

Related Programming

- FF1 (System): Page Duration (CPC AII and CPC-B Version 3.1 or higher)

- FF1 (System): External Page Interface Control for Paging Groups

- FF3 (Extension): Extension Page Group

Hardware Requirements

- External relays and an amplifier are required for external paging.

Considerations

- If an external paging system has been connected to Paging Groups 00-07, pages can be made through the external speakers. Voice Paging can also be heard over the extensions in groups 00-07.

- An extension can belong to more than one paging group.

- A maximum of eight Paging Groups can be assigned to a system.

- Only one page may be performed at a time with one exception. Pages to group 00 always take priority. If you page group 00 while another extension is paging group 01-07, the other page terminates. The other pager receives busy and "Page Overridden" displays on the telephone.

- Paging cannot be heard at busy extensions or at extensions for which the Do Not Disturb, Call Forwarding, or Absence Message feature is activated.

- You can answer Paging from an idle extension by dialing the Meet-Me Answer code ("77") during a page or if in a call, placing the call on hold and dialing "77."

Power Failure Transfer

(All Versions)

Description

This feature provides telephone service to a limited number of SLTs during a power failure. The SLTs are connected to the CO via a Power Failure Unit (PFU).

In the event of a power failure, the power failure extensions have dial tone directly from the CO; system features and restrictions do not apply.

Hardware Requirements

- Power Failure Unit (VA-43703)

- An SLT that will be connected to the PFU.

Considerations

- Up to four SLTs can be connected to one Power Failure Unit.

- If a call is in progress through the PFU when the power is restored, the call will be disconnected.

- For added protection against power outages, backup batteries can be installed in the DBS. Backup batteries provide full telephone service and system features to all DBS extensions for a limited amount of time.

  With maximum traffic, the backup batteries last up to 40 minutes for the DBS 40 and 72, and up to 30 minutes for the DBS 96.

Remote Maintenance

(All Versions)

Description

The DBS can be programmed from a remote terminal or from a remote PC. Remote programming can be accomplished using the Remote Programming Mode or by using Panasonic's PCAS (Personal Computer Administration System) or DBS Manager software.

Remote Programming Mode

(All Versions)

Description

Remote Programming Mode uses a "dumb" terminal or a PC to access the DBS. This method of remote maintenance is less sophisticated and more difficult than using PCAS or DBS Manager.

You can enter the Remote Programming Mode through any of these three methods:

- By using a local PC and communications package to connect directly to the DBS serial port

- By dialing into the system through a direct DISA trunk

- By dialing into the system through a regular CO trunk, then requesting the operator to enter the Remote Programming ID Code.

Operation

Terminal Programming Through a Direct Connection

When programming from a terminal connected to the RS-232C (SMDR) port, perform the following steps:

1. Make certain the cables are configured and connected as outlined in Section 300.

2. Make certain the DBS is in the SMDR mode by entering the following code from the attendant port:

   ON/OFF #93

3. Enter your terminal communications program and make sure your PC's data communications settings match those of the DBS.

4. From your terminal communications program, type the following command:

#99xxxx (where xxxx = the site's password)

5. After the DBS responds, type P and then press Enter.

Follow the directions on the screen to access the desired program. (See "Terminal Programming Commands.")

Terminal Programming Through DISA

Note: The DBS must be equipped with an MFR card and a RAI card to allow terminal programming using this method.

When programming through a DISA trunk, perform the following steps:

1. Dial into the DBS through a DISA trunk.

2. Once you are connected, type **#69999** from your terminal communications program.

3. After the DBS responds with REMT>, type P and then press Enter.

Follow the directions on the screen to access the desired program. (See "Terminal Programming Commands.")

Terminal Programming Through a CO Trunk and Operator Transfer

Note: The DBS must be equipped with an MFR card and a RAI card to allow terminal programming using this method.

When programming through a normal trunk, perform the following steps:

I. Dial into the DB S through a normal trunk.

2. Ask the operator to place you on hold and dial **#69999** to transfer you into remote programming.

3. After the DBS responds with REMT>, type P and then press Enter.

Follow the directions on the screen to access the desired program. (See "Terminal Programming Commands.")

Terminal Programming Commands

Use the following commands to navigate terminal programming:

Command	Description
~0l	Access System parameters
~02	Access Trunk parameters
~03	Access Extension parameters
~04	Access Ring assignments
~05	Access FF-key assignments
~06	Access Name assignments
~07	Access Toll Restriction data
~08	Access Least Cost Routing data
~09	Access Copy mode
~10	Access Speed Dial data
- B	Back to previous address
~b	Back to previous port
- F	Forward to next address
- t	Forward to next port
- R	Return IO provide mode
Ctrl-Z	Quit

Remote Programming Using PCAS or DBS Manager

(CPC-A 3.1 and higher, CPC-A II, and CPC-B 1 .0 and higher)

Description

PCAS provides a menu-driven interface for remote maintenance. For complete details about using PCAS, see the *PCAS User's Guide.*

Very similar to PCAS but more enhanced is the Windows-based program DBS Manager. For complete details of using DBS Manager, see the *DBS Manager User's Guide.*

The primary function of these programs is to allow you to set up and maintain DBS settings using a PC. Their communications capabilities allow you to maintain the DBS settings while you are on-site with the DBS, or while you are off-site at a remote location.

These programs enable you to perform tasks such as:

. Setting up communications information

- Connecting your PC with a customer's DBS

- Maintaining DBS parameters

- Backing up and restoring customer databases.

Station Class of Service

(CPC-AII and CPC-B Version 3.1 or higher)

Description

Station Class of Service provides a way to restrict access to certain extension features. Station Class of Service 0 provides access to all features. By default, all extensions are assigned to this class of service. Classes of Service 1-8 can be modified to allow and restrict access to specific features. The following table shows the features that can be enabled/disabled for station classes of service.

Table 2-l. Station Classes of Service

Class of Service Features	
Number	**Feature**
1	Dial Tone On/Off (#50)
2	Head/Handset Exchange (#5 1)
3	BGM On/Off (#53)
4	Absence Message Set/Reset (7 1)
5	Call Forward Set/Reset (72)
6	Do Not Disturb (73)
7	Station Lockout (74)
8	Park Hold (75)
9	Park Pick Up (76)
10	Meet Me Answer (77)
11	UNA Pickup (78)
12	Direct Pickup (79)
13	Group Pickup (70)
14	Tone/Voice Mode (1)
15	Message Waiting Set (2)
16	Busy Override (4)
17	Call Waiting (3)
18	Offhook Voice Announce (5)
19	Central Office Call Queuing (2)

20	SLT Transfer (8)
21	Call Forwarding--Outside (720, 721, 722. 724) (CPC AII and CPC-B Version 7.0 or higher)
	Call Forwarding--External (723) (CPC-A and CPC-AII/CPC-B Versions prior to 7.0)
	Note: Call forwarding -- External (723) only allows external call forwarding for internal calls.

Related Programming

- **FF1** (System): Extension Class Of Service Setting

- FF3 (Extension): Extension Class of Service Assignment

Considerations

- Some features that are in use at the time they are disabled from the Class of Service cannot be cancelled. For instance, if background music is turned on at a phone at the time background music is disabled from the class of service, the background music at the phone cannot be turned off. Make certain that features are not in use when removed from a class of service. (If a feature is accidentially left active, simply reenable the feature in the class of service and turn off the feature.)

Station Hunting

(All Versions)

Station hunting allows calls to be automatically transferred among a preselected group, of phones.

When a call terminates to a busy extension in a hunt group, the call automatically transfers to another extension in the group. If the second extension is busy, the call automatically transfers to another member of the group.

Several methods of station hunting are available. The CPC version determines which methods are available.

Terminal and Circular Hunting

(CPC-A: CPC-B Versions Prior to 2.0)

Description

CPC-A and CPC-B Versions prior to 2.0 provide terminal and circular hunt groups.

Terminal Hunt Groups

With terminal hunt groups, a call must ring at the first extension in the group in order for hunting to be invoked.

if the first extension of the hunt group is busy, the call automatically transfers to the next extension in the group. If that extension is busy, the call continues to hunt through the group. The order in which the call hunts is determined by how the group is programmed. Up to eight extensions can be placed in the group, and calls will always hunt from member 1, to member 2, to member 3, and so on.

If desired, another hunt group can be designated to receive calls should ail the members of the original group be busy or not answer.

A pilot number must be designated as the first extension in a terminal hunt group. A pilot number is a fictitious extension number that, when dialed, starts the hunting process through the group. In CPC-A and CPC-B Versions prior to 2.0, a pilot number can be provided by adding a resistor to an analog port. See "Hardware Requirements" for details.

Circular Hunt Groups

With circular hunting, hunting is initiated by calling any extension in the group. If the called extension is busy, the call will hunt through the next members of the group until the end of the hunt group is reached. If the call reaches the end of the group without reaching an idle extension, it will transfer back to the first member of the group until one full circle is completed.

If desired, another hunt group can be designated to receive calls should all the members of the original group be busy.

Related Programming

- FF4 (Ringing and Hunt Groups): Hunt Group Member Table

- FF4 (Ringing and Hunt Group): Call Next Hunt Group

- FF4 (Ringing and Hunt Groups): Terminal/Circular Hunt Groups

- FF4 (Ringing and Hunt Groups): Ringing Assignments (all)

Hardware Requirements

- A pilot number can be provided by installing a 2 watt 450 Ohm resistor on the analog port that will be dialed to initiate station hunting. The resistor is placed across the tip and ring of the designated analog port.

  The resistor will "busy" the port. When the busy pilot number is called, the call will hunt through the other extensions in the group..

Considerations

- Eight Station Hunt Groups can be programmed; a single Hunt Group can contain up to eight extensions, including the pilot extension.

- If all extensions in a group are busy and an alternate group has not been designated, CO calls will queue, and intercom calls will receive busy tone.

- If the first extension within a hunt group activates an absence message, call forwarding, or DND, the hunt feature will not work.

- If an extension other than the first extension activates an absence message, call forwarding, or DND, the hunt feature will skip that extension, and proceed to the next extension within the group.

- The amount of time a call rings at a hunt group member before transferring to another hunt group member is determined by the Call Forward--No Answer Timer.

- An SLT hunt group member that places a call on hold and then replaces the handset will not receive additional hunt group calls until the held call is released.

- An extension that is a member of a hunt group cannot be a member of another hunt group or a member of call coverage group.

- The offhook signaling option should be removed from members in a hunt group.

Terminal, Distributed and Longest Idle Hunting

(CPC-AII and CPC-B Version 2.0 or higher)

Beginning with CPC-B Version 2.0, three types of hunt groups are available: Terminal, Distributed, and Longest Idle. In addition, CPC-AII and CPC-B Version 2.0 and higher also provide a software-defined pilot extension number. The software-defined pilot number eliminates the need for the 2 W 450 Ohm resistor required for a pilot number in CPC-A and CPC-B Versions prior to 2.0.

CPC-AII and CPC-B Versions 2.0 or higher also allow calls from busy hunt' groups to overflow to a transfer extension. The transfer extension can be the pilot of another hunt group, the pilot (0) of the attendant group, or a single extension number.

Terminal Hunt Groups

When the Terminal method is selected, a call to the pilot number will repeatedly search hunt group members until the Transfer Timer expires. If · none of the members is free when the timer expires, the call is transferred to the transfer extension.

Distributed Hunt Groups .

When the Distributed method is selected, calls are distributed through the pilot number based on which extension in the group received a call in the last search. The incoming call begins its search at the next available extension in the group and then repeatedly searches the group, in sequence, until the Transfer Timer expires. If none of the members is free when the timer expires, the call is transferred to the transfer extension.

Longest Idle Hunt Groups

With Longest Idle hunting, a call to the pilot number rings the extension in the group that has been available the longest.

As with the other two methods, the search then continues through the Hunt Group until the Transfer Timer expires. If a member does not become available before the timer expires, the call is transferred to the transfer extension.

An extension is not considered idle if it rings.

Related Programming

- FF4 (Ringing and Hunt Groups): Hunt Group Search Method

- FF4 (Ringing and Hunt Groups): Pilot Extension Number

- FF4 (Ringing and Hunt Groups): Hunt Group Transfer Timer

- FF4 (Ringing and Hunt Groups): Hunt Group Extension Number

- FF4 (Ringing and Hunt Groups): Transfer Extension Number

- FF4 (Ringing and Hunt Groups): CO Delayed Day Ring Assignments for Hunt Group Pilot Numbers

- FF4 (Ringing and Hunt Groups): CO Delayed Night Ring Assignments for Hunt Group Pilot Numbers

- FF4 (Ringing and Hunt Groups): Central Office Day Ring Assignment for Hunt Group Pilot Numbers

- FF4 (Ringing and Hunt Groups): Central Office Night Ring Assignment for Hunt Group Pilot Numbers

- FF4 (Ringing and Hunt Groups): Ringing Assignments (all)

- FF1 (System): Hunt Group No Answer Timer (CPC-AII and CPC-B Version 3.1 or higher)

Considerations

- Eight Station Hunt Groups can be programmed. A single Hunt Group can contain up to sixteen extensions (CPC-AII and CPC-B Version 6.0 or higher) or eight extensions (CPC-B Version 2.0 to 5.04) plus a pilot extension number.

- The transfer destination of any Hunt Group can be set to the pilot number of the next group, the pilot number (0) of the Attendant Group, the pilot number of the same group, or a real extension. The transfer destination cannot be voice mail.

- A Transfer Timer adjusts the transfer time between hunt groups. The transfer time can be set from 0 to 32 seconds. If the timer is set to 0 seconds, CO calls will be queued at the hunt group until a member is available. Intercom calls will also queue.

- Central office trunks can be set to terminate to different hunt group pilot numbers during day and night mode operation.

- With CPC-AII and beginning with CPC-B 3.1, the Hunt Group No Answer Timer determines how long a hunt group member rings before the call is transferred to the next hunt group member. In previous releases, this time was determined by the Call Forwarding--No Answer Timer.

- With CPC-AI1 and beginning with CPC-B Version 4.0, a call arriving at the the pilot number of a hunt group will hunt to a member that has call

forwarding set, unless call forwarding is set to an outside number. In previous versions, hunting would skip an extension with call forwarding set. The following call types will hunt to a member that has call forwarding set:

- Intercom calls

- Transferred intercom cal Is

- Incoming CO calls (including DID calls)

- Transferred CO calls

- DISA calls

Station Message Detail Recording (SMDR)
(All Versions)

Description

Station Message Detail Recording (SMDR) provides detailed call records of outgoing calls. SMDR records can be output to a printer or an external call accounting system.

Figure 2-2 shows the SMDR format for CPC-AII and CPC-B Version 3.1 or higher. Figure 2-3 shows the SMDR format for CPC-A and CPC-B Versions prior to 3.1.

Figure 2-2. SMDR Format for CPC-AII and CPC-B Version 3.1 or higher

```
0         1         2         3         4         5         6         7
012345678901234567890123456789012345678901234567~901234567~9012345679901234567


1    2    3      4      5            6                        7        8    9
T MM/DD HH:MM:SS HH:MM.SS NNN DDDDDDDDDDDDDDDDDDDDDDDDDDDDDD AAAAAAAAAA VVVVV NN
```

```
1=Call type                                   5=Extension number
  S=Inbound DISA                                 10-69, 100-699=extensions
  s=Outbound DISA                                CO number=DISA
  I=Incoming
  O=Outgoing                                   6=Dialed digits or Caller ID
  T=Transfer (See Note 1.)                       DD=digits O-9 or symbols * or #
  N=DNIS                                          (See Note 2.)
  D=DID
                                              7=Account code
2=Date                                          A=0-9999999999
  MM=month
  DD=day                                      8=Verified account code or walking
                                                COS code
3=Call start time                               V0000-V9999=verified account codes
  HH=hours                                       W0000-W9999=walking COS codes
  MM=minutes
  SS=seconds                                  9=Trunk Number
                                                NN=number (01-64)
4=Call duration
  HH=hours
  MM=minutes
  SS=seconds

Notes :
1. Transferred calls include direct and group call pickups and conference calls.
   If a station call is transferred to an outside number, an SMDR record is
   also created for the station that is transferred.
2. The * symbol appears as a greater-than sign (>) on the SMDR printout; the # symbol
   appears as a less-than sign (<). Centrex and PBX codes, as well as LCR access codes, do
   not appear as dialed digits. If the Caller ID Feature is installed and enabled,
   "Private" appears with calls that have restricted Caller ID display and "Out of Area"
   with long distance calls that do not provide Caller ID information.
```

Figure 2-3. SMDR Format for CPC-A and CPC-B Versions Prior to 3.1

```
     0          1          2          3          4          5          6          7
     0~2345678901234567890123456789012345678901234567890123456789012345678901234567890


        1      2        3  4  5             6                  7        8
     MM DD HH:MM H:MM.X C NN      DDDDD-DDD-DDD-DDDD       NNN  AAAAAAAAAA
```

1=**Date**   5=**Trunk** number
  MM=month   **NN=number (01-64)**
  DD=day
                                                   6=**Dialed** digits
2=**Call** start time   **DD=digits** O-9 or symbols • or #
  HH=hour   (See the Note following item 8.)
  MM=minute
                                                   7=**Extension** number or DISA number
3=**Call** duration   10-73, **100-699=extensions**
  H=hour (O-9)   **#01-#64=DISA** numbers
  MM=minutes
  X=1/10th of a minute (O-9)   8=**Account** code
                                                     A=digits O-9 or symbols • or **#**
4=**Call** condition
  I=incoming   Note: The • symbol appears as a
  i=DISA incoming   greater-than sign **(>)** on the SMDR
  O=DISA outgoing   printout; the # symbol appears as a
  D=Call longer than 10 hours   less-than sign **(<)**.

Related Programming

- FF1 (System): Parity Check

- FF1 (System): Odd/Even Parity

- FFI (System): Baud Rate

- FF1 (System): Stop Bit Length

- FF1 (System): Data Length

- FF1 (System): Serial Port Flow Control (X On/ X Off)

- FF1 (System): SMDR Display Start Timer for CO Calls

- FF1 (System): SMDR Printing Mode 1: Outbound and Inbound

- FF1 (System): SMDR Printing Mode 2: Long Distance and Local Calls

- FF1 (System): SMDR Printing Mode 3: Header Title

- FF3 (Extension) Station Message Detail Recorder (SMDR) Report

Hardware Requirements

- A printer or external call accounting system is required to receive SMDR data.

T1 Interface

(CPC-B Version 4.0 or higher)

Description

The T1 Interface is a digital trunk card that provides twenty-four 64 kbps channels, for a total transmission rate of 1.544 Mbps. T1 lines can be leased from local exchange carriers and long-distance carriers.

The DBS T1 Interface supports the following options:

SF or ESF Framing Formats

Either super frame (SF) or extended super frame (ESF) formats can be used with the DBS T1.

The superframe consists of 12 frames, with each frame including 193 bits. Each frame is separated by a framing bit.

An extended super frame consists of 24 frames, double the length of the super frame (SF) format. ESF also supports monitoring and maintenance capabilities that are not available with the SF format.

Flexible Trunk Signaling Modes

The T1 Interface provides the following trunk signaling modes. The signaling modes can be assigned on a per-channel basis:

- Loop start

- Ground start

- E&M.

Related Programming

- FF1 (System): T1 Settings (all)

- FF2 (Trunks): Trunk Type

- FF2 (Trunks): Trunk Port Class

- FF3 (Extension): Station Port Class

Hardware Requirements

- The following hardware is required to install a T1 in a single cabinet:

- l Tl Trunk Card (VB-43561

- 1 Tl MDF Card (VB-43562)

- 1 Sync Card (VB-43563).

  In addition, one Tl Cable (VB-43564) is required to install a Tl in a double cabinet if the Tl card is located in the slave cabinet.

  To install two Tls in a double cabinet, you must have 2 Tl Trunk Cards and 2 Tl MDF Cards.

- The installer must provide a Channel Service Unit (CSU) that complies with FCC Part 1.5 and Part 68. The CSU is installed between the DBS and the public network. The CSU provides alarm, diagnostic. and monitoring functions. as well as network protection.

Considerations

- *Fractional Tl* can be used when fewer than 24 Tl trunks are needed. Fractional Tl allows you to use only a portion of the 24 channels provided on the Tl card.

- Though each Tl Interface provides 24 trunk channels, Tl trunks do not increase the overall trunk capacity of the DBS. Each Tl channel subtracts from the total number of analog trunks that can be installed. Furthermore. the number of analog trunks that can be used may be decremented in quantities of 1 or 8.

  For instance, if you are installing a Tl in a DBS 96 and you only want to use 12 Tl channels, the logical number of analog trunks that would be available is 20 (32 - 12 = 20).

  With CPC-B 5.00 and later, the number of analog trunks available are decremented in quantities of 1. With CPC-B earlier than 5.00, the number of analog trunks must be decremented in quantities of 8; the actual number of analog trunks that can be used is 16:

  (32 total trunks - 16 (two 8-trunk increments) = 16.j

- The current version of the Tl supports voice communications only. Data can be transmitted only if it reaches the Tl in analog form. Examples of analog data that can be transmitted over the Tl include fax transmissions and PC files that have been converted into analog form using a modem.

Telephony Services

(CPC-AII Version 7.0 and higher and CPC-B Version7.0 and higher)

Description

Computer Telephony Integration (CTI) provides communication and coordination of operation behveen computers and the telephone system. One of the most significant emerging standards in CTI is the Telephony Services Application Programming Interface from Novell@.

Telephony Services is basically a third party call controller. Applications designed for Telephony Services act on behalf of a group of users. With its group orientation, Telephony Services provides easy operation, distribution and transfer of calls and reporting of call handling among other features.

The DBS talks with the Telephony Server using a serial link from a specially designed Panasonic API Card. There is no physical link between the telephones and the networked computers. However, a logical link is established on the Tserver to relate a telephone to a networked computer.

New applications are currently being developed that will work with DBS Telephony Services. The possibilities for applications are unlimited. For example:

- inbound callers may be routed to the most appropriate customer representative based on the caller's phone number. As the call is answered, the representative's computer screen automatically displays the customer's information.

- a computer-based phone directory may be used to not only look up a phone number but also initiate a call. A corresponding called party database may be automatically accessed when the call is initiated.

- the vast array of PBX features may be more easily utilized using computer screen icons and prompting instead of complicated telephone feature access codes and procedures

In addition to general Telephony Services applications, since the DBS Telephony Services meets a published standard, customized applications may be developed to meet specific needs.

For more information on DBS Telephony Services, *see* the *"DBS Telephony Services Installation and Feature Description"* in the DBS Section 520. Each application used in conjunction with Telephony Services provides its own user documentation.
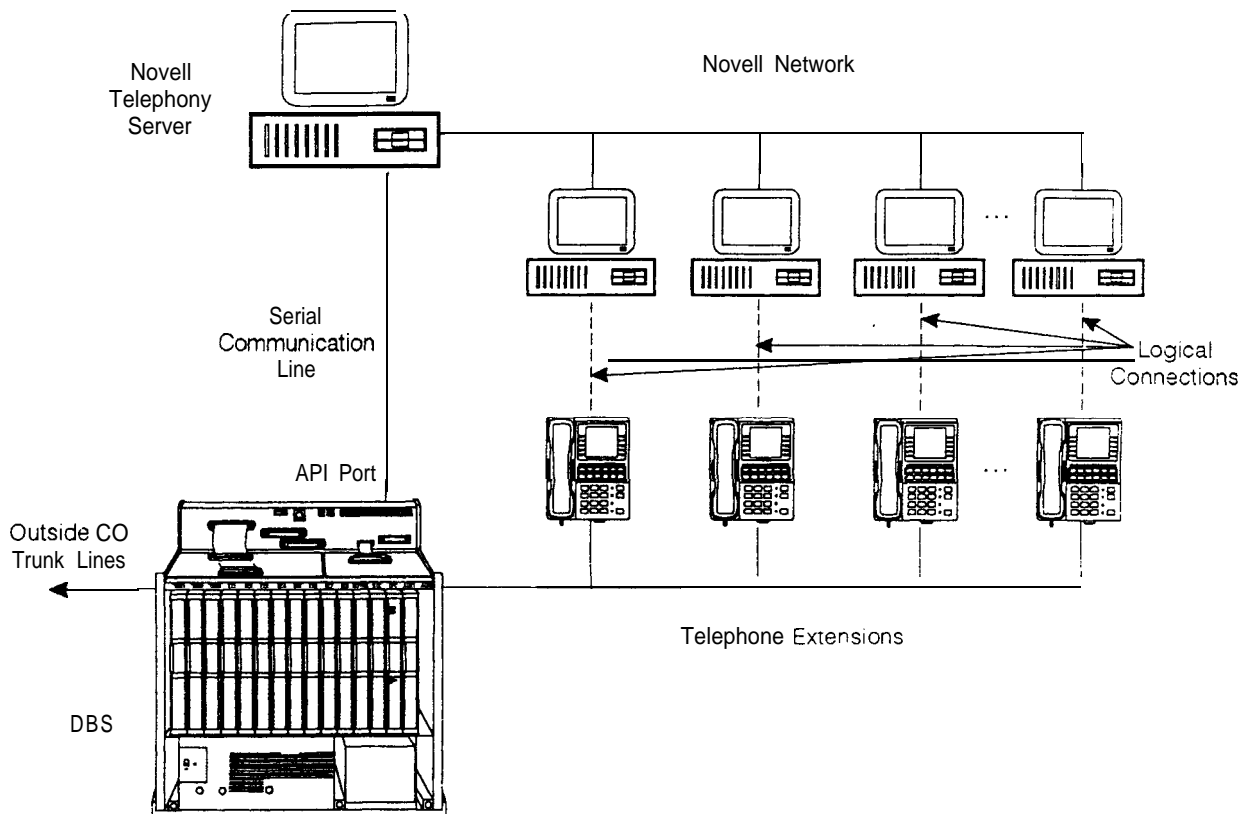
Related Programming

- **FFl** (System): API Port Type

- **FFl** (System): API Baud Rate

Hard ware Requirements

- VB-43941 Telephony Services Kit. This kit includes a Panasonic API Card, the API Serial Connector (two ports) and one 3 1/2" floppy disk containing the Telephony Services DBS Driver "Panadrvr."

- A Novell 3.12 (or later), 486 (or greater) server with at least 8 megabytes of RAM and equipped with an available serial port of at least 9600 baud capacity (16550 UART required).

- One customized serial cable (provided). The RS232 limits should not be exceeded (50 feet).

Toll Restriction

(All Versions)

Description

Access levels, including the prohibition of long distance calls or after-hours calls, can be assigned to specific extensions or CO lines using the Toll Restriction feature. This minimizes non-business related calls and reduces phone bills by only allowing long distance calls over designated lines.

The following access levels are available:

Table 2-2. Toll Restriction Types

Toll Restriction Type	Characteristics
0	Restriction of outbound dialing. (911 Calls allowed with CPC-AII/CPC-B Version 6.0 only.)
	Inbound ringing trunks can be-answered by or transferred to Type 0 extensions.
	Intercom calls are allowed.
	Group Call Pickup (intercom calls only)
1	Full restriction of outbound dialing (911 Calls allowed with CPC-AII/ CPC-B Version 6.0 only)
	Inbound trunk calls to all phones can be answered and/or transferred.
	Intercom calls are allowed.
	Group call pickup is allowed.
2	Local calls allowed
	l-800 calls allowed
	Inbound trunk calls can be answered and transferred from a Type 2 phone.
	Full restriction of international calls.
	Full restriction of operator calls (old numbering plan)
	Selectable restriction of operator calls (new NANP) - see Notes.
	Selectable restriction of Speed dial numbers.
	Selectable restriction of N11 codes (see Notes for 911).
	Restriction of up to 10 three-digit office codes (new NANP).
	Restriction of up to 50 seven-digit numbers.
	Inter-digit timing is set to 6 seconds.

3	Full restriction of operator calls (old dialing plan).
	Selectable restriction of operator calls (new NANP).
	Selectable restriction of international calls (defaulted to full restriction - ssee Notes)
	Selectable restriction of N11 codes (211-911) (see Notes for 91 1).
	Selectable restriction of Speed dial numbers.
	Restriction of up to 50 seven-digit numbers.
	Trunk calls can be answered and transferred.
	Defaulted to full restriction of area-code dialing (see Notes).
	Defaulted to full restriction of office-code dialing (see Notes).
	Inter-digit timing is set to 6 seconds.
4	Identical to Type 3, except that office-code dialing is allowed by default: type 4 also allows Operator Calls (old dialing plan) (See Notes).
5	Programmable TRS Type; defaulted to no restrictions (see Notes).
6	Programmable TRS Type: defaulted to no restrictions (see Notes). ,
7	No restriction of outbound dialing.

Notes:

For TRS types 3-6 and the old numbering plan, operator calls are allowed if FF7 l# I# is set to "on." The office code tables are used to restrict all 0 plus dialing; the next two digits will also be analyzed.

For TRS types 2 to 6 and the new NANP (CPC-AIl/CPC-B Version 6.0 and later). operator access is determined by an extension-based operator access switch. TRS Types 0 and 1 are fully restricted and TRS Type 7 is not restricted.

For TRS types 2 to 6 beginning with CPC-AII/CPC-B Version 6.0, 9 11 is always allowed.

For TRS types 3-6, area code and office code restrictions can be changed using "Area Code Table For TRS Types 3-6," "Office Code Table For TRS Types 3-6," "Special Area Code Table For TRS Types 3-6," and "Special Office Code Table For TRS Types 3-6,"explained in Chapter 8 of Programming (Section 400).

For TRS types 3-6. area and office code restrictions can be further managed using "Special Area Code Table For TRS Types 3-6" and "Special Office Code Table For TRS Types 3-6" found in Chapter 8 of Programming (Section 400). Four area codes can be associated with special area code tables l-4 (one area code per table). Within each of these tables, the entire range of valid office codes can be individually allowed or restricted. Thus, the Special Area and Office Codes work together to provide specific toll restrictions.

The following calling restrictions are also available:

- Station Lockout Key Code Restriction

  A key code must be entered before calling out when the Station Lockout feature is activated.

- Account Code Restriction

  An Account Code must be entered before calling out.

- Forced LCR Restriction

  The LCR feature controls outside calls.

Related Programming

- FF1 (System): Override Toll Restrictions with SSD Numbers

- FF3 (Extension) Extension Lockout Code

- FF7 (Toll Restriction): Toll Restriction Settings (all)

- FF8 (LCR): Least Cost Routing .

Considerations

- The dialing restrictions included in this feature help prevent unauthorized outgoing calls. It is possible, however, to program your system to allow System Speed Dialing to override Toil Restrictions.

Trunk Groups
(All Versions)

Description

Trunks can be placed in trunk groups. When a trunk group is accessed, the DBS automatically selects an open trunk from the group.

Operation

To access a trunk group, do one of the following:

- Dial a trunk group access code before dialing the telephone number. Trunk group access codes are 9, 8 1, 82, 83, 84, 85, and 86.

- Press an FF key that is assigned as a pooled trunk key.

Related Programming

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Groups "8 l-86"

Considerations

- Trunks can appear in more than one trunk group.

- If Least Cost Routing is enabled. the trunk group "9" automatically accesses the LCR features.

Trunk Name Assignment

(CPC-AII and CPC-B Version 2.0 or higher)

Description

You can display a name, number, or message of up to six characters on the LCD in place of your CO trunk line number. The name will appear when a CO call is ringing or connected.

For example, you can assign specific CO lines to different individuals or departments. Then, when an extension rings, the individual's name or the department's name will appear on the display, immediately identifying the person for whom the call is intended.

While you are speaking on the extension, "CO TALK XXXXXX" will appear on the LCD. (XXXXXX represents the six characters of the Trunk Name.) While the extension is ringing, "INCOMING XXXXXX" will appear. While the extension is ringing and you are speaking on the extension at the same time, "INCOMING XXXXXX" will appear on the second line of the display.

Related Programming

. FF6 (Name and Message): Trunk Name Assignment

Considerations

. Trunk names can be assigned with a DSS.

. If a text name is assigned to a CO trunk, the trunk number does not appear on the display.

Trunk Queuing

(All Versions)

Description

If all outside lines in a Trunk Group are busy, the system can call you when a line becomes free. Simply pick up the handset and dial the telephone number when the Trunk Callback alert tone rings.

Operation

To set Trunk Queuing:

1. Press the ON/OFF key.

2. Press the CO line key or dial a trunk access code.

   The phone issues busy tone.

3. Press "2."

   "In CO Queuing" appears on the display.

4. Press the **ON/OFF** key.

5. Wait for the Trunk Callback alert tone.

To respond to the Trunk Callback alert tone:

Pick up the handset.

- The outside line is automatically accessed.

- The phone issues dial tone.

- "CO TALK #XX" (where "XX" is the line number) appears on the display.

Related Programming

- FFI (System): Extension Class of Service Setting

- FF3 (Extension): Extension Class of Service Assignment

Considerations

- Response to the Trunk Callback alert tone must be within sixteen seconds or Trunk Queuing will be canceled.

- If a call arrives from an outside line while the Trunk Queuing feature is activated, Trunk Queuing will be suspended for the duration of the incoming call.

- If you are engaged in another call on a different line for more than twenty minutes after the desired outside line becomes available, that outside line's assignment to you will be canceled.

- The Trunk Queuing feature may also be used if you hear a busy tone when trying to make a call using the Pooled Trunk Access feature.

- Trunk Queuing can be used by all telephone types including SLTs and DSLTs.

Universal Night Answer
(All Versionsj

Description

During night mode, Universal Night Answer (UNA) sends incoming calls to an external ringer, such as a night bell.

As an alternative to using a night bell, UNA can also be configured to ring external paging speakers.

Universal Night Answer calls can be picked up from any extension, provided the extension's Class of Service allows UNA answer.

Operation

To answer a UNA call:

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial "78."

   "CO TALK #XX" appears on the display (where "XX" = the trunk number).

Related Programming

- **FF1** (System): Extension Class of Service Setting

- **FF1** (System): Ring Patterns for UNA Terminals (M, C, & B)

- FF3 (Extension): Extension Class of Service Assignment

- FF4 (Ringing and Hunt Groups): CO Day Ring Assignment

- FF4 (Ringing and Hunt Groups): CO Night Ring Assignment

Hard ware Requirements

- An external ringing device is not provided with the DBS. It can be purchased separately from an electronics dealer.

- External paging speakers are not provided with the DBS; they must be purchased separately.

Considerations

- With CPC-A and CPC-AII, extension port 73 is used to assign ringing to an external **page/UNA** interface.

- With CPC-B, extension port 145 is used to assign ringing to an external **page/UNA** i n t e r f a c e .

Voice Mail Ringing
(CPC-AII and CPC-B Version 3.1 or higher)

Description

The Voice Mail Ringing feature allows calls from a DBS Automated Attendant or from an ACD port to ring an extension with the same ring tone as a CO trunk. The ring pattern is selected in the Extension Distinctive Ringing program. **If** a distinctive ringing pattern is not specified, the ringing pattern will be two seconds on/two seconds off.

Related Programming

- FF3 (Extension): Extension Ring Pattern

VAU

(All Versions)

Description

The Voice Announce Unit (VAU) is a digital answering device that can be connected to the DBS. It provides for the recording and playback of up to two voice messages, along with the ability to transfer incoming calls.

When a call reaches the VAU, it plays a prerecorded voice message. The caller is then allowed to dial a number or is automatically transferred to a predetermined extension.

The VAU is often used to back up operators or hunt groups. Callers overflowing from either of these positions hear a message and can then dial a number or wait to be transferred back to the operator or hunt group.

The VAU can be used to provide a variety of other services to callers, such as a menu of dialing options or transfer to an answering machine.

Recording and Playing Messages

You can record the VAU messages from either an extension or a trunk.

Notes:

- You must use a DTMF telephone to record and play VAU messages.

- To change existing messages, record over them.

To record and play messages, complete the following steps.

1. Do one of the following:

If...	*Then. . .*
You are recording or playing from an extension	Take your phone off hook. Dial the VAU extension number. (If the intercom is set for Voice, dial 1 to change from Voice to Tone.)
You are recording or playing from a trunk	Dial the phone number of the VAU, or call in and have the operator transfer you to the VAU extension.

2.   After the VAU answers, do one of the following:

If . . .	*Then. . .*
You want to record the first message	Dial * 98 1 Wait for a beep. After the beep. record the message.
You want to record the second message	Dial * 98 2 Wait for a beep. After the beep. record the message.
You want to play the first message	Dial * 97 1 The VAU plays the message.
You want to play the second message	Dial * 97 2 The VAU plays the message.

Notes:

. You can enter the *97 codes again to replay messages without ending
   y o u r   c a l l .

. You can only record one message at a time. To record another message,
   you must end your call and redial the VAU.

3.   When the operation is complete, put the phone on hook.

Considerations

.   For more information on the VAU and its operation, see Section 770,
     "Voice Announce Unit User Guide."

VAU Port Assignment

(CPC-AII and CPC-B Version 5.0 or higher, CPC-A Version 3.3 and higher)

Operation

A digital port can now be assigned as a VAU through system programming.
In previous releases, VAUs were assigned as standard digital ports. Using the
standard digital port assignment required the installer to make the following
program changes:

•The CO Offhook Signal option had to be set to "off" (FF3 1-144# 7#).

*The Call Waiting/OHVA option had to be set to "off." (FF3 1-144# 8#).

*Auto Pickup had to be set tc "on" (FF3 1-144# 12#).

•All FF keys for the extension port had to be cleared.

The VAU assignment now eliminates the need to make these program changes. Once a port is assigned as a VAU, the system treats that port as if these changes have been made.

Note: Though the VAU assignment treats the VAU port as if the program settings have been made, it does not actually change the settings. If the port is later assigned as a standard digital port, the original program settings will still be in effect.

To further improve VAU operation, the following call types are now routed to the first VAU message:

*DID calls

● DNIS calls

● DISA calls

*Transferred trunk calls

*Transferred intercom calls.

In previous releases, only intercom and CO trunk calls were routed to the first VAU message.

All recalls are routed to the second message.

Programming

. FF3 (Extension): VAU Port Assignment

. FF3 (Extension): VAU Hunting Priority

Walking TRS Class of Service

(CPC-AII and CPC-B Version 3.1 or higher)

Description

Walking TRS Class of Service allows an extension user to "carry" his or her toll restrictions to another phone.

Before the Walking TRS Class of Service feature can be used, a Walking Class of Service code must be entered at your extension before using dialing privileges at another extension.

Operation

To enter a Walking Class of Service code:

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial "#12."

3. Enter the four-digit Walking Class of Service code (0001-9999).

4. Press "#."

5. Replace the handset.

To use a Walking Class of Service code:

1. Pick up the handset of an extension other than your own.

   The phone issues intercom dial tone.

2. Dial "#13."

3. Enter your extension number.

4. Enter your Walking Class of Service code.

5. Press "#."

6. Enter a trunk access code (88XX, 9, 81-86).

   The phone issues outside dial tone.

7. Dial the telephone number.

The **Walking** Class of Service remains in effect until you replace the handset.

To clear a Walking Class of Service code:

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial "#12."

3. Enter the original Walking Class of Service code.

4. Press "#."

5. Replace the handset.

To confirm a Walking Class of Service code (Attendant Phone only):

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Press the CONF key.

3. Dial "#12."

4. Enter the extension number.

   The Walking Class of Service code for that extension appears on the display.

Considerations

- Walking Class of Service can be used by KTELs, DSLTs, and SLTs.

- The same Walking Class of Service code can be used on more than one extension.

- If an extension is locked out, the Walking Class of Service feature will override the lockout.

- LCR and TRS dialing privileges follow the Walking Class of Service.

- Before entering a new walking COS code, you must first clear the existing code.

Chapter 3. Attendant Features

This chapter describes features that are available to an attendant phone.

In addition to functioning as a central answering point, an attendant phone also has special capabilities for monitoring and programming other phones.

This chapter covers the following topics:

Alternate Attendant

(CPC-A and CPC-B Versions Prior to 2.0)

Description

The alternate attendant receives intercom calls directed to the primary attendant if the primary attendant is busy or out of service.

In addition to receiving overflow intercom calls, the alternate attendant has full access to attendant features.

With CPC-B 2.0 and above, the "Alternate Attendant" program is replaced by the Second, Third, and Fourth Attendant Positions.

Considerations

Alternate Attendant Extension Number. The alternate attendant is always extension number 11 or 101. By default, extension 11 or 101 is assigned to port 2. To assign another port as an alternate attendant, you must assign extension number 11 or 101 to that port

Attendant Assignment of Speed Dialing

(All Versions)

Description

The attendant can assign system speed dialing numbers. System speed dialing numbers are shared by all DBS extensions.

Operation

1. Press the ON/OFF key.

    • The phone issues intercom dial tone.

    • The ON/OFF LED lights.

2. Press the PROG key.

    "F' appears on the display.

3. Press AUTO.

    "FA" appears on the display.

4.   Enter the Speed Dial code (00-89 or 000-199).

"Enter SSD XX" appears on the display (where "XX' is the System Speed Dial code).

5.   To select pooled trunk access, press CONF followed by the last digit of the pooled trunk number (9, 1-6).

6.   Dial the telephone number to be stored.

For each pause required, press REDIAL. (An R appears on the display when REDIAL is pressed . If the Speed Dial number is later displayed, a P appears.)

The number appears on the display.

7.   Press the HOLD key.

"SSD XX" (where "XX" is the Speed Dial code) and the stored telephone number appear on the display.

8.   Repeat steps 2 to 7 to store additional numbers.

Considerations

- Storing a new number erases any previously stored data.

- To delete a System Speed Dial number, perform the programming steps, but do not enter a number before pressing HOLD.

- Names for System Speed Dialing can also be stored using a DSS console connected to the attendant phone.

Attendant Busy Override
(CPC-AII and CPC-B Version 2.0 or higher)

Description

The Attendant Busy Override feature allows the attendant to break in on an Intercom Call or a CO Call that is already in progress.

Attendant Busy Override can break into any extension, even if the extension has "Busy Overridden" turned off. (The extension feature "Busy Override" cannot break into an extension that has "Busy Overridden" turned off.)

System programming determines whether the override is preceded by an alert tone. By default, Attendant Override does not sound an alert tone.

Operation

To override a busy extension:

Press "4."

"CONF XXX YYY" (where "XXX" and "YYY" are the extension numbers) appears on the display.

Related Programming

- FFI (System): Attendant Override

- FF1 (System): Alert Tone for Busy Override & OHVA

Considerations

- Replace the handset to exit the three-party conference call.

- The alert tone can be turned on or off through system programming.

Attendant Call Park
(All Versions)

Description

Using the, Attendant Call Park feature, the Attendant may park an outside call until the called party can be found. The attendant can then use the Paging feature to inform the called party of the call's Park Number. The parked call can then be retrieved from any extension by dialing the Park Number.

The attendant phone is equipped with ten outside line Park Numbers (00-09). Programming a Call Park key into an FF key on a telephone or a DSS console makes one-touch Call Park possible.

Operation

To park an outside call:

1. Press the HOLD key.

. The outside call is placed on hold.

. "CO HOLD #XX" (where "XX" is the trunk number) appears on the display.

2. Dial "75."

"PARK HOLD" appears on the display.

3. Enter desired Park Number (00-09).

"PARK HOLD 01" appears on the display if you selected Park Number 01.

To retrieve a call parked by the attendant (after receiving the Park Number from the Attendant):

1. Pick up the handset.

The phone issues intercom dial toned.

2. Dial "76."

3. Enter the Park Number assigned to the call.

"PARK PICK XX" (where "XX" is the park number) appears, and then "CO TALK ##XX" (where "XX" is the trunk number of the call) appears.

Related Programming

. FF1 (System): Attendant Park Hold Recall Timer

Considerations

. With CPC-A and CPC-B Versions prior to 3.1, an FF key assigned to Call Park does not indicate when a call is parked. Beginning with CPC-B Version 3.1, the FF key lights red to indicate a call is parked.

. If a parked call is not answered before the Attendant Park Hold Recall Timer expires, the parked call recalls to the attendant.

. Intercom calls cannot be parked.

Attendant Control of Absence Messages, Call Forwarding, and DND

(All Versions)

Description

An attendant phone can cancel the Absence Message, Call Forwarding, and Do-Not-Disturb (DND) features activated on any extension.

Operation

To cancel an Absence Message, Call Forwarding, or DND:

1. Press the ON/OFF key.

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Press the CONF key.

3. Dial the extension number.

4. Press "*."

5. Press the ON/OFF key.

    The ON/OFF LED goes off.

Considerations

- On DSS consoles equipped with DSS keys, the indicator for an extension that has Absence Message, Call Forwarding, or DND activated lights green. This indicator goes off when the feature is canceled. The indicator does not light for Permanent Call Forwarding.

Attendant-Controlled Text Assignment
(All Versions)

Description

The attendant can assign text to extensions, system speed dial numbers, and Call Waiting/OHVA text replies without using a DSS/72 or entering the programming mode.

Text is assigned through the dial pad on the attendant phone.

Operation

To assign names to extensions:

1. Pick up the receiver or press the ON/OFF key.

2. Press, PROG.

3. Dial #2.

4. Enter the extension's port number. (This must be entered as a 3-digit number if CPC-B is used or a 2-digit number if CPC-A or CPC-AII is used. If necessary add leading zeros.)

5. Press AUTO to backspace and erase the existing name.

6. Use the dialpad sequences shown in Table 3-l on page 3-10 to enter letters and/or numbers.

   Press FLASH after each letter or number.

   Press CONF to switch between numbers and letters.

7. To store your entry, press HOLD.

To assign names to System Speed Dial numbers:

1. Pick up the receiver or press the ON/OFF key.

2. Press PROG.

3. Dial #1

4. Press AUTO.

5. Dial the desired of system speed dial number (00-89).

6.   Press AUTO to backspace and erase the existing name.

7.   Use the dialpad sequences shown in Table 3-1 on page 3-10 to enter letters and/or numbers.

     Press FLASH after each letter or number.

     Press CONF to switch between numbers and letters.

8.   To store your entry, press HOLD.

Note: The name does not change on the extension until the extension goes off hook.

To assign text to Call Waiting/OHVA Text Replies (CPC-All and CPC-B Version 4.0 or higher):

1.   Pick up the handset or press ON/OFF.

2.   Press PROG.

3.   Dial #5

4.   Dial l-5, depending on which text message you want to change.

5.   Press AUTO to backspace and erase the existing name.

6.   Use the dialpad sequences shown in Table 3-1 on page 3-10 to enter letters and/or numbers.

     Press FLASH after each letter.

     Press CONF to switch between numbers and letters.

7.   To store your entry, press HOLD.

Table 3-1. Key sequences for text assignment.

Key	Number of Key Presses					
	Once	Twice	Three times	Four times	Five times	Six times
1	Space	Q	Z	Space	q	z
2	A	B	C	a	b	c
3	D	E	F	d	e	f
4	G	H	I	g	h	i
5	J	K	L	j	k	l
6	M	N	O	m	n	o
7	P	R	S	p	r	s
8	T	U	V	t	u	v
9	W	X	Y	w	x	y
0	.	:	.	:	.	:
*	*	-	?	*	-	?
#	#	/	!	#	/	!

Attendant Feature Package

(CPC-B Version 2.0 - 4.0)

Description

The Attendant Feature Package (AFP) software affects the attendant's DSS console.

Note: The Attendant Feature Package was discontinued in CPC-B Version 5.0.

When the AFP is installed, the DSS console provides the following pre-configured features:

- Z O-7 (Paging Zones)

- P O-9 (Park keys)

- NIGHT key

- BUSY key

- **WAIT** key

- **OHVA** key

- **EXT** key

- **SSD** key

- **STATE** key

- **RESET** key

- **ALM** key

- **MSG** key

- **CNCT** (connect) key

- **CNCL** (Cancel) key

- Configuration of line/loop keys on large display as multiline

- Ability to assign line/loop keys to FF keys

- 26 search keys for extensions

- 2 arrow keys.

Attendant Groups
(CPC-AII and CPC-B Version 2.0 or higher)

Description

The DBS can accommodate up to four attendant positions. The first attendant is fixed at port 1, extension 100. The other Attendants can be set to any port or extension. When there is more than one attendant in a system, you can create an Attendant Group with a pilot number of 0.

When all Multi-Line keys on the first attendant phone are busy, internal calls are forwarded to the second, third, and fourth attendant phones, in that order.

Related Programming

- FF1 (System): Second Attendant Position

- FF1 (System): Third Attendant Position

- FF1 (System): Fourth Attendant Position

- FF1 (System): Attendant Transfer Extension

Considerations

- If all ML keys on all attendants are busy, internal calls are transferred to a preset destination, which must be a real extension number. The forwarding destination cannot be the pilot number of a hunt group.

- The third and fourth attendants cannot have a DSS/72.

- Prior to CPC-B Version 2.0, the DBS supported a maximum of two attendant positions.

- In previous software releases, if a user dialed "0" for the attendant group but the first attendant had call forwarding activated, the call would skip to the next attendant in the group. For example, if the first attendant activated call forwarding--busy/no answer. the dial "0" call would skip to the second attendant. If all attendants in the group activated call forwarding, dial "0" calls did not reach the group.

  Beginning with CPC-B Version 5.0, dial "0" calls ring the first attendant, even if the first attendant has call forwarding activated. However, if a call is unanswered, it does not skip to the next attendant. The call continues to ring the first attendant until the caller hangs up.

- DSLTs and SLTs cannot be used for attendant positions.

- Ringing assignments will be required for all attendants other than Attendant Position 1 (Port 1) and Attendant Postion 2 (when assigned to port 2).

Dial Tone Disable
(All Versions)

Description

The intercom dial tone can be turned off at an attendant phone. Dial tone is turned off when a headset is used.

Operation

To disable the intercom dial tone:

1. Press the ON/OFF key.

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Press "#50."

3. Press the ON/OFF key.

    The ON/OFF LED goes off.

To reactivate dial tone:

Repeat the preceding steps.

DSS/72

(All Versions)

Description

The DSS/72 is a 72-key console that can be attached to the attendant phone.

The 72 keys of the DSS can be programmed as Direct Station Select (DSS) keys for internal lines, in addition to providing direct station selection, the DSS keys also provide busy lamp fields to assist the attendant in monitoring the status of extensions.

The attendant can perform a simplified call transfer by pressing a DSS key while connected to an outside line. The outside line is placed on hold and the extension is dialed automatically.

When the attendant is placed in the programming mode, the DSS can be used for inputting text names. Figure 3-l shows which keys are pressed for text input.

Figure 3-1. *VB-43225 with a DSS/72*
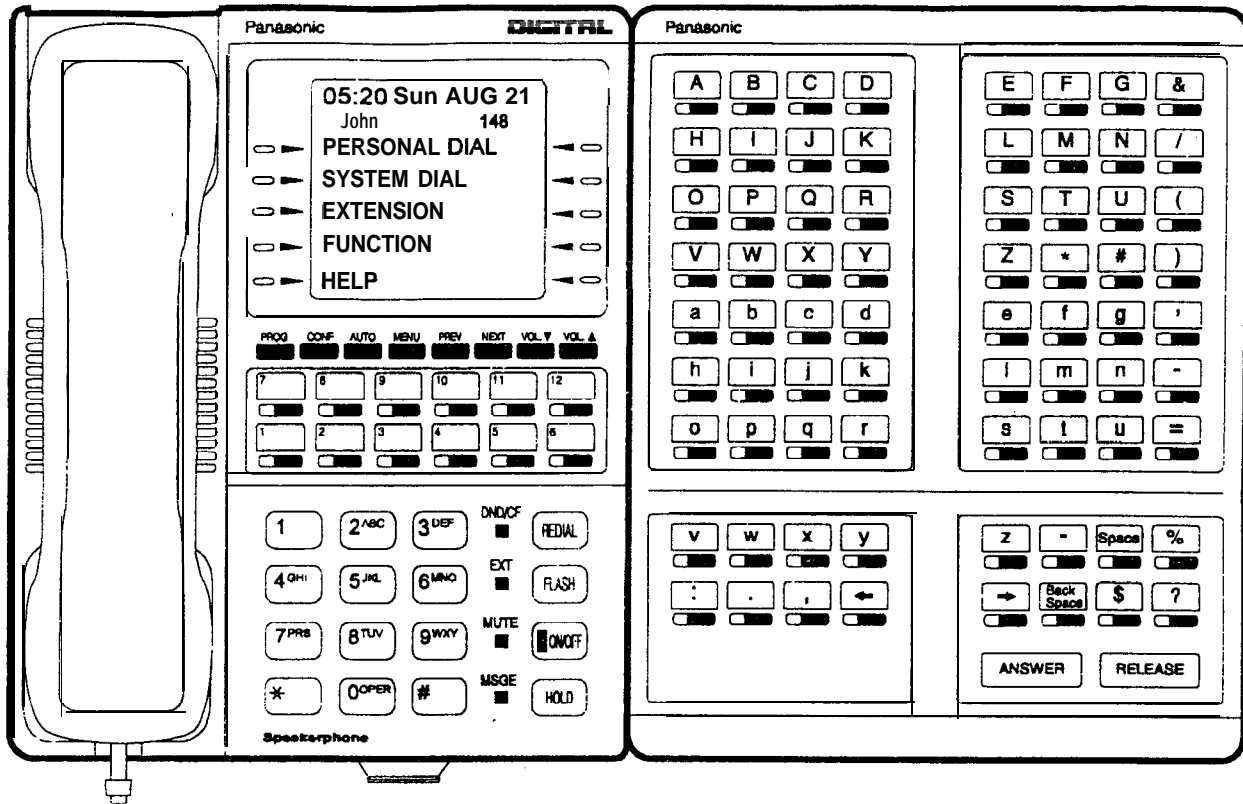
When the Attendant Feature Package (VB-43330) is installed, the DSS/72 can be used as an Attendant Console. The attendant console provides station monitoring and call transfer by name for large systems, even if a large display phone is not used.

Note: Beginning with CPC-B Version 5.0, the Attendant Feature Package (AFP) is no longer available.

As Figure 3-2 illustrates, the Attendant Console includes preassigned keys for attendant functions, such as Call Park, Zone Paging, and alarm monitoring.

For a detailed description of the Attendant Console, see the *Attendant Console User's Guide (Section 760).*

Figure 3-2. VB-43225 with a DSS/72 configured as an Attendant Console
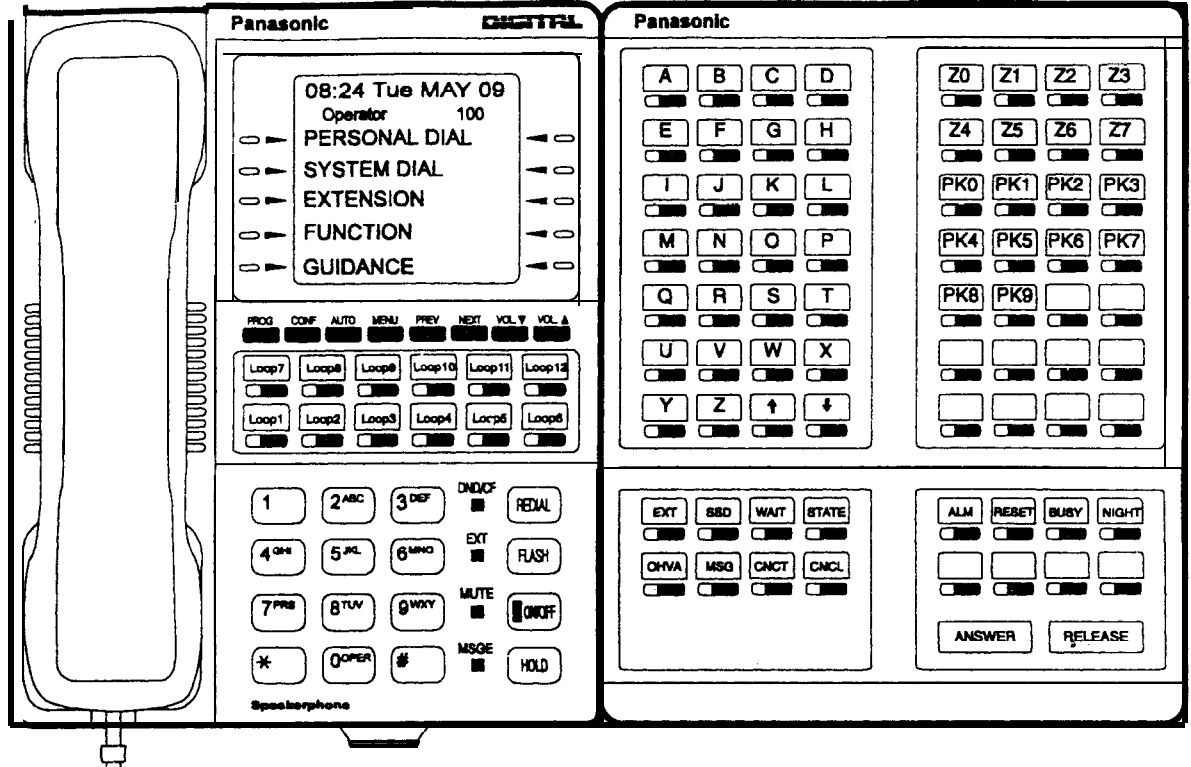
Related Programming

- FF1 (System): Attendant Feature Package Settings

  Note: Beginning with CPC-B Version 5.0, the Attendant Feature Package (AFP) is no longer provided.

- FF3 (Extensions): Terminal Type

Hardware Requirements

- The "Attendant Feature Package" is required to configure the DSS/72 as an Attendant Console. The "Attendant Feature Package" is contained on a special EPROM chip that replaces an EPROM on the CPC-B card.

  Note: Beginning with CPC-B Version 5.0, the Attendant Feature Package (AFP) is no longer provided.

- The following table shows the number of DSS/72s and or Attendant Consoles that can be used.

Table 3-2. DSS/72 maximums

Release	Attendant Position	DSS/72 Assignments			
CPC-A CPC-AII and CPC-B without the AFP	Attendant 1	Ext 100 Port 1	DSS/72 Type 11	DSS/72 Type 12	
	Attendant 2	Ext 101 Port 2 or other	DSS/72 Type 13	DSS/72 Type 14	
	Attendant 3 (CPC-AII and CPC-B 2.0 or higher)	The DSS/72 cannot be assigned.			
	Attendant 4 (CPC-AII and CPC-B 2.0 or higher)	The DSS/72 cannot be assigned.			
CPC-B 2.0 to 4.0 with the AFP .	Attendant 1	Ext 100 Port 1	Att. Console Type 16	or DSS/72 Type 11	DSS/72 Type 12
	Attendant 2	Ext 101 Port 2 or other	Att. Console Type 17	or DSS/72 Type 13	DSS/72 Type 14
	Attendant 3	Att. Console Type 18			
	Attendant 4	Att. Console Type 19			

- The DSS key LED informs the attendant of the status of assigned extensions. The LED lights red when the extension is busy and green when Absence Message, Calf Forwarding, or DND is activated.

- Pressing a DSS key while connected to an outside line places the line on hold.

Headset Operation

(All Versions)

Description

A headset can be connected to attendant or non-attendant phones. (Dial tone is normally turned off when the headset is connected.)

Operation

To use a headset:

1. Connect a headset to the telephone.

2. Press the ON/OFF key.

3. Press "#5 1."

   The ON/OFF LED remains lit.

To stop using a headset:

Repeat the preceding steps.

Hard ware Requirements

- Headsets are not provided with the DBS; they must be purchased separately.

- Most commercially available headsets (with ECM mike transducers) can be used.

Considerations

- Headset Operation is not available with SLT telephones.

Key Bank Hold

(All Versions)

Description

Key bank hold allows a user on a trunk call to initiate another trunk call by simply pressing an FF key for another trunk. When the user presses the FF key, the first trunk call is automatically placed on system hold.

In addition, the attendant can use key bank hold with DSS/BLF keys to provide one-touch call transfer to an extension. For example, if the attendant phone has a DSS/BLF key assigned for extension 200, the attendant can answer an incoming trunk call and then press the DSS/BLF key to automatically transfer the call to 200.

If key bank hold is turned off, the user must press **HOLD** before accessing a second trunk or transferring a call.

Related Programming

- FF1 (System): Trunk Line Automatic Hold (Key Bank Hold)

'One-Touch VM Transfer

(CPC-AII and CPC-B Version 5.0 or higher)

Description

The VM key can be used by attendants to easily transfer incoming callers to an extension's voice mailbox. Beginning with CPC-B Version 5, when a user presses a voice-mail key and then presses a DSS/BLF key, the digits programmed for the DSS/BLF key are transmitted to the voice mail system.

For example, if an attendant receives an incoming call for station 200 and the attendant knows that station 200 is busy because the DSS/BLF key is lit red, the attendant can press the VM key and then press the DSS/BLF key to automatically transfer the caller to 200's voice mailbox.

For a general description of the VM key as well as instructions on using the key for personal message retrieval, see "One-Touch VM Access" on page 4-77.

Note: See "Voice Mail Transfer Key" on page 4-97 for a similar transfer key. The Voice Mail Transfer Key provides faster operation but may not work with some voice mail systems since you do not wait for the Voice Mail system to

answer before pressing the DSS/BLF key. The One-Touch VM Access works with virtually every voice mail systems.

Note: The VM key is assigned differently, depending on whether it is used for personal message retrieval or attendant transfer. See the following "Operation" section for instructions.

Operation

To assign a voice mail key:

Note: You cannot program this feature if trunks are assigned to the key. First clear the FF assignments, then use the following procedures to assign the VM key.

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the PROG key.

3. Press the FF key, DSS key, or One-Touch key.

4. Press the CONF key.

5. Press the AUTO key.

6. Dial the voice mail extension number.

7. If the key is for personal message retrieval, enter a password (XXX or AUTO followed by a speed dial number) if desired. If the key is for attendant transfer to voice mail, do not enter a password but include any special codes (* or #, for example) if they are required by the voice mail system.

   Note: The length of the password and the VM extension number cannot exceed six digits. If the VM number and the password total more than six digits, assign the password to a personal or system speed dial number (00-99, 000- 199 or 900-909). If you are accessing the Panasonic Voice Mail, it is best to include a # sign at the end of the password.

8. Press the HOLD key.

Attendant Transfer to Voice Mail

1. Answer an incoming call.

The incoming caller asks to be transferred to an extension number.

2. Check the DSS/BLF key for the extension. If the light is red, press the VM key followed by the DSS/BLF key.

The incoming caller is transferred to the extension's mailbox.

Related Programming

- FF5 (Keys): FF Key Assignment for Extensions

- FF5 (Keys): FF Key Assignments for DSS Consoles

Considerations

- The VM key can be used with the Panasonic Voice Mail or with third-party voice mail systems.

- Once an extension is connected to voice mail, pressing a DSS/BLF key will transmit the extension number stored on the DSS/BLF key to the voice mail system, regardless of what state the DSS/BLF key is in. In other words, the extension number is transmitted whether the key is idle, ringing, or busy.

   Note: DSS/BLF keys on the DSS/72 always light red when an extension is active: they do not flash red when an extension is ringing. The keys light green when an extension is forwarded.

- If the Panasonic Voice Mail is used, the extension number is transmitted through the API link and DTMF digits. If a third-party voice mail is used, the extension number is transmitted through DTMF digits only.

- With Panasonic Voice Mail, most attendants use port group scheduling that accesses a menu that asks for a mail box number. This port group scheduling is used so attendants can quickly dial the mailbox numbers of other users. To assign a personal VM key for an attendant using this port group scheduling, use a speed dial number to store the voice mail extension number, followed by an asterisk (*), followed by the password . The asterisk causes Voice Mail to revert to the menu that connects the user to his or her personal mailbox.

   Note: If an attendant wants one VM key for a personal mailbox and one for transferring to voice mail, the personal VM key must be assigned to the lowest-numbered FF key.

   For example, if DSS keys 60 and 61 are assigned as VM keys, key 60 should be used for the attendant's personal mailbox. If VM keys are assigned to both the phone FF keys and the DSS keys, the lowest-numbered FF key on the phone should be used for the attendant's personal mailbox. If

the personal VM key is not assigned to the lowest-numbered key, it will not flash to indicate VM messages.

Station Lockout Code Assignment
(All Versions)

Description

The Station Lockout feature allows users to dial a Station Lockout code to restrict their phone from being used for outside calls.

Station Lockout codes can be assigned through the attendant phone.

Operation

To program a Station Lockout code:

1. Press the ON/OFF key.

   • The phone issues intercom dial tone.

   • The ON/OFF LED lights.

2. Press the CONF key.

3. Dial "#8."

4. Dial the extension number.

5. Enter the desired key code (four digits).

6. Press the HOLD key.

   "STORE XXXX" (where "XXXX" is the key code) appears on the display.

7. Press the ON/OFF key.

   The ON/OFF LED goes off.

Considerations

• A locked extension can be used for Intercom Calls.

• Station Lockout key codes can also be set through system programming.

System Time and Date Control

(All Versions)

Description

The date and time displayed on all system extensions are set from an attendant phone.

Operation

To set the date and time:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The current date and time are displayed on your LCD.

2. Press the PROG key.

   "F" appears on the display.

3. Dial "##."

   "Program Mode:" appears on the first line of the display; "MAIN MODE" appears on the second line.

4. Press the FF1 key.

   "SELECT SUB MODE" appears on the second line of the display.

5. Dial "1#."

   "1:DATE 2:TIME" appears.

6. Dial "1#."

   "MONTH/DAY/YEAR" appears.

7. Enter six digits for the month, day, and year.

   For example, to set the date to March 3, 1993. enter "030393."

8. Press #.

   "TIME SET MODE appears on the display.

9. Enter four digits for hours and minutes (24-hr. time).

For example, for 11:OO a.m., enter "1100."

10. Press **#**.

11. Press the ON/OFF key.

The new date and time appear on the display.

To reset the minutes display to "00:"

If the clock is five minutes slow or fast, you can re-synchronize the minutes setting to "00," provided the current minutes display is between ":55" and ":05."

1. Press the ON/OFF key.

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Press the PROG key.

    "F" appears on the display.

3. Dial **"#4."**

    "Time Adjusted" appears on the display.

4. Press the ON/OFF key.

    The ON/OFF LED goes off.

Considerations

- The month is entered in numeric form, but is displayed as the name of the month.

- The day of the week is calculated automatically.

Traffic Measurement

(All Versions)

Description

An attendant phone can track the number of outgoing and incoming calls for each outside line number, as well as the number of times each System Speed Dial number is used. This information can be used to evaluate trunk usage and control costs.

To **view traffic measurments:**

1. Press the **ON/OFF** key.

   - The phone issues intercom dial tone.

   - The **ON/OFF** LED lights.

2. Press the **CONF** key.

   "C" appears on the display.

3. Dial the traffic measurment code from the table below.

   For example, to check the number of outgoing calls made on an outside line 01, enter "#90," then "01". If 1234 outgoing calls have been made, "Outgoing01 1234" appears on the display.

   Pressing the #key steps through the trunk and system speed dial numbers.

4. Press the **ON/OFF** key.

   The **ON/OFF** LED goes off.

Table 3-3.   Traffic measurement options

Operation	Code	Display
Check the number of outgoing calls made on an outside line	#90NN	"OutgoingNN"
Check the number of incoming calls to a specific trunk	#91NN	"Incoming NN"
Check the number of times a System Speed Dial number was used:	#92SS	"SYS-SPD SS"
Delete usage data:	#93	"Clear All Inform"
Notes:		
NN = CO line number (01-64); SS = System Speed Dial number (00-89 or 000-199)		

Considerations

- The Traffic Measurement feature can be accessed from any display phone.

- Usage data cannot be cleared item by item.

- All data is retained until it is deleted, until 65.536 entries are made (at which point the figures are reset to zero) or a RAMCLEAR is performed.

- A backup battery protects memory contents in case of power failure.

- The System Speed Dial traffic measurement only includes outside calls.

Walking COS Confirmation

(CPC-AII and CPC-B Version 3.1 or higher)

Description

The attendant can check the Walking TRS Class of Service ID code of any extension.

For information on Walking TRS Class of Service, see "Walking TRS Class of Service" on page 2-69.

Operation

1. Press ON/OFF.

2. Press.CONF.

3. Dial #12 plus the extension number.

    The Walking Class of Service ID code appears on the display.

Chapter 4. Key Telephone Features

This chapter describes DBS key telephone features. DBS key telephones are proprietary digital phones that provide feature access through a combination of feature keys and access codes.

This chapter covers the following topics:

Key Phone

As an example of a key phone, Figure 4-l illustrates the DBS key phone model VB-43225. The VB-43225 provides a large display that includes one-touch access to speed dial numbers, telephone features, and help screens.

Figure 4-1. VB-43225 key phone
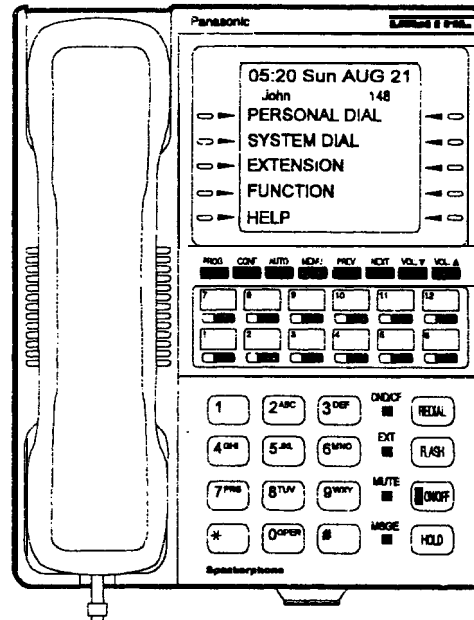
Absence Message

(All Versions!

Description

Extension users can leave text messages on their phones when they are away. When the unattended extension is dialed, the text message displays on the caller's phone. Any one of the following messages can be selected. Messages 5 to 9 can be changed through system programming.

Table 4-1. Absence Messages

Message No.	Message Text	Message No.	Message Text
0	In Meeting	5	User Defined
1	At Lunch	6	User Defined
2	Out of Office	7	User Defined
3	Vacation	8	User Defined
4	Another Office	9	User Defined

Operation

To **set an Absence Message**

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Dial "7 1."

   "Enter Msg Code" appears on the display.

3. Enter a message code between 0 and 9 (See Table 4-l).

   "Enter Parameter" appears on the display.

4. Enter the time you will return (optional). See Table 4-2 for examples.

5. Press the ON/OFF key.

   - The DND/CF LED lights.

   - "At Lunch" appears on the display if you selected message code 1.

To cancel an Absence Message

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Dial "71."

   "Enter Msg Code" appears on the display.

3. Press the ON/OFF key.

   - The ON/OFF LED goes off.

   - The DND/CF LED goes off, and the message disappears from the display.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

- FF6 (Names and Messages): Absence Messages

Considerations

- Calling parties without a display get a busy signal, rather than the Absence Message.

- If a message code nurnber that has not been programmed is selected, "Absence," followed by the code number, appears on the display.

- Absence Message return times can be input as shown in the following table:

Table 4-2.   Example Return Times for Absence Messages

Input	Display
No input	Return
9	Return 9:00
11	Return 11:00
615	Return 6:15
1035	Return 10:35

Four-digit numbers can also be input (0000-9999 = Hours & Minutes or Month & Date).

- When an Absence Message is set on a DID extension, incoming DID calls are routed according to the ringing assignment programmed for the incoming trunk.

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

Beginning with Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls: Intercom calls receive busy tone; trunk calls are routed to the extension defined in permanent call forwarding.

The following types of trunk calls follow permanent call forward settings:

- Direct trunk calls (including DID/DNIS)

- Transferred trunk calls.

- Callback to an incoming CO call on a Private Line is available if the Absence Message feature is activated.

Auto Redial

(CPC-AII and CPC-B Version 7.0 or higher)

Description

If the Redial key is pressed when the extension is idle or receiving dial tone, the last intercom or outside number is automatically redialed.

Related Programming

. FF3 (System): Auto-Redial on Extensions

Barge-In for Direct Lines
`(CPC-AII and CPC-B Version 5.0 and higher)

Description

Barge-in for Direct Lines allows users to break into a busy Direct Line (DL) and create a three-party conference.

A direct line is a call appearance used to originate and receive calls over a specific trunk number.

Operation

To barge into a busy Direct fine, press the lit DL key. (The DL key will be lit red.)

Related Programming

Barge-in for Direct Lines is controlled by the program settings for Busy Override. For instance, if an extension with a DL key does not want theDL broken into, that extension must have "Busy Override Receive" turned off.

Considerations

Paging Groups, Both extensions must belong to the same paging group (1-7). Paging group 0 does not allow override.

Override Restrictions. Barge-in for Direct Lines cannot override a DL under the following conditions:

. When the DL is in a conference call

. When the DL is holding a call.

- When the phone that will be barged into is holding a trunk that does not appear on an FF key. For example, if extension 200 wants to barge into a DL that appears on extension 201, extension 200 cannot barge into the DL if 201 is holding a trunk that does not appear on an FF key.

Busy Override
(All Versions)

Description

Extensions in the same Paging Group (1-7) can break into one another's outside calls or intercom calls to relay urgent information or to create three-party conference cal Is.

Operation

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial the extension number.

3. When you hear busy tone, dial "4."

   - An alert tone sounds to both phones (system programming required).

   - The EXT LED lights.

Related Programming

- FF1 (System): Alert Tone for Busy Override and OHVA

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 3.1 or higher)

- FF3 (Extension): Busy Override Send

- FF3 (Extension): Busy Override Receive

- FF3 (Extension): Extension Page Group

Considerations

- You cannot break in on three-party conference calls.

- In CPC-A and CPC-B Versions 2.0 or lower, an Attendant Phone can break into any call, independent of system programming.

  Beginning with CPC-B Version 2.0, attendants can be prevented from using busy override.

- The default for the override alert tone is "off." If the override alert tone is enabled, the tone will be sent to both parties when a call is overridden.

- In CPC-A and CPC-B Versions prior to 3.1, overridden extensions display "CONF" when an override is performed. Beginning with CPC-B Version 3.1, "Overridden" does not appear on the display of an extension that has been broken into.

Call Coverage Groups
(All Versions)

Description

Call coverage is designed for office workers who almost always want their unanswered calls to be routed to the same secretary or secretaries.

If an extension in a Call Coverage Group is unable to receive a call, the call is automatically routed to a designated phone within the group (the "covering" phone).

Up to two extensions can be designated as covering phones.

For example, if an outside call on line 1 is sent to extension 135, but extension 135 is busy or does not answer, the call will ring at the covering phone and "TRK #01> 135" will appear on the covering phone's display.

If two extensions are designated as covering phones and one of them is in DND, the second will receive the call.

Call coverage assignments are controlled through system programming, rather than from individual extensions.

For extension-controlled routing of unanswered calls, see "Call Forwarding" on page 4- 10.

Related Programming

- FF3 (Extension): Offhook Signal

- FF4 (Ringing and Hunt Groups): Call Coverage Group Member Table

Considerations

- Up to sixteen Call Coverage Groups can be programmed into your system. A Call Coverage Group can have up to two covering phones and up to six extensions.

- A member of one Call Coverage Group cannot belong to another Call Coverage Group or to a Hunting Group.

- A Single-line telephone (SLT) or Digital Single Line telephone (DSLT) can be a member of a coverage group, but cannot be a covering phone.

- Calls to an extension in DND do not cover.

- Calls to an extension with Call Forwarding activated do not cover.

- If the Call Forwarding feature or the Absence Message feature is activated for covering phone No. 1, covering phone No. 2 will "cover" the other extensions in the group.

- Voice intercom calls do not activate call coverage. Only tone intercom calls can activate call coverage.

Call Duration Display

(All Versions)

Description

The length of a conversation on a CO line usually appears on display phones. The duration display shows the number of minutes and seconds the call has lasted.

The display does not begin right away; it begins either 16 or 30 seconds after the call begins, depending on how the DBS is programmed.

Related Programming

- FF1 (System): Call Duration Display

- FF1 (System): SMDR Display Start Timer for CO Calls

Call Forwarding

(All Versions)

Call Forwarding allows users to send their calls to another extension, to an outside line, or to voice mail. All versions of the DBS provide call forwarding; however, some call forwarding enhancements are not available with earlier versions. The following table shows the call forwarding features available with each release.

Table 4-3. DBS Call Forwarding features

Feature	Availability
Call Forwarding--All Calls	All versions
Cal l Forwarding--No Answer	CPC-AI1 and CPC-B Version 2.0 or higher
Call Forwarding--Busy	All versions
Call Forwarding--Busy/No Answer	All versions
Call Forwarding--External	CPC-A, CPC-AII prior to 7.0 and CPC-B prior to 7.0. (Beginning with CPC-AII/CPC-B Version 7.0, all forwarding types (All Calls, No Answer, Busy, Busy/No Answer) allow call forwarding outside - eliminating the need for the special Call Forwarding - External type 7 2 3 .)
Permanent Call Forwarding	CPC-AI1 and CPC-B Version 3.1 or higher

Descriptions

Call Forwarding--All Calls. When the Call Forwarding--All Calls feature is activated, all incoming calls to an extension are immediately forwarded.

Call Forwarding--No Answer. When Call Forwarding--No Answer is activated, an unanswered call will ring until the Call Forward No Answer timer expires. When the timer expires, the unanswered call is forwarded.

Call Forwarding--Busy. When Call Forwarding--Busy is activated, all incoming calls to a busy extension will be forwarded.

Call Forwarding--Busy/No Answer. When Call Forwarding--Busy/No Answer feature is activated, all incoming calls to an extension that is busy or does not answer will be forwarded.

Call Forwarding--External *(CPC-A and CPC-AII and CPC-B Versions prior to* 7.0). When Call Forwarding-External is activated. all incoming intercom calls to an extension will be forwarded to an outside number. For calls to be forwarded to an outside number, the trunk access code and telephone number must first be entered as a system or personal speed dial number.

Any system speed dial number can be used to store an outside number for call forwarding. With CPC-A and CPC-B Versions prior to 2.0, only personal speed dial number 99 can be used. With CPC-AII and CPC-B Versions higher than 2.0, any of the personal speed dial numbers can be used.

Note: Beginning with CPC-AII and CPC-B Version 7.0, all call types can be forwarded outside eliminating the need for the Call Forwarding External option.The calls forwarded are not limited to internal calls but may include incoming outside calls.

Permanent Call Forwarding. Permanent call forwarding is assigned through system programming, rather than by the user. Permanent call forwarding is normally used to forward calls to a voice mail system.

An extension user can invoke other forms of call forwarding (no answer. busy, all calls) to temporarily override the permanent call forwarding destination.

Permanent call forwarding can be used with busy. no answer, or busy/no answer.

When Permanent Call Forwarding is assigned, the DSS and/or BLF keys are not lit green, the DND/CF LED is off, and the second line of LCD displays do not display the Call Forwarding assignment.

To activate Call Forwarding to another extension:

1. Press the **ON/OFF** key.

   - The phone issues intercom dial tone.

   - The **ON/OFF** LED lights.

2. Dial "72."

   "ENTER FWD CODE" appears on the display.

3. Dial the appropriate call forwarding code

Call Forward Type	Code
All	0
Busy/no answer	1
Busy	2
N0 answer	4

"ENTER FWD EXT#" appears on the display.

4. Enter the number of the extension you want to receive your calls.

5. Press the **ON/OFF** key.

- The **DND/CF** LED lights.

- "FWD-EXT 135" appears on the 2nd line of the display if extension 135 is selected. If a name is assigned to the extension, the name appears instead of the extension number.

To activate Call Forwarding-External (prior to Version 7.0):

Note: To forward to an outside number, the trunk selection and forwarding number must first be programmed into personal or system speed dialing. With CPC-A or CPC-B Versions prior to 2.0, you can only forward to an outside number that is programmed into personal speed dial number 99. With CPC-AI1 and CPC-B 2.0 or higher, you can forward to any speed dial number (system or personal). See "Speed Dialing" on page 4-87 for more infonnation on programming personal speed dial numbers.

1. Press the **ON/OFF** key.

- The phone issues intercom dial tone.

- The **ON/OFF** LED lights.

2. Dial "72."

"ENTER FWD CODE" appears on the display.

3. Dial 723.

"ENTER FWD EXT#" appears on the display.

4. Press **AUTO** plus the appropriate speed dial number.

5. Press the **ON/OFF** key.

- The **DND/CF** LED lights.

- "F'WD OUTSIDE" appears on the 2nd line of the display .

To activate Call Forwarding to an outside number (CPC-AII/CPC-B Version 7.0 or higher):

Note: To forward to an outside number, the trunk selection and forwarding number must first be programmed into personal or system speed dialing. You can forward to any speed dial bin number (system or personal). See "Speed Dialing" on page 4-87 for more information on programming personal speed dial numbers.

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. **Dial "72."**

   "ENTER **FWD** CODE" appears on the display.

3. Dial the appropriate call forwarding code.

Call Forward Type	Code
All	0
Busy/no answer	1
Busy	2
No answer	4

   "ENTER FWD **EXT#**" appears on the display.

4. Press AUTO plus the appropriate speed dial number.

5. Press the ON/OFF key.

   - The **DND/CF** LED lights.

   - **"FWD** OS AXXX" appears on the 2nd line of the display where XXX is the Speed Dial bin number.

To cancel Call Forwarding

1. Press ON/OFF.

2. **Dial "72."**

3. Hang up.

Related Programming

- **FF1** (System): Call Forward No Answer Timer (**CPC-AII** and CPC-B Version 3.1 or higher)

- **FF1** (System): Extension Class of Service Setting (**CPC-AII** and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (**CPC-AII** and CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Type (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Extension (**CPC-AII** and **CPC-B** Version 3.1 or higher)

- **FF10** (Speed Dial): System Speed Dial Numbers

- **FF10** (Speed Dial): Personal Speed Dial Numbers

Considerations

- With CPC-A and CPC-B Versions prior to 2.0, calls cannot be forwarded to an extension that already has call forwarding activated. In other words, phone "A" can only forward to phone "B" if phone "B" is not forwarded.

  Beginning with CPC-B Version 2.0, calls can be forwarded to extensions that have call forwarding activated. For example, phone "A" can be forwarded to phone "B," even if phone "B" is forwarded to voice mail.

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

  Beginning with Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls: Intercom calls receive busy tone; trunk calls are routed to the extension defined in permanent call forwarding.

  The following types of incoming trunk calls follow permanent call forward settings:

  - Direct trunk calls (including DID/DNIS)

  - Transferred trunk calls.

- Voice calls do not forward when Call Forwarding--No Answer is used.

. If several calls arrive at once at an extension set for Call Forwarding-No Answer, all of the calls will be queued. (The timing for each call begins with the ringing tone.)

- Extensions for which Call Forwarding-External has been set **cannot:**

- Be in the middle of an outside call when the feature is activated.

- Have a toll restriction setting that prohibits outside calls.

- Calls can be forwarded to a third-party voice mail using the 'Call Forward ID Code" described on page 2- 13.

- Beginning with CPC-AII and CPC-B Version 7.0, all call forwarding types (All Calls, Busy/No Answer, Busy, and No Answer) can be forwarded outside using speed dials. However, if Least Cost Routing is activated, dial "9" trunks cannot be used. Select another trunk group instead (81-86). See "Speed Dialing" on page 4-87 for more information on programming speed dial numbers.

- if Forced Least Cost Routing is activated, trunk groups 8 1-86 are not available.

- Calls cannot be forwarded to an extension in DND.

Call Hold

(All Versions)

The DBS provides both Exclusive and System Hold.

Exclusive Hold

Description

With Exclusive Hold, only the extension that held the call can retrieve it.

Exclusive Hold can be used to hold CO calls and intercom calls.

Operation

To place a call on Exclusive Hold:

Press the line key being used for the call.

The line LED flashes green. and the phone issues intercom dial tone.

"Hold TRK #XX" (where "XX" is the outside line number) appears on the display.

To retrieve a call from Exclusive Hold:

Press the line key on which the call is held.

The line LED stops flashing and remains green.

"CO TALK TRK #XX" (where "XX" is the outside line number) appears on the display if the call held on the line was released.

Related Programming

- FF1 (System): Recall Timer for Attendant-Held CO Calls

- FF1 (System): Recall Timer for Attendant-Held Intercom Calls

- FF1 (System): Recall Tier for Extension-Held CO Calls

. FF1 (System): Recall Timer for Extension-Held Intercom Calls

- FF1 (System): Trunk Line Automatic Hold (Key Bank Hold)

- **FF1** (System): Non-Appearing Central Office Line Hold

Considerations

- When using an outside line for which there is no line key on your extension, press the HOLD key to place the call on hold, and then press a vacant line key. Release the held call by pressing HOLD again. (System programming determines whether the call will be placed on Exclusive Trunk Hold or System Trunk Hold.)

- A held call will recall if it is not retrieved before the Hold Recall Timer expires. "Hold Recall #XX" (where "XX" is the outside line number) appears on the display if a call has been held beyond the time limit.

- If you press the HOLD key during a conference with two outside lines, both outside lines will be placed on hold.

- If your system is set for **onhook** transfer and you have placed an outside call on hold, and you then make an Intercom Call, make sure the other extension hangs up before you do. If you hang up before the other extension, *the held outside line will be transferred to that extension.* (Pressing FLASH releases the extension.)

- The DBS can provide music-on-hold to callers placed on hold. See "Music-On-Hold" (page 2-34) for more information.

System Hold

Description

Using System Hold, you can place either an outside call or an Intercom Call on hold.

A call placed on System Hold can be retrieved from any extension.

Operation

To place a call on System Hold:

Press the HOLD key.

- The line LED being used for the call flashes green.

- The phone issues intercom dial tone.

. "Hold TRK #XX" (where "XX" is the outside line number) appears on the
display.

To release a call placed on System Hold from the extension that placed it there:

Press the line key that is flashing green.

. The line LED stops flashing and remains lit.

. "CO TALK #XX" (where "XX" is the outside line number) appears on the
display.

To release a call placed on System Trunk Hold from a different extension:

Press the line key that is flashing red.

. The line LED turns green and stops flashing.

. "CO TALK TRK #XX" (where "XX" is the outside line number) appears
on the display.

Related Programming

. FF1 (System): Recall Timer for Attendant-Held CO Calls

. FFI (System): Recall Timer for Attendant-Held Intercom Calls

. FF1 (System): Recall Timer for Extension-Held CO Calls

. FF1 (System): Recall Timer for Extension-Held Intercom Calls

. FF1 (System): Trunk Line Automatic Hold

. FF1 (System): Non-Appearing Central Office Line Hold

Considerations

. When using an outside line for which there is no line key on your
extension, press the HOLD key to place the call on hold and then press a
vacant line key. Release the held call by pressing HOLD again. (System
programming determines whether the call will be placed on Exclusive
Trunk Hold or System Trunk Hold.)

- If the Automatic Outside Line Hold feature is programmed for your system, pressing any other line key will place your original call on System Hold.

- A held call will recall if it is not retrieved before the Hold Recall Timer expires. "Hold Recall #XX" (where "XX" is the outside line number) appears on the display if a call has been held beyond the time limit.

- If you press the HOLD key during a conference with two outside lines. both outside lines will be placed on hold.

- If your system is set to onhook transfer and you have placed an outside call on hold, and you then make an Intercom Call, make sure the other extension presses the FLASH key or hangs up before you do. If you hang up before the other extension, *the held outside line will be transferred to that extension.*

- If there is no response to the Hold Recall, the tone is issued at the Attendant Phone (extension 100 or 10). However, no tone is issued at the Attendant Phone if Night Mode is activated or if the call is on a Private Line.

- An error tone is issued if you attempt to place more than one intercom call on hold at the same time.

- The DBS can provide Music-on-Hold to callers placed on hold. See "Music-On-Hold" (page 2-34) for more information.

Call Park

(All Versions)

Description

You can use the Call Park function to transfer a call, even if you cannot locate the intended recipient of the call. Simply park the call, and then page the person you want to transfer to. That person can answer the call from any extension by dialing the Call Park Retrieve Code (76) followed by the number of the extension that parked the call.

Operation

To park a call:

1. Press the HOLD key.

2. Dial "75."

   "Park Hold" appears on the display.

3. If needed, make a page such as "Mr. Jones, please pickup a call parked at 76XXX" where XXX is the extension number where the call is parked.

To retrieve a parked call:

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial "76."

3. Dial the number of the extension that parked the call.

   "CO TALK TRK #XX" (where "XX" is the line number) appears on the display.

To retrieve a call parked by the attendant (after receiving the park number from the attendant):

1. Pick up the handset.

   The phone issues intercom dial toned.

2. Dial "76."

3. Enter the Park Number assigned to the call.

    "PARK PICK XX" (where "XX" is the park number) appears, and then
    "CO TALK #XX" (where "XX" is the trunk number of the call) appears.

Related Programming

- FF1 (System): Attendant Park Hold Recall Timer

- FF1 (System): Extension Park Hold Recall Timer

Considerations

- An alarm tone is issued if a parked call is not released before the Recall
  Timer expires (determined by system programming). If this happens, the
  user that parked the call can retrieve it by simply picking up the handset. If
  no one retrieves the call after the Recall Timer expires, a second alarm will
  sound at an attendant phone(s).

- You cannot park more than one outside line at a time.

- The Attendant Phone cannot use this feature. The Attendant must use the
  Attendant Call Park feature.

- The Call Park Recall Timer is similar to the Recall Timer, except that when
  the Call Park Recall Timer is set for "0" a call is recalled automatically in
  three minutes.

- You can store "75" on an FF key and use it as a Call Park key. After
  placing an outside call on hold, press the Call Park key to park the call. The
  Call Park LED will light while the call is parked and then go off when the
  call is released.

Call Pickup
(All Versions)

The DBS provides both directed and group call pickup.

Direct Call Pickup

Description

A call to any extension can be answered from another extension using the
Direct Call Pickup feature. The Direct Call Pickup feature can be
programmed into a One-Touch key.

Operation

1. Pick up the handset.

    The phone issues intercom dial tone.

2. Dial "79."

3. Enter the number of the ringing extension.

    - The extension number or the outside line number of the caller appears on the display.

    - The EXT LED lights on the MCO or ML key.

4. Complete the call and replace the handset.

    The **EXT** LED goes off.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AI1 and CPC-B 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 3.1 or higher)

Considerations

- If more than one caller is attempting to reach the ringing extension, the Direct Call Pickup feature answers the call that arrives first.

  Once the call has been picked up, other extensions that attempt to pick up the call receive. busy tone.

- You can answer incoming calls, intercom calls (both tone and voice), call waiting, paging, transferred calls, or recalls using the Direct Call Pickup feature. You cannot answer alarm incoming calls or callbacks with this feature.

Group Call Pickup

Description

Using the Group Call Pickup feature, you can answer calls to other extensions in your Paging Group without entering the number of the ringing extension. Group Call Pickup can also be programmed into an FF key.

Operation

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial "70."

   • The extension number or the outside line number of the caller appears on the display.

   • The EXT LED lights.

3. Complete the call and replace the handset.

   The EXT LED goes off.

Rela ted Programming

• FFI (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

• FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 3.1 or higher)

• FF3 (Extension): Extension Page-Group

• FF5 (FF Keys): FF Key Assignments for Extensions

Considerations

• If more than one call is arriving at the Paging Group, the Group Call Pickup feature will answer the call to the lowest port number first.

• If the called extension belongs to more than one Paging Group, the Group Call Pickup Feature will answer the call to the lowest numbered Paging Group first.

. You can answer incoming calls, Intercom Tone Calling, or Intercom Voice Calling using the Group Call Pickup feature. You cannot answer Paging or Callback with this feature.

Call Transfer
(All Versions)

The DBS provides two call transfer methods: blind transfer and screened transfer.

Blind Transfer

Description

Blind transfer allows the transfer of a call directly to an extension, without waiting for the called extension to answer.

Operation

1. Press the HOLD key to place the outside call on hold.

   . The line LED for the outside line on hold flashes green.

   . The phone issues intercom dial tone.

   . "Hold #XX" (where "XX" is the line number) appears on the display.

2. Dial the extension number to which the call is to be transferred.

   "Cal1-EXT XXX" (where "XXX" is the extension number) appears on the display.

3. Replace the handset before the other party answers.

   . You can also replace the handset after the third party answers.

   . The LED for the original outside line turns red when the call has been transferred.

   . "Transf XXX #YY" (where "XXX" is the extension and "YY" is the line) appear on the display.

   . The third party need only pick up the handset to speak to the outside line.

Related Programming

- FF1 (System): Onhook (Automatic) Transfer

- FF1 (System): Recall Timer for Extension-Transferred CO Calls

- FF1 (System): Recall Timer for Extension-Transferred Intercom Calls

- FF1 (System): Recall Timer for Attendant-Transferred CO Calls

- FF1 (System): Recall Timer for Attendant-Transferred Intercom Calls

Considerations

- For users to transfer calls by pressing HOLD, dialing the extension, and going onhook, the Onhook Transfer feature must be enabled in system programming.

- If Onhook Transfer is disabled, blind transfer is performed by pressing HOLD, dialing the extension number, pressing PROG, and then going · onhook.

- If Onhook Transfer is enabled, users can transfer calls by pressing PROG before going onhook.

- The Attendant can transfer calls while the handset is still in place, even if the system is not set for Onhook Transfer.

- You cannot transfer a call to an extension that has Do Not Disturb or Absence Message activated.

- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to.

  For example, if extension "A" is forwarded to extension "B," calls that are transferred to extension "A" will be forwarded to extension "B."

- When you transfer a call to an extension that is busy or does not answer and does not have Call Forwarding activated, the transfer will recall to your extension after the Transfer Recall Timer expires. The other extension's number and the number of the transferred CO line or extension will appear on your display.

  (For example, if you transfer an outside call on line 1 to extension 135 and that extension does not answer, the call will return to your extension and "Recall 135 #01" will appear on the display.)

Screened Transfer

Description

Using the Screened Transfer feature, you can contact a third party and announce the call before the transfer.

Operation

To use Screened Transfer when your system is set for Onhook Transfer:

1. Press the HOLD key to place the call on hold.

   - The line LED for the outside line on hold flashes green.

   - The phone issues intercom dial tone.

   - "Hold TRK #XX" (where "XX" is the line number) appears on the display.

2. Dial the extension number to which the call is to be transferred.

3. When your call is answered, inform the third party of the transfer.

   - The EXT LED stops flashing and remains lit.

   - "Talk-EXT XXX" (where "XXX" is the extension) appears on the display.

4. Hang up the handset.

   - The line LED for the original outside line turns red.

   - The third party need only pick up the handset to speak to the outside line.

To use Screened Transfer when Onhook Transfer is disabled:

1. Press the HOLD key to place the outside call on hold.

   - The line LED for the outside line on hold flashes green.

   - The phone issues intercom dial tone.

   - "Hold TRK #XX" (where "XX" is the line number) appears on the display.

2. Dial the extension number to which the call is to be transferred.

3. When your call is answered, inform the third party of the transfer.

    - The EXT LED stops flashing and remains lit.

    - "Talk-EXT XXX" (where "XXX" is the extension) appears on the
      display.

4. Press the PROG key.

    - The line LED for the original outside line turns red.

    - "TRF XXX TRK #YY" (where "XXX" is the extension and "YY" is
      the line) appears on the display.

    - The third party need only pick up the handset to speak to the outside
      line.

5. Hang up to complete the transfer.

Related Programming

- FFl (System): Onhook (Automatic) Transfer

- FF1 (System): Recall Timer for Extension-Transferred CO Calls

. FF1 (System): Recall Timer for Extension-Transferred Intercom Calls

- FFl (System): Recall Timer for Attendant-Transferred CO Calls

- FF1 (System): Recall Timer for Attendant-Transferred Intercom Calls

Considerations

- The Attendant can transfer calls while the handset is still in place, even if
  the system is not set for Onhook Transfer.

- You cannot transfer a call to an extension that has Do Not Disturb or
  Absence Message activated.

- You can transfer a call to an extension that has Call Forwarding activated.
  The transferred call will follow the call forwarding path of the extension it
  is transferred to.

  For example, if phone "A" is covered to phone "B," calls that are
  transferred to phone "A" will be forwarded to phone "B."

- When you transfer a call to an extension that is busy or does not answer
  and does not have Call Forwarding activated, a call tone is issued at your

extension after Transfer Recall Timer expires. The other extension's number and the number of the transferred CO line or extension then appear on your display and the call is returned to your extension.

(For example, if you transfer an outside call on line 1 to extension 135 and that extension is busy or does not answer, the call will return to your extension and "Recall 135 #01" will appear on the display.)

Call Waiting

(All Versions)

Description

You can send a Call Waiting signal, followed by a brief LED message, to a busy extension. The party receiving the message need only replace the handset and then pick it up again to be automatically connected to the message sender's extension.

The following messages can be sent using the Call Waiting feature:

Table 4-4.   Call Waiting Text Messages

Message Code	Message
5 .	"Visitor Here"
6	"Need Help"
7	"Important"
8	'Urgent"
9	"Emergency"

Message codes O-4 are not available.

With CPC-AII and CPC-B Version 4.0 or higher, users can also respond to call waiting by sending a text message. See "Call Waiting/OHVA Text Reply" on page 4-3 1.

Operation

To set Call Waiting:

1. Press the ON/OFF key.

2. Dial the extension number.

   The phone issues busy tone.

3. Press "3."

   • The EXT LED flashes.

   • "Call Wait XXX" (where "XXX" is the extension) appears on the
     display.

4. If you want to send a text message, dial the desired message code (5-9).

   The corresponding message displays on the called party's phone. (If the
   called party does not have a display, the party continues to hear a call
   waiting signal.)

5. Remain on the line until the called party picks up.

To answer Call Waiting:

1. The EXT LED flashes, indicating Call Waiting has been sent.

   "Call Wait XXX" (where "XXX" is the extension number) appears on the
   display.

2. Replace the handset.

   • The current call is disconnected.

   • "Call Wait-XXX" appears on the display.

3. Pick up the handset.

   • You are automatically connected to the extension sending the Call
     Waiting.

   • "Talk-EXT XXX" appears on the display.

   Note: To answer a call waiting tone, you may flash the switchhook rather
   than hang up. If you flash the switchhook, you are immediately connected
   to the waiting party; the other party is dropped.

To answer Call Waiting using the Talk Back key:

A "Talk Back" key (*3) can be assigned to an FF key. The Talk Back key
allows you to answer a waiting call without disconnecting the original call.

1. The LED of the Talk Back key flashes red, indicating Call Waiting has
   been sent.

2. Press the Talk Back key to answer Call Waiting.

· **The LED** of the Talk Back key flashes green.

· The current call is held automatically.

3. Press the Talk Back key again to return to the original call.

The LED of the Talk Back key goes off when the Call Waiting party hangs up.

Related Programming

· FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

· FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

· FF3 (Extension): Call Waiting/OHVA

· FF5 (FF Key Settings): FF Key Assignments for Extensions

Considerations

· Message code 8 cannot be used from an SLT. (The digit "8" is used to transfer calls on SLTs.)

· Call Waiting can be used without the user entering a message code.

· Call Waiting is cancelled when the sender replaces the handset.

· If the called extension has DND activated, has a call on hold, is ringing (from another call), or is engaged in a conference call, Call Waiting cannot be sent.

· A call on an outside line can be placed on hold before Call Waiting is answered to avoid terminating the original call. An Intercom Call, however, must be terminated before Call Waiting can be answered.

· If Onhook Call Transfer has been enabled and you have placed an outside line on hold to answer Call Waiting, replace the handset after the other extension hangs up. If the caller hangs up first, *the held call will be transferred to the called extension.*

· Call Waiting cannot be sent to an ML key.

Call Waiting/OHVA Text Reply

(CPC-AII and CPC-B Version 4.0 or higher)

Description

When a busy party receives an indication of incoming intercom call, the busy party can respond by sending a text message back to the caller.

The text message can be sent after any of these intercom call indications:

. Call waiting tone

. Call waiting tone followed by a text message

. An offhook voice announce.

Operation

When you are on a call and receive an indication of a incoming intercom call, press CONF and then dial 1-5.

The following table shows the default text associated with messages 1-S.

Message Number	Message Definition
1	Take A Message
2	Please Hold
3	Will Call Back
4	Transfer
5	Unavailable

Messages l-5 can be changed through system programming.

Programming

. FF6 (Names and Messages): Call Waiting/OHVA Text Reply

Considerations

. Text messages l-5 can be changed from an attendant phone or a DSS/72.

Caller ID Call Log

(CPC-AII Version 6.1 or higher and CPC-B Version 6.1 or higher)

Description

The Call Log keeps a record of Caller ID calls to individual phones. The Call Log allows users to view Caller ID calls that have been sent to their phone.

Users can assign an FF key (*6) to flash when there are new entries in the log. When the user presses the key to access the log, the LED turns off.

Call Logs can be assigned to both attendant and non-attendant extensions.

Operation

The Call Log keeps a record of Caller ID calls to individual phones. The Call Log allows users to view Caller ID calls that have been sent to their phone.

Users can assign an FF key to flash when there are new entries in the log. When the user presses the key to access the log, the LED turns off.

Call Logs can be assigned to both attendant and non-attendant extensions. The following table shows maximums for the number of entries that can be stored for each type of extension. The table also shows the total number of entries that can be stored system wide.

Table 4-5.   Call log tnaximums

Call Log Maximums	Maximum
Maximum number of attendant extensions	4
Maximum number of non-attendant extensions	15
Maximum number of all types of extensions	19
Number of log entries that can be stored for an attendant extension. (After the call log fills with 25 entries, each additional entry overwrites the oldest log entry.)	25
Number of log entries that can be stored for a non-attendant extension. (After the call log fills with 10 entries, each additional entry overwrites the oldest log entry.)	10
Number of log entries that can be stored system wide	250

Types of Calls Included

The call log stores information for Caller ID calls that ring a phone. If the phone does not ring (for instance when Call Forward - All Calls is active), there is no entry in the Call Log for that call.

Call Log Information

Each Call Log entry includes the following call information:

- Calling number

- Calling name (if provided)

- Time and date

- Whether the call was answered

- How the call was routed.

Call Log Format

The most recent entries are stored first in the Call Log. When users view the log by pressing the **Call** Log Key, they can select a specific entry by pressing tlie * key for the previous entry or the # key for the next entry.

Log Format for the Small-Display Phone.

In addition to viewing the calling number information by pressing the Call Log Key, users can view the detailed information on each entry by pressing the CONF key.

For example, when a Call Log entry is first displayed by pressing the **Call** Log Key, the following information is shown.

Figure 4-2. Call log format for the small-display phone--calling number and name

First Level
of Call Log
Information

    404-555-1212 ◄◄ Calling numbr
    B i l l   S m i t h ◄ Calling name
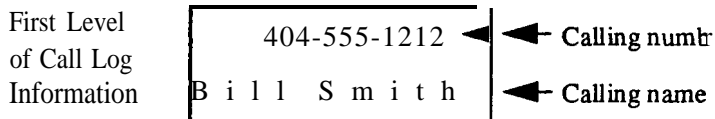
Pressing the CONF key displays the next level of information:

Figure 4-3. Call log format for the small-display phone--time and date

Second Level
of Call Log
Information

```
10:30 WED JUNE 2222
404-555-1212
```

◄— Time, ay and date

◄— Calling number
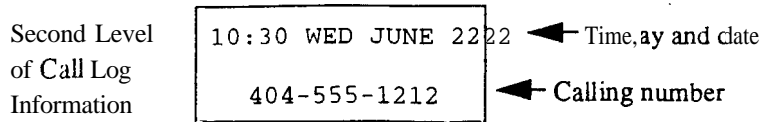
Pressing the CONF key again displays the next level of information.

Figure 4-4. Call log format for small-display phone--answer information

Third Level
of Call Log
Information

```
ANS-J. Jones 103
404-555-1212
```

◄— Whether the call was answered

◄— Calling Number
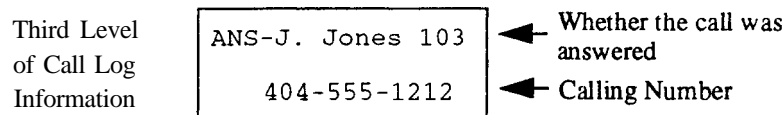
Pressing the CONF key again displays this information.

Figure 4-5. Call log formatfor small-display phone--routing information

Fourrh Level
of Call Log
Information

```
DIRECT
404-555-1212
```

◄— How the call was routed

◄— Calling number
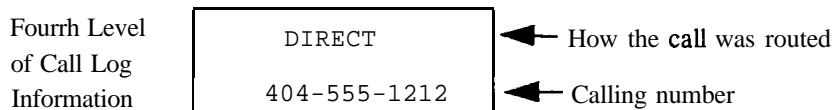
Pressing the CONF key again returns the display to the first level of call log information.

Other call log entries can be viewed by pressing the * key for the previous entry or the #key for the next entry. A "<" appears beside the oldest entry in the log.

Exit the Call Log display by pressing the ON/OFF key.

Log Format for the Large-Display Phone.

Large-display phone users can view all four levels of the Call Log on one screen.

For example, when the large-display phone user presses the Call Log Key, the following display appears:

Figure 4-6. Call log formatfor the large-display phone-calling number

404-555-0001	◄— Number of last entry viewed through top display
ABC COMPANY	◄— Name of last entry viewed through top display
404-555-0001	◄— Number of selected entry
404-555-8888	◄— Number of second log entry
404-555-9999	◄— Number of third log entry
404-555-7777	◄— Number of fourth log entry
404-555-6666	◄— Number of fifth log entry

A "<" may appear to the right side of one of the entries. This indicates the oldest entry in the log.

By pressing the soft key next to the desired entry, the user can view the details of a particular call.

Figure 4-7. Call Log format for the large-display phone--detailed call information

404-555-0001.	◄— Number of last entry viewed through top display
ABC COMPANY	◄— Name of last entry viewed through top display
404-555-0001	◄— Number
ABC COMPANY	◄— Name
12:38 WED MAY 28	◄— Time. day and date
ANSWER	◄— Whether the call was answered
C FWD 130	◄— How the call was routed

Press any soft key to return to the calling number listing format as shown in Figure l-6.

Other Call Log entries can be viewed by pressing the * key for the previous log entry or the #key for the next log entry. If these keys are pressed while

viewing detailed information, the detailed information is displayed for the newly selected log entry.

Exit the Call Log display by pressing the ON/OFF key.

Considerations

- Caller ID feature must be installed and enabled. (See "Caller ID" on page 2-14 for more information.)

- To have Caller ID Call log indications, an FF key must be assigned as a Call Log Indication Key (*6).

Camp-on
(All Versions)

Description

If you reach a busy extension the Camp-on feature will alert you with a ring when the extension becomes. free. You will then be able to pick up your handset to automatically dial the extension.

Operation

To activate the Camp-on feature:

1. Pick up the handset.

2. Dial the desired extension number.

   If the extension is busy, your phone issues busy tone.

3. Press "3."

   - The phone issues ringback tone.

   - If the Camp-on feature cannot be set, the phone continues to issue busy tone.

4. Replace the handset after you hear the ringback tone.

5. Wait for the extension callback ring.

To answer the callback ring:

1. Pick up the handset when you hear the callback ring.

   - "Camp-on Call" appears on the display.

   - The **EXT** LED flashes.

   - The system automatically dials the called extension.

Related Programming

- FF3 (Extension): Call Waiting/OHVA

Considerations

- The callback ring must be answered within sixteen seconds or it will be canceled.

- A Camp-on request will only be accepted *after* Call Waiting status.

- An extension can only have one call camped on at a time. For example, if Extension 152 camps on to Extension 153, another extension cannot camp on to 153, as long as 152 is camped on.

- An extension that has initiated a camp-on cannot receive a camp-on. For instance, if Extension 200 has camped on to Extension 300, another extension cannot camp on to 200.

CO Line Key Trunk Access

(All Versions)

Description

You can access an outside line by pressing a CO line key.

Operation

1. Press an unlit line key.

   - The phone issues outside dial tone.

   - The line LED lights green.

   - "CO TALK ##XX" (where "XX" is the line) appears on the display.

2. Dial the telephone number.

    The dialed number appears on the display.

3. Complete the call and replace the handset.

    . The line LED changes from green to red and then goes off.

    . The time and date reappears on the display.

Related Programming

. FF1 (System): SMDR Display Start Timer for CO Calls

. FF5 (FF Keys): FF Key Assignments for Extensions

Considerations

. The duration of a call appears on the display while the call is in progress (if enabled in programming).

. In CPC-A and CPC-B Versions prior to 3.1, the SMDR Display Start Tier can be set to start 16 or 30 seconds after the last digit of the telephone number is dialed.

    In CPC-AII and CPC-B Version 3.01 or higher, the timer can be set to start at 5, 16, or 30 seconds.

Conference Calls
(All Versions)

Description

Conference Calls allow an extension user to add a party to an existing conversation.

Extension users can create the following types of Conference Calls:

. One outside line and two extensions

. Two outside lines and one extension

. One outside line and three extensions

. Two outside lines and two extensions

. Three extensions

. **Four** extensions.

Operation

To establish a Conference Call:

1. Press HOLD or the line key of your current call to place it on hold.

   The extension number, outside line number, or name of the party on hold appears on the display.

2. Press any unlit line key or dial the number of the extension you wish to add to the call.

   . The line LED lights green.

   . The phone issues outside dial tone.

   . "CO TALK #XX" (where "XX" is the line number) appears on the display.

3. If you pressed an unlit line key in step 2, dial the number of the party you wish to add to the call.

   The number appears on the display.

4. Press the CONF key when your call is answered.

   If you are now conducting a three-way Conference Call involving two outside lines, "CONF #XX **#YY**" (where "XX" is the first line and "**YY**" is the second line) appears. on the display.

5. Repeat steps l-4 to add a fourth party to a three-party Conference Call.

To add an extension to an outside call:

1. Press the HOLD key during the outside call.

2. Dial the additional party.

3. After the extension answers, press CONE

   The three parties can now speak to one another.

4. Repeat steps l-3 to add another extension to a three-party Conference Call.

To establish an Unsupervised Conference Call:

1. Press HOLD or the line key of your current call to place it on hold.

   The outside line number or name of the party on hold appears on the display.

2. Press an unlit line key .

   - The line LED lights green.

   - The phone issues outside dial tone.

   - "CO TALK #XX" (where "XX" is the line number) appears on the display.

3. Dial the number of the party you wish to add to the call.

   The number appears on the display.

4. Press the CONF key when your call is answered.

   "CONF #XX #YY" (where "XX" is the first line and "YY" is the second line) appears on the display.

5. To drop out of the conference and establish the Unsupervised Conference Call, press HOLD.

6. To return to the call, press one of the conference line keys.

- The SCC-A card provides 3 four-party conference circuits. The SCC-B provides 8 four-party conference circuits

- Press FLASH or hang up to exit a Conference Call.

- The Call Hold' feature cannot be used during a four-party Conference Call.

Related Programming

- FF1 (System): Unsupervised Conference Timer

- FF2 (Trunk): Unsupervised CO Conference

- FF3 (Extension): Unsupervised Conference

Delayed Ringing

(CPC-AII and CPC 2.0 and higher)

Description

Delayed ringing causes a call that is unanswered at a primary extension to ring at a secondary extension.

CO delayed ringing causes an incoming outside call to ring at a designated extension or extensions if it is not answered within a certain period of time. CO delayed ringing is also available for hunt group pilot numbers.

Extension delayed ringing causes any type of call, outside or intercom, to ring at a designated extension or extensions if it is not answered within a certain period of time. The phones receiving the delayed call must have a DSS/BLF key assigned to the extension originally intended to receive the call.

Considerations

- In CPC-B Versions prior to 3.1, timing for CO and extension delayed ringing was controlled by the Call Forward - No Answer Timer.

- In CPC-AII and CPC-B Versions 3.1 and higher, the following timers have been implemented:

- The Central Office Delayed Ring Timer controls delayed ringing for outside calls.

- The Extension Delayed Ring Timer controls delayed ringing for extension calls.

Dial "0" for Attendant

(All Versions)

Description

The Attendant can be called from any extension by simply pressing "0."

If multiple attendants are assigned, a dial "0" call goes to the first Attendant first. If the first attendant is busy, the call goes to the second Attendant. The call will continue to transfer to the next attendant in the attendant group if necessary.

With CPC-A and CPC-B Version 1 .O, a maximum of two attendants can be assigned. Beginning with CPC-B Version 2.0, up to four attendants can be assigned.

Operation

1. Pick up the handset or press ON/OFF.

   The phone issues intercom dial tone.

2. Press "0."

   - "Talk-EXT 100" appears on the display if your extension is set for Voice Calling.

   - "Call-EXT XXX" (where "XXX" is the extension) appears on the display if your extension is set for Tone Calling.

Related Programming

- FF1 (System): Second Attendant Position

- FFI (System): Third Attendant Position

- FF1 (System): Fourth Attendant Position

- FF1 (System): Attendant Transfer Extension

- FF6 (Names and Messages): Extension Name

Considerations

- If the Attendant's name has been stored it appears on the display instead of the extension number.

Dial Tone Disable

(All Versions)

Description

The intercom dial tone can be turned off at a phone. Dial tone is turned off when a headset is used.

Operation

To disable the intercom dial tone:

1. Press the **ON/OFF** key.

   - The phone issues intercom dial tone.

   - The **ON/OFF** LED lights.

2. Press "**#50.**"

3. Press the **ON/OFF** key.

   . The **ON/OFF** LED goes off.

To reactivate dial tone:

Repeat the preceding steps.

Do-Not-Disturb (DND)

(All Versions)

Description

An extension can be made unavailable by activating Do-Not-Disturb (DND).
When DND is activated at an extension, calls to that extension receive busy
tone.

Operation

To activate DND:

1. Press the ON/OFF key:

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights:

2. Dial "73."

    - The DND/CF LED lights.

    - "DND Set" appears on the display.

3. Press the ON/OFF key.

    The ON/OFF LED lights.

To cancel DND:

1. Press the ON/OFF key:

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Dial "73."

    - The DND/CF LED lights.

    - "DND Canceled" appears on the display.

3. Press the. ON/OFF key.

    The ON/OFF LED goes off.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 4.0 or higher)

Considerations

- Callback Queuing will ring an extension in DND.

- A Private Line will ring an extension in DND.

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

  Beginning with Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone; trunk calls are routed to the extension defined in permanent call forwarding.

  The following types of incoming trunk calls will follow permanent call forward   settings: .

- Direct trunk calls (including DID/DNIS)

- Transferred trunk calls.

- With CPC-A and CPC-B Version 1, DND is not available for Attendant Phones. Beginning with CPC-B Version 2.0, Attendant Phones can activate DND.

- The Attendant can activate or cancel this feature on an extension using FF key LEDs on a DSS console.

- The DND feature cannot be activated from an extension selected to receive call forwarding.

EM/24 Console

(All Versions)

Description

Connecting an EM/24 console to your extension adds twenty-four FF keys. By assigning extensions to its FF keys, you can use an EM/24 console as a BLF (Busy Lamp Field).

Related Programming

. FF3 (Extension): Terminal Type

. FF3 (Extension): EM/24 Port Assignment

Considerations

. An EM/24 console can be connected to any key phone.

Flexible Function (FF) Keys

(All Versions)

Description

You can assign frequently used functions to programmable keys on key phones, DSS consoles, and EM/24 consoles. All keys not already assigned as line or Speed Dialing keys are available for programming.

Up to six digits can be stored in an FF key. (The LED of the FF key will not light when digits are stored in the key.)

You can also store the PROG, CONF, AUTO, REDIAL (for redialing only, not for inserting a pause), and FLASH features.

Also, you can assign External Call Forwarding, combined with either a Personal Speed Dial code or a System Speed Dial code, to an FF key. You can also assign a pilot extension number as a Call Forwarding destination by storing Call Forwarding, combined with the pilot extension number (0, 10-69, or 100-699), in an FF key.

Note: FF keys assigned as CO lines must be cleared using system programming before new FF assignments can be made.

Operation

To **assign pre-programmed codes to an FF key:**

1. Press the ON/OFF key:

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the PROG key.

   "F" appears on the display.

3. Press the FF key to be programmed.

   "Enter Code" appears on the display.

4. Enter the code to be programmed (see Table 4-6).

   The programmed code appears on the display.

5. Press the HOLD key.

   "Code Stored" appears on the display.

6. Repeat steps 2-5 to program additional keys.

7. Press the ON/OFF key.

   The ON/OFF LED goes off.

To assign digits to an FF key:

1. Press the ON/OFF key.

2. Press the PROG key.

3. Press the FF key to be programmed.

   "Enter Code" appears on the display.

4. Enter up to six digits.

5. Press the HOLD key.

To **assign Call Forwarding--External to an FF key (CPC-All/CPC-B prior to 7.0):**

1. Press the **ON/OFF** key.

2. Press the **PROG** key.

3. Press the FF key to be programmed.

   "Enter Code" appears on the display.

4. Enter "72."

5. Press "3."

6. Press the **AUTO** key.

7. Enter the Speed Dial code (System Speed dial 00-89 or Personal Speed dial 90-99 or 900-909).

   Note: The speed dial code must include the **CONF** key (to indicate a trunk call), the appropriate trunk access code, and the outside number.

8. Press the **HOLD** key.

   Intercom Calls will now be forwarded. CO incoming calls and transferred CO calls will not be forwarded to an outside line.

To assign Call Forwarding--Outside to an FF key (CPC-All/CPC-B 7.0 and later):

1. Press the **ON/OFF** key.

2. Press the **PROG** key.

3. Press the FF key to be programmed.

   "Enter Code" appears on the display.

4. Enter "72."

5. Dial the appropriate call forwarding code.

Call Forward Type	Code
All	0
Busy/no answer	1
Busy	2
No answer	4

"ENTER FWD EXT#" appears on the display.

6. Press the AUTO key.

7. Enter the Speed Dial code (System Speed dial 00-89 or Personal Speed **dial 90-99 or 900-909).**

Note: The speed dial code must include the **CONF** key (to indicate a trunk call), the appropriate trunk access code, and the outside number.

8. Press the HOLD key.

Calls will now be forwarded according to the forwarding type selected.

To assign Call Forwarding to a Hunt Group pilot number or an extension number to an FF key:

1. Press the **ON/OFF** key.

2. Press the PROG key.   ·

3. Press the FF key to be programmed.

"Enter Code" appears on the display.

4. Enter "72."

5. Enter the Call Forwarding code (0, 1, 2, or 4).

6. Enter the Hunt Group pilot number or an extension number.

7. Press the HOLD key.

To erase a code stored in an FF key:

Note: *FF keys assigned as CO lines cannot be cleared using the following procedure. CO line keys can only be cleared through system programming.*

1. Press the **ON/OFF** key.

2. Press the PROG key.

3. Press the FF key to be programmed.

"Enter Code" appears on the display.

4. Press the HOLD key.

"Code Cleared" appears.

To **check a programmed FF key:**

1. Press the ON/OFF key:

    . The phone issues intercom dial tone.

    . The ON/OFF LED lights.

2. Press the CONF key.

    "C" appears in the display.

3. Press the FF key to be checked.

    The programmed data appears on the display.

4. Press the ON/OFF key.

    . The ON/OFF LED goes off.

    . The date and time appear on the display.

Related Programming

- FF5 (FF Keys): FF Key Assignments for Extensions

- FF9 (Copy Program): FF Key Copy

Considerations

- The following functions can be assigned to FF keys:

Table4-6. Feature access codes for FF key assignments

Feature	C&e **to** be entered
Call Attendant	0
Intercom Call	Extension number (10-69) or (100-699)
Outside Line	88, outside line number (01-64)
Pooled Trunk Access	Outside line group number (89, 8 1-86) Note: "9" can be used as an outside line group number if it is not used for LCR.
LCR	89
Paging	#, Paging Group number (00-07)
Call Park	75
Call Park Retrieve	76

Feature	Code to be entered
DND Activate/Cancel	73
Absence Message Activate/ Cancel	71
Call Forwarding	72, 720, 721, 722, 723 or 724
Reminder Call Activate/Cancel	#4
Station Lockout	74, lockout code (max. 4 digits)
Dial Tone On/Off	#50
Direct Call Pickup	79
Group Call Pickup	70
Account Code 1	#7, account code (max. 6 digits)
Account Code 2	AUTO, #, account code (max. 6 digits)
Speed Dialing	AUTO, speed dial number (00-99, 000- 199 or 900-909)
Night Service On/Off	#52 (Attendant only)
Intercom	#8
Message Clear	AUTO, FLASH
Message Call	AUTO, REDIAL
Headset On/Off	#51
BGM On/Off	#53
Answer Key	*1
Release Key	*2
Talk Back Key	*3
Paging Meet-Me Answer	77
Universal Night Answer Pickup	78
Save Number for Redial	AUTO, AUTO, *
Redial Saved Number	AUTO, *
MUTE Key	*#
FLASH key	FLASH
Caller ID Log Key	*6

Feature	Code to be entered
Voice Mail Transfer Key (CPC-AII and CPC-B Version 6.0 or higher)	CONF, AUTO AUTO, NNN XXX or AUTO Speed Dial Voice mail pilot number Password (optional) Note: If a password is used, it can be from 1 to 3 digits. If the password is over 3 digits, it must be assigned to a personal or system speed dial number. Include an ending # sign in the speed dial number if you are accessing a DBS voice mail system.
One-Touch VM Access (CPC-AH and CPC-B Version 5.0 or higher)	AUTO NNN XXX or AUTO Speed Dial# Voice mail pilot number Password (optional) **Note:** If a password is used, it can be from 1 to 3 digits. If the password is over 3 digits, it must be assigned to a personal or system speed dial number. Include an ending # sign in the speed dial number if you are accessing a DBS voice mail system.

. If a new code is programmed into a key, the previously programmed code is erased.

. To erase a code programmed into a key, press **the HOLD** key when the display reads "Enter Code." "Code Cleared" then appears on the display.

. The system can be programmed so that Pooled Trunk Access calls automatically use LCR when 9 is selected.

. Night Service, DND. and BGM can be activated through FF keys without lifting the handset.

. When you are making a call using the Speed Dialing feature, the **FLASH** key stored in Speed Dialing becomes the PBX flash feature.

. When an extension is assigned to an FF key, the FF key changes colors to indicate the status of the extension as follows:

   - RED (solid) -- extension busy

   - RED (flashingj -- incoming call or receiving call waiting (DSS/ 72 and EM/24 keys stay solid red instead of flashing red)

   - GREEN -- either DND, call forwarding, or absence message set.

Handsfree Answerback

(All Versions)

Description

Use the Handsfree Answerback feature to answer a call without lifting the handset. The DBS system must be programmed for Voice Calling for you to use this feature. If your system is not set for Voice Calling, the caller must press "1" during a call to switch from Tone Calling to Voice Calling.

Operation

1. Confirm that the MUTE LED is off.

   If it is lit, press the MUTE key to turn it off.

2. Speak into the microphone.

Related Programming

- FF1 (System): Extension Intercom Calling

Considerations

- Stay within three feet of the microphone.

- The MUTE feature controls the handsfree microphone but not the handset.

- The MUTE feature can be selected from the Menu screen on large display phones. With other DBS key phones, the MUTE function is assigned to a fixed key.

Handsfree Operation

(All Versions)

Description

Handsfree operation is available with all speakerphones (but not the DSLT). This type of operation allows you to use all available DBS features without lifting the handset.

Operation

To initiate handsfree operation, press the ON/OFF key. This takes the phone offhook and provides access to the full range of calling features.

Considerations

- Stay within three feet of the microphone.

- The MUTE feature controls the handsfree microphone but not the handset.

- The MUTE feature can be selected from the Menu screen on large display phones. With other DBS key phones, the MUTE function is assigned to a fixed key.

Headset Operation

(All Versions)

Description

Headset operation allows you to handle calls with a headset instead of with the handset or speakerphone.

Operation

1. Pick up the handset or press ON/OFF.

2. Dial **#51**.

   If headset mode is already on, these steps turn it off; if headset mode is off, these steps turn it on.

Hot Dial Pad

Description

The dial pad on digital key phones can be designated as "hot" on an extension-by-extension basis.

The Hot Dial Pad allows the user to initiate a call without going offhook. Extensions with the Hot Dial Pad enabled can initiate calls by pressing any of the numeric keys (O-9). The "*" and "#" keys are not hot.

The Dial Pad can be hot under these conditions:

- When the extension is idle

- When the extension is holding a call

- When the extension is receiving a page.

The Dial Pad cannot be hot under these conditions:

- When a call is ringing at the extension (intercom or CO)

- When the extension is on a call.

Related Programming

- FF3 (Extension Programming): Hot Dial Pad

Considerations

Paging: The Hot Dial Pad cannot be used to initiate a page.

Intercom Calling
(All Versions)

Descriptions

The DBS provides two methods of intercom calling: voice calling and tone calling.

Voice Calling. With voice calling, intercom calls are connected immediately, without a ringing tone.

Tone Calling. With tone calls, a ringing tone is sent to the called extension.

System programming determines whether the DBS uses voice or tone calling as a default. If voice calling is the default, dialing "1" after the extension number changes the call to a tone call. If tone calling is the default, dialing "1" results in a voice call.

Operation

To make a Voice Call:

!. Pick up the handset.

The phone issues intercom dial tone.

Note: If you are calling from an extension programmed for Prime Line Preference, press the FF key programmed for intercom operation.

2. Dial the extension number (10-69) or (100-699).

3. If the system default is tone calling, dial "I ."

- -'Talk-EXT XXX" (where "XXX" is the extension) appears on the display. If the extension name has been stored, that name appears on the display after "Talk" instead of "-EXT XX."

- The EXT LED lights.

4. Complete the call and replace the handset.

The EXT LED goes off.

To transfer a call using Voice Calling:

1. Press the HOLD key.

- The EXT LED flashes.

- "Hold-EXT XXX" (where "XXX" is the extension) appears on the display.

2. Dial the number of the extension to which the call will be transferred.

3. If the system default is tone calling, dial "1."

"Talk-EXT XXX" (where "XXX" is the extension) appears on the display.

4. Replace the handset.

To make an Tone Call:

1. Rick up the handset.

   The phone issues intercom dial tone.

   Note: If you are calling from an extension programmed for prime line preference, press the FF key programmed for intercom operation.

2. Dial the extension number.

3. If the system default is voice calling, dial "1."

   - "Call-EXT XXX" (where "XXX" is the extension) appears on the display. If the extension name has been stored, that name appears, rather than the extension number.

   - The called extension rings and the **EXT** LED flashes.

   - When the call is answered, Talk-EXT XXX" (where "XXX' is the extension) appears on the display. If the extension name has been stored, that name appears on the display after "Talk" instead of "-EXT . x x x ."

4. Complete the call and replace the handset.

   The **EXT** LED goes off.

To transfer a call using Tone Calling:

1. Press the HOLD key.

   - The **EXT** LED flashes.

   - "Hold-EXT XXX" (where "XXX" is the extension) appears on the display.

2. Dial the number of the extension to which the call will be transferred.

3. If the system default is voice calling, dial "1."

   "Call-EXT XXX" (where "XXX" is the extension) appears on the display.

4. Replace the handset.

Related Programming

- FF1 (System): Extension Intercom Calling

- FF1 (System): Alert Tone for Voice Calls

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 4.0 or higher)

Considerations

- When an extension's calling mode is set to voice calling, a "splash" tone can be sent to alert the extension to the voice call. System programming determines if the splash tone is provided.

- If an extension is offhook, it will receive tone calls.

- Calls to OPX and analog SLT extensions are always tone calls, regardless of system programming.

- The voice calling feature is not available for incoming DISA calls.

- Voice calls do not forward if Cover No Answer is turned on.

Last Number Redial

(All Versions)

Description

The last outside number dialed may be redialed automatically by pressing the REDIAL key.

Operation

1. Press an unlit line key.

    - The phone issues outside dial tone.

    - The line LED lights green.

    - "CO TALK #XX" (where "XX" is the line number) appears on the display.

2. Press the REDIAL key.

    The last number dialed appears on the display.

3. Complete the call and replace the handset.

    The line key LED changes from green to red and then goes off.

Considerations

.   If the Auto Flash Redial feature is set, you can flash the outside line once by pressing the REDIAL key at the busy tone. You can then redial the last number dialed.

.   The Last Number Redial feature can redial a nurnber up to sixteen digits long.

.   A maximum of five chained Speed Dialing codes can be redialed. See "One-Touch Keys" on page 4-73 for more information.

Line Appearances
(All Versions)

The DBS provides up to four types of line appearances, depending on the CPC version used.

The following table summarizes how each type of line appearance is used:

Table 4-7.   MCO and ML key definitions

Key	Definition
DSS/B LF Appearances	DSS/BLF keys provide one-touch dialing, direct station selection . (DSS), and busy lamp fields (BLF) for extensions.
Direct Line (DL) Appearances	DL keys are used to originate and receive calls over specific trunk numbers.
Mul ti-CO (MCO) Appearances	MCO keys are used to originate and receive CO calls.
Multi-Line (ML) Appearances	ML keys are used to originate and receive CO line calls and intercom calls.

DSS/BLF Appearances
(CPC-AIL and CPC-B Version 2.0 or higher)

Description

When a DSS/BLF key is programmed, it automatically provides direct station selection and busy lamp field for the assigned extension number. If desired, the DSS/BLF key can also provide ring monitor.

For example, you can set extension A as a DSS/BLF key on extension B. When extension A rings, the LED of the DSS/BLF key on extension B flashes. If extension B answers the call by pressing the DSS/BLF key, the LED on extension A goes off and the call remains only on the DSS/BLF key of extension B.

Ringing can be set on either one or both extensions. If the extensions are not set for ringing, the LED of the DSS/BLF key will flash red. If the extensions are set for ringing, the LED will flash green.

When extension A is in use, the LED of the DSS/BLF key on extension B will light red. If one extension has the Absence Message, Call Forwarding, or Do-Not-Disturb feature activated, the DSS/BLF key will light green.

Operation

To assign a DSS/BLF key:

1. Press the **PROG** key.

2. Press the FF key you want to assign the DSS/BLF appearance to.

3. Dial the extension number.

4. Press the HOLD key.

To make an intercom call using the DSS/BLF key:

Press the idle DSS/BLF key.

To pick up a call on a DSS/BLF key:

Press the flashing DSS/BLF key.

Related Programming

- **FF1** (System): Extension (BLF) Delayed Ring

- FF4 (Ringing and Hunt Groups): Extension Ring Table

- FF5 (FF Keys): FF Key Assignments for Extensions

Considerations

- Ringing assignments for DSS/BLF keys are assigned through system programming.

- If several calls arrive at an Extension Line key, the calls are queued and ring on a first-in, first-out basis.

Direct Line (DL) Appearances
(CPC-AII and CPC-B Version 2.0 or higher)

Description

Direct Line keys for making and receiving outside line calls can be assigned to any one of sixty-four CO lines. Direct Line keys have priority over Multi-Line keys for outgoing and incoming outside line calls.

The LED for a Direct Line key will flash green on an incoming call if the CO line is set to ring. It will flash red if the CO line is not set to ring. If another extension answers the call, the LED on the telephone will steadily light red.

Operation

Operation	Action
To originate a trunk call . . .	Press an idle DL key. The key blinks (green) as the call is made.
To place a call on Exclusive Trunk Hold (page 4-36) …	Press the DL key.
To place a call on System Trunk Hold (page 4-17) . . .	Press the HOLD key.
To transfer a call . . .	Press HOLD, dial the destination extension, and then press PROG.

Related Programming

- **FF1** (System): Alert Tone for Busy Override and OHVA

- FF3 (Extension): Busy Override Send

- FF3 (Extension): Busy Override Receive

- **FF5** (Keys): FF Key Assignment (all)

Considerations

- Beginning with CPC-B Version 5.0, users can barge into a busy Direct Line (DL) and create a three-party conference. To barge into a busy Direct Line, the user presses the DL key. (The DL key will be lit red.)

- "Barge-in for Direct Lines" is controlled by the program settings for Busy Override. For instance, if an extension with a DL key does not want the DL broken into, that extension must have "Busy Override Receive" turned off.

- Both extensions must belong to the same paging group (l-7). Paging group 0 does not al low override.

- Barge-in for Direct Lines cannot override a DL under the following conditions:

- When the DL is in a conference call

- When the DL is holding a call.

- When the phone that will be barged into is holding a trunk that does not appear on an FF key.

    For example, if extension 200 wants to barge into a DL that appears on extension 201, extension 200 cannot barge into the DL if 201 is holding a trunk that does not appear on an FF key.

Multi-CO (MCO) Appearances

(All Versions)

Description

You can make and receive CO line calls using a Multi-CO (MCO) key. Each extension can have up to 24 MCO keys. The Attendant can have up to 24 MCO keys.

An MCO key can be assigned to any of the pooled trunk groups. See "Pooled Trunk Access" on page 4-80 for more information.

See "ML/MCO Separation" (page 4-64) for information on assigning both ML and MCO keys to the same system (CPC-AII and CPC-B Version 4 or higher).

Operation

Operation	Action
To originate a trunk call	Press an idle MCO key.
	The key blinks (green) as the call is made.
To place a call on Exclusive Trunk Hold (page 4-36)	Press the MCO key.
To place a call on System Trunk Hold (page 4-17)	Press the HOLD key.
To transfer a call	Press HOLD, dial the destination extension, then press PROG.

Related Programming

- FF1 (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Groups "8 l-86"

- FF3 (Extension): Forced Least Cost Routing

- FF5 (Keys): FF Key Assignments (all)

- FF8 (LCR) LCR Settings (all)

Considerations

- When all trunks in a group are busy, the corresponding MCO key lights red.

- If LCR is enabled, MCO keys can be assigned for trunk group 89. However, the FF keys will not light.

- Press the MCO key that flashes red to answer an outside call.

- There are seven groups of outside lines: 9 and 81-86.

Multi-him (ML) Appearances

(CPC-AII and CPC-B Version 2.0 or higher)

Description

You can make and receive both CO line calls and Intercom Calls using a Multi-Line (ML) key. Each extension can have up to 24 Multi-Line keys. The Attendant can have up to 24 Multi-Line keys.

See "ML/MCO Separation" (page 4-65) for information on assigning both ML and MCO keys to the same system (CPC-AII and CPC-B Version 4 or higher).

Operation

Operation	Action
To originate a trunk call	Press an idle ML key. The key blinks (green) as the call is made.
To place a call on Exclusive Hold (page 4-36)	Press the ML key.
To place a call on System Hold (page 4-17)	Press the HOLD key.
To transfer a call	Press HOLD, dial the destination extension, then press PROG.

Related Programming

- FF1 (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Group "8 l-86"

- FF3 (Extension): Forced Least Cost Routing

- FF5 (Keys): FF Key Assignment (all)

- FF8 (LCR) LCR Settings (all)

Considerations

- A Multi-Line key will ring for incoming CO calls, Intercom Calls, recall calls, and call-forward calls.

- When a CO call or an Intercom Call arrives, a search begins for a Multi-Line key not in use. The lower numbered FF keys will be searched first. When a free Multi-Line key is found, the LED flashes green and the extension rings.

- If another phone answers an incoming trunk call, the ML LED on your extension goes off and the ringing stops, indicating that the Multi-Line key on your telephone is no longer in use.

- When dialing an extension number, the system automatically selects the free Multi-Line key w-i th the lowest number.

- If the CO line or held extension does not respond before the Recall Timer expires, the extension rings and the Multi-Line key flashes green.

- If LCR is enabled, ML keys can be assigned for trunk group 89. However, the FF keys will not light.

ML/MCO Separation
(CPC-AII and CPC-B Version 4.0 or higher)

Description

Beginning with CPC-B Version 4, each extension can have either MCO or ML keys. In previous software versions, MCO or ML keys were only available on a system-wide basis, and the type of key that was available differed according to the software release. Table 4-7 contains definitions of MCO and ML keys. Table 4-8 shows MCO/ML availability with previous releases.

Table 4-8. MCO/ML availability

CPC Version	Type of Key
CPC-A	MCO only
CPC-B 1.0	MCO only
CPC-B 2.0 - 3.1	ML only
CPC-AII and CPC-B 4.0 and above	MCO or ML

Related Programming

- FF3 (Extension): ML/MCO Separation

- FF5 (Keys): FF Key Assignments (all)

Considerations

.   The initial setting for all extensions (except the fist attendant phone) is MCO.

.   The initial setting for the first attendant phone (port 1) is ML.

Meet-Me Answer

(All Versions)

Description

You can answer a Paging call from any extension using the Meet-Me Answer feature.

Operation

1. When you hear the Paging call pick up the handset from any idle extension or if you are talking with another party, place the call on hold.

    The phone issues intercom dial tone.

2. Press "77."

    .   Paging ceases and you are connected to the party trying to reach you.

    .   The EXT LED lights.

Related Programming

.   FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 4.0 or higher)

.   FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 4.0 or higher)

Considerations

.   If you are at a speakerphone, you can press the ON/OFF key instead of picking up the handset to answer the Paging Call. After dialing "77" you can then speak to the party trying to reach you using the phone's built-in speaker and microphone.

Message Waiting/Callback Request
(All Versions)

Description

If you try to call an extension that is busy or does not answer, you can leave a message requesting a return call.

Operation

To leave a Callback Request:

1. Press the ON/OFF key.

2. Dial the extension number.

   "Call-EXT XXX," "Busy-EXT XXX" or "Talk-EXT XXX" (where "XXX" is the extension) appears on the display.

3. Dial "2" at the busy tone or while the telephone is still ringing.

   "Accept Message" appears on the display.

4. Press the ON/OFF key.

   The Message Waiting lamp flashes at the called extension.

To answer a Callback Request:

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Press the AUTO key.

3. Press the REDIAL key.

   - Your telephone automatically dials the extension that left the Callback Request.

   - If extension 135 left the Callback Request and If your extension is set for Tone Calling, "Call-EXT XXX" (where "XXX" is the number of the extension that left the Callback Request) appears on the display.

- If extension 135 left the Callback Request and If you extension is set for Voice Calling, "Talk-EXT XXX" (where "XXX" is the number of the extension that left the Callback Request) appears on the display.

- When your call is answered, the EXT LED lights and the Message Waiting lamp goes off.

To view the most recent Callback Request

Callback Requests are normally viewed in the order received. To view the most recent callbacks first:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the CONF key twice.

   The most recent Callback Request appears on the display.

3. Press the ON/OFF key.

   The ON/OFF LED goes off.

4. Repeat steps 2 and 3 to view other Callback Requests.

To cancel a Callback Request:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the AUTO key.

3. Press the FLASH key.

   "Call Back Cancel" appears on the display.

4. Press the ON/OFF key.

   The ON/OFF LED goes off.

Related Programming

- FF1 (System) Extension Class of Service Setting (CPC-AII and CPC-B Version 3.01 or higher)

- FF3 (Extension) Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.01 or higher)

Considerations

- When your extension has received several Callback Requests, the number of requests appears on the left side of the display.

- Up to four Callback Requests can be sent to any one extension. The order of the messages can then be changed by the party receiving the requests

- If you call the same extension a second time and the party answers, a Callback Request sent earlier will be cancelled.

- If a Callback Request is sent to an extension for which Call Forwarding is set, the Callback Request will be automatically forwarded to the designated extension.

- You can send a Callback Request to an extension that has Do Not Disturb or Absence Message activated.

Non-Appearing Outside Lines

(All Versions)

Description

Non-appearing outside lines are trunks that are not assigned to a dedicated FF key or to a trunk group key on your extension. The DBS allows you to use non-appearing outside lines.

Operation

Answering a Non-Appearing Outside Line Call

To answer a non-appearing outside line call at your extension, lift the receiver or press **ON/OFF.**

Selecting a Non-Appearing Outside Line

1. Pick up the receiver or press ON/OFF.

2. Dial 88.

3. Dial the outside line number (01-64).

4. Dial the telephone number.

Holding a Non-Appearing Outside Line

Instead of an FF key, the EXT indicator flashes when you hold a non-appearing outside line.

Offhook Signaling

(All Versions)

Description

Offhook signaling sends a tone to a busy extension to indicate that another CO call has arrived.

Operation

When you receive an offhook signal during a call, do the following:

1. Put the first call on hold.

2. Press the flashing FF key for the CO line of the incoming call.

   For details about handling multiple calls, see "Call Hold" on page 4- 16.

Related Programming

- FF3 (Extensions): Offhook Signal

- FF3 (Extensions): Offhook Signal Volume

- FF3 (Extensions): Offhook Signal Pattern

Considerations

- The system does not send the offhook signal under the following conditions:

 - During a conference call

 - While the called extension is on hold

 - During a call on a CO line for which there is no line key on the called extension.

Offhook Voice Announce (OHVA)

(All Versions)

Description

You can interrupt a busy extension when making an Intercom Call. and then use the Off-Hook Voice Announce (OHVA) feature make an announcement that only the called party can hear. You can also transfer a held call to a busy extension after making the announcement using this feature.

Operation

To make an OHVA:

1. Pick up the handset.

2. Dial the desired extension number.

 If the extension is busy, your phone issues busy tone.

3. Press "5."

 - "CONF XXX YYY" (where "XXX" is the calling extension and "YYY" is the receiving extension) appears on the display if you call a busy extension.

 - "CONF XX YYY" (where "XX" is the line number and "YYY" is the extension) appears on the display if you call an extension that is speaking with an outside line.

 - The EXT LED flashes.

 - "Voice Announce" appears on the called extension's display.

. The Talk Back key flashes red.

4. Make your announcement.

To answer an OHVA:

1. Press the Talk Back key (***3** must be programmed in an FF key).

   The Talk Back key flashes red.

2. To return to the previous call, press the Talk Back key again.

To transfer a call using OHVA

1. Press the HOLD key to place the call to be transferred on hold.

2. Dial the number of the extension to which the call will be transferred.

   If the extension is already engaged in a call. your phone issues busy tone.

3. Press "5" and announce the call to be transferred.

   If the transferred call is not accepted by the called extension, press the FLASH key to cancel the transfer.

   If the transferred call is accepted, and Onhook Transfer is enabled for your extension, hang up. If OnHook Transfer is not enabled, press PROG and then hang up.

   Note: Attendant console phones transfer by pressing the RELEASE key.

To answer a call after It has been announced using OHVA:

1. Replace the handset.

   Your extension rings.

2. Pick up the handset.

Related Programming

. FFI (System): Extension Class of Service Setting (CPC-AII and CPC-B 3.1 or higher)

. FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B 3.1 or higher)

. FF3 (Extension): Call Waiting/OHVA

Considerations

- The held call is transferred as soon as the extension sending the OHVA hangs up.

- If the transferred call is not answered immediately, it will queue for a set time limit, then return to the extension sending the OHVA. (The recall time can be set in the Transfer-Recall Timer.)

- When receiving an OHVA, an extension's Talk Back key's LED will flash red. When the Talk Back key is pressed to answer an OHVA, the LED will flash green.

- You cannot receive a Call Waiting message during an OHVA. ("Denied" will appear on the display of the extension trying to send the Call Waiting message.)

One-Touch Keys
(All Versions)

Description

One-Touch Keys can be used to store telephone numbers, speed dial numbers, or feature access codes.

To dial the stored number, the user goes offhook and presses the desired key.

Operation

To program a One-Touch key for Pooled Access:

1. Press the ON/OFF key.

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Press the PROG key.

3. Press the One-Touch key to be programmed.

4. Press the CONF key.

5. Enter the number of the outside line group to be stored. (See Table 4-9.)

6. Enter the telephone number to stored.

7.   Press the HOLD key.

To assign System Speed Dial numbers to One-Touch keys:

1.   Press the ON/OFF key.

   . The phone issues intercom dial tone.

   . The ON/OFF LED lights.

2.   Press the PROG key.

3.   Press the One-Touch key to be programmed.

4.   Press the AUTO key.

5.   Enter the System Speed Dial Number to be programmed.

6. Press the HOLD key.

7.   Press the ON/OFF key.

   The ON/OFF LED goes off.

To chain two to five System Speed Dial numbers to a single One Touch key:

1.   Press the ON/OFF key.

   . The phone issues intercom dial tone.

   . The ON/OFF LED lights.

2.   Press the PROG key.

3.   Press the One-Touch key to be programmed.

4.   Press the AUTO key.

5.   Enter the System Speed Dial number for the pooled trunk access code. [This preprogrammed System Speed Dial must contain a C (CONF) followed by 9, 1-6 for pooled trunk access groups 9, 81-86).]

6.   If a pause is required, press the REDIAL key.

   This inserts a pause between the access code and the telephone number. When REDIAL is pressed, an "R" displays. If viewed later, a "P" displays.

7. Press the AUTO key.

8. Enter the Speed Dial number for the telephone number.

9. Repeat steps 7 and 8 for any additional Speed Dials to be chained.

10. Press the HOLD key.

11. Press the ON/OFF key.

   The ON/OFF LED goes off.

To assign a DBS Feature Code to a One-Touch key:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the PROG key.

3. Press the One-Touch key to be programmed.

4. Enter the feature code.

5. Press the HOLD key.

6. Press the ON/OFF key.

   The ON/OFF LED goes off.

To assign an Outside Telephone Number to a One-Touch key:

1. Press' the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the PROG key.

3. Press the One-Touch key to be programmed.

4. Press CONF followed by the Pooled Trunk Access code (9, 81-86).

5. If a pause is required, press the REDIAL key.

   This inserts a pause between the access code and the telephone number.

6. Enter the telephone number.

7. Press the HOLD key.

8. Press the ON/OFF key.

    The ON/OFF LED goes off.

To check a programmed One-Touch key:

1. Press the ON/OFF key.

    • The phone issues intercom dial tone.

    • The ON/OFF LED lights.

2. Press the CONF key.

    "C" appears in the display.

3. Press the One Touch key to be checked.

    The programmed data appears on the display.

4. Press the ON/OFF key.

    • The ON/OFF LED goes off.

    • The date and time appears on the display.

Considerations

• If the pause following an access code is too short, press the REDIAL key more than once.

• A One-Touch key can be programmed to automatically access a CO line before dialing a personal speed dial number.

• Select an outside line group when you program a One-Touch key. A free line is selected from that group when you dial out. (Group 9 can be programmed to select LCR automatically.) The following table shows the available outside line groups and their corresponding code numbers:

Table 4-9. **One-touch access codes for trunk group numbers**

Trunk Group Number	Code Number to be entered
81	1
82	2
83	3
84	4
85	5
86	6
9	9.

.   One-Touch keys cannot be checked while Station Lockout is set.

One-Touch VM Access
(CPC-AII and CPC-B Version 5.0 or higher)

Description

One-Touch VM Access simplifies voice message retrieval for personal mailboxes as well as attendant transfer of incoming calls to extension mailboxes.

For instructions on attendant usage of the VM key, see "One-Touch VM Access" on page 4-77.

One-Touch VM Access allows a user to program an FF key, DSS key, or One-Touch key to automatically dial voice mail. The extension number for voice mail as well as the user's password can be stored under the key.

If the voice mail key is assigned to an FF key or DSS key, the voice mail key and the MSGE lamp will flash red when the user has a message. (With a One-Touch key, only the MSGE lamp flashes.) To access his or her mailbox, the user simply presses the voice mail key.

If, for security reasons, the user prefers to manually dial the password, the voice mail key can be used to store the voice mail extension number only. With this option, the user presses the VM key, then dials the password before accessing the mailbox.

Note: The VM key is assigned differently, depending on whether it is used for personal message retrieval or attendant transfer. See the following "Operation" section for instructions.

Operation

To assign a voice mail key:

Note: You cannot program this feature if trunks are assigned to the key. First clear the trunk assignments, then use the following procedures to assign the VM key.

1. Press the ON/OFF key.

   • The phone issues intercom dial tone.

   • The ON/OFF LED lights.

2. Press the PROG key.

3. Press the FF key, DSS key, or One-Touch key.

4. Press the CONF key.

5. Press the AUTO key.

6. Dial the voice mail pilot number.

7. If the key is for personal message retrieval, enter a password (XXX or AUTO followed by a speed dial number), if desired. If the key is for attendant transfer to voice mail, do not enter a password, but include any special codes (* or **#,** for example) if they are required by the voice mail system.

   Note: If a password is used, it can be from 1 to 3 digits. If the password is over 3 digits long, it must be assigned to a personal or system speed dial number. If you are accessing the Panasonic Voice Mail, it is best to include a # sign at the end of the password.

8. Press the HOLD key.

To use a Voice Mail key:

When the VM key flashes, the user presses it to connect to the mailbox.

Related Programming

   • **FF5** (Keys): FF Key Assignment for Extensions

   • **FF5** (Keys): FF Key Assignments for DSS Consoles

Considerations

- The VM key can be used with the Panasonic Voice Mail or with third-party voice mail systems.

- If the voice mail password is over three digits long, assign the password to a personal or system speed dial number (00-99, 000- 199 or 900-909). When you use a speed dial number with the Panasonic Voice Mail, include the pound (#) sign after the password. Excluding the # sign results in a 6-second delay before you are connected to the mailbox.

  If you are using 2-digit dialing with a third-party voice mail, the password. can be up to 4 digits long before it must be stored as a speed dial number. (Panasonic Voice Mail requires 3-digit dialing.)

- With Panasonic Voice Mail, most attendants use port group scheduling that accesses a menu, which asks for a mailbox number. Port group scheduling is used so attendants can quickly dial the mailbox numbers of other users. To assign a personal VM key for an attendant using port group scheduling, use a speed dial number to store the voice mai 1 extension number followed by an asterisk (*), followed by the password. The asterisk causes Voice Mail to revert to the menu that connects the user to his or her personal mailbox.

- With Panasonic Voice Mail, the final voice mail channel must be assigned as part of the Voice Mail hunt group in order for the VM key to light. If the final voice mail channel is assigned as the transfer extension for the hunt group, the MSGE lamp will light, but the VM key will not.

  With third-party voice mail, you must make sure a voice channel is assigned for message waiting control in order for the MSGE lamp and VM key to light.

- The FF Key Copy program (FF9 3# 1-144# 1-144##) should not be used to copy VM keys that include passwords because the passwords as well as the voice mail extension number will be copied. In addition, pressing a key containing someone else's password will result in an "invalid password" message from voice mail.

Onhook Dialing

(All Versions)

Description

Onhook Dialing is a standard feature for DBS key phones. To dial onhook, the user simply presses the ON/OFF key.

Users can dial onhook using the dialpad, one-touch keys, or FF keys.

Pooled Trunk Access

(All Versions)

Description

The DBS system supports up to 64 outside lines. These lines can be divided into seven Pooled Trunk groups. If you assign an FF key as an MCO or ML key, the DBS can automatically select an open line from the Pooled Trunk group assigned to that key.

Even if all the outside lines assigned to an extension are busy, you can access a free line by choosing an outside line group number. Group numbers 9 and 8 l-86 are available.

Operation

To select a Pooled Trunk group using a pre-programmed FF key:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the ML or MCO key.

   - The LED of the Pooled Trunk key lights green.

   - The phone issues outside dial tone.

   - "CO TALK #XX" (where "XX" is the line number) appears.

3. Dial the telephone number.

   The number appears on the display.

4. Complete the call and replace the handset.

   The LED of the ML or MCO key goes off.

To select a Pooled Trunk group that is not assigned to an FF key:

1. **Press the ON/OFF** key.

   - The phone issues intercom dial tone.

   - The **ON/OFF** LED lights.

2. Enter the desired group number (8 l-86, 9).

   - The phone issues outside dial tone.

   - "CO TALK #XX" (Where "XX" is the line number) appears on the display.

3. Dial the telephone number.

   The number appears on the display.

4. Complete the call and replace the handset.

Related Programming

- FF1 (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF3 (Extension): Forced Least Cost Routing

- FF5 (Keys): FF Key Assignment

- FF8 (LCR) LCR Settings (all)

Considerations

- The LED of the ML or MCO key lights red and the phone issues busy tone when all lines in the same group are busy. (Those lines cannot be accessed.)

- If a ML or MCO key is assigned line group number 9 and LCR has been activated, LCR is selected automatically.

- Press the ML or MCO key that flashes red to answer incoming calls.

- If one group is set aside for data lines, this feature can be used when a line is needed for operations such as data transmission via modem.

Prime Line Preference
(All Versions)

Description

Prime Line Preference allows a user to place an outside call by simply picking up the handset. When the user goes offhook, the trunk or trunk group assigned to FF1 is automatically accessed. (Be sure to program one of the other FF keys as an intercom key.)

Operation

1. Pick up the handset.

   - The phone issues outside dial tone.

   - The LED of the accessed line key lights green.

   - "CO TALK #XX" (where "XX" is the line number) appears on the display.

2. Dial the telephone number.

   The number appears on the display.

Related Programming

- FF1 (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Groups "8 l-86"

- FF3 (Extension): Forced Least Cost Routing

- FF5 (Keys): FF Key Assignment

- FF3 (Extension): Prime Line Pickup

Considerations

- To make an Intercom Call, press the FF key programmed as an intercom key and then dial the extension number.

- If a member of the trunk group assigned to FF1 is also assigned to a Direct Line key, Prime Line Pickup will access the Direct Line key instead of FF1.

- Prime line preference should not be assigned to an SLT or DSLT telephone.

Private Line

(All Versions)

. Description

An outside line can be reserved for exclusive access by one extension, eliminating the need for the extension user to wait for a free outside line during busy periods.

Operation

1. Press the CO line key designated as a Private Line.

   - The phone issues outside dial tone.

   - The line LED lights green.

   - "CO TALK #XX" (where "XX" is the line number) appears on the display.

2. Dial the telephone number.

   The number appears on the display.

3. Complete the call and replace the handset.

   The line LED goes off.

Related Programming

- FF2 (Trunks): Private Trunk Line

- FF1 (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Groups "8 1-86"

- FF3 (Extension): Forced Least Cost Routing

- FF5 (Keys): FF Key Assignment

Considerations

- Calls to Private Lines cause extensions to ring even if the DND or the Absence Message feature is activated for them.

- Calls to Private Lines are not forwarded, even if Call Forwarding is activated on the associated extensions.

- No warning tone sounds at the Attendant Phone, no matter how long a call on a Private Line is on hold, even if the overtime warning tone is ignored.

- When a private line is assigned to an extension, the Toll Restriction assignment for the private line changes to "0" for all other extensions. Ringing assignments for the private line are also removed from all other extensions.

Reminder Call

(All Versions)

Description

Your telephone can act as an alarm clock with the Reminder Call feature.

Operation

To set the Reminder Call feature:

1. Press the ON/OFF key.

- The phone issues intercom dial tone.

- The ON/OFF LED lights.

2. Press "#4."

    "Enter Time HHMM" appears on the display.

3. Enter the time you wish the Reminder Call to sound. Enter the desired time in 12-hour format, followed by a "1" for a.m. or a "2" for p.m.

4. Press the ON/OFF key.

    - The ON/OFF LED goes off.

    - "Alarm XX:XX" (where "XX:XX" is the time) appears on the display, along with an a.m./p.m. indicator.

To cancel the Reminder Call feature:

1. Press the ON/OFF key.

    - The phone issues intercom dial tone.

    - The ON/OFF LED lights.

2. Dial "#4."

    "Enter Time HHMM" appears on the display.

3. Press the ON/OFF key.

    - The ON/OFF LED goes off.

    - The time disappears from the bottom line of the display.

Considerations

- A sixteen-second alarm tone will be issued at the specified time.

- One Reminder Call may be set for each telephone.

- To change the Reminder Call, simply enter a new time.

- If the extension is in use when the reminder call is scheduled, the reminder call is issued as soon as the extension becomes available.

Ringing Line Preference
(All Versions)

Description

Ringing Line Preference enables an extension to answer an incoming CO call, hold recall, or transfer call by simply picking up the handset or pressing ON/OFF.

Related Programming

- FF3 (Extensions): Auto Pickup (Ringing Line Pickup)

Saved Number Redial
(All Versions)

Description

You can save a previously dialed number for later redialing. Unlike the Last Number Redial feature, the Saved Number Redial feature allows you to redial the stored number even if it was not the last number dialed.

Saved Number Redial works for outside numbers, but not for extension numbers.

Operation

To save a number:

1. Press the AUTO key twice before replacing the handset.

2. Press "*."

   "Dial Stored" will appear on the display and the number will be saved.

3. Replace the handset.

To redial a saved number:

1. Press an unlit line key.

   - The phone issues outside dial tone.

● The line LED lights green.

. "CO TALK ##XX" (where "XX" is the line) appears on the display.

2. Press the AUTO key.

3. Press "*."

   The dialed number appears on the display.

4. Complete the call and replace the handset.

   The line LED changes from green to red and then goes off.

Considerations

● Any previously saved number is erased when a new number is saved.

● The Saved Number Redial feature can store a number up to sixteen digits long.

● Up to five Speed Dialing codes can be stored and redialed.

Speed Dialing
(All Versions)

Personal Speed Dialing

Description

Extension users can store frequently called numbers using the Personal Speed Dial feahire. Up to 10 Personal Speed Dial numbers can be stored at each extension.

With all versions prior to Version 7.0, the Personal Speed Dial bins are numbered 90 to 99. With CPC-AII and CPC-B Version 7.0 and higher, the Personal Speed Dial bins are numbered 900 to 909.

Users can also enter names of up to sixteen characters for each of the Speed Dial numbers. This allows Personal Speed Dial numbers to be confirmed by name rather than by number.

Extension users can program their own personal speed dial numbers using One-Touch keys, or they can be programmed from a key phone.

Operation

To assign Personal Speed Dialing:

1. Press ON/OFF.

2. Press PROG.

3. Press a One-Touch key or press AUTO followed by the personal speed dial bin number (90-99 or 900-909).

4. If you want to include a trunk access code in the number, press CONF then 9 or 1-6. (l-6 = trunk groups 8 l-86.)

   If you enter a trunk access code in the speed dial number, you do not have to open a trunk before using the number.

5. Dial the number.

6. Press HOLD.

7. Press ON/OFF.

To use a programmed Personal Speed Dial key:

1. If the Speed Dial key includes a trunk access code, simply press the key.

   If the Speed Dial key does not include an access code, press an unlit line key before pressing the Speed Dial key.

   - The phone issues outside dial tone.

   - The line LED lights green.

   - "CO TALK #XX" (where "XX" is the line number) appears on the display.

2. Complete your call and replace the handset.

   The line LED changes from green to red and then goes off.

To check a programmed Personal Speed Dial key:

1. Press the ON/OFF key:

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the **CONF** key.

"C' appears on the display.

3.   Press a Personal Speed Dial key.

The programmed data appears on the display.

4.   Press the **ON/OFF** key.

The **ON/OFF** LED goes off.

To assign a name to a Personal Speed Dial number:

1.   Press the **ON/OFF** key.

- The phone issues intercom dial tone.

- The **ON/OFF** LED lights.

2.   **Press the PROG** key.

3. **Press "#1."**

"Speed Dial Name" appears on the display.

4. **Press the AUTO** key.

5.   Enter the Personal Speed Dial bin number (90-99 or 900-909).

6.   Press **AUTO** to backspace and erase the existing name.

7.   Use the dialpad sequences shown in Table 3-l on page 3- 10 to enter letters and/or numbers.

- Press **FLASH** after each letter.

- Press **CONF** to switch between numbers and letters.

8.   To complete the entry, press **HOLD.**

To delete a Personal Speed Dial number:

1. Press **ON/OFF.**

2. **Press PROG.**

3.   Press the One-Touch key.

4. Press **HOLD.**

5. Press ON/OFF again.

Related Programming

- FF10 (Speed Dialing): Personal Speed Dial Numbers

- FF3 (Extensions): PSD Name Display (5 or 10 Names)

- FF6 (Name): PSD Names

Considerations

- Personal Speed Dial numbers can contain up to sixteen characters, including the "*," "#," "-", FLASH, PAUSE (REDIAL), CONF, and AUTO keys.

- A dash ("-") can be displayed in the Personal Speed Dialing number. To display a dash. press the FF6 key where you want the dash to appear. The dash will not appear during programming but will appear when the number is dialed or checked.

- A flash may be entered by pressing the FLASH key.

- If you make a mistake while programming, an alarm tone is issued and "ERROR" appears on the display. If this happens, start again from step 1.

- Storing a new number erases any previously stored data.

- Names for Personal Speed Dialing can be programmed using a DSS console at the Attendant Phone.

- If the called party's number and name are stored in the Personal Speed Dial code, that information appears on the display when you use the speed dial code.

- Speed Dial numbers cannot be checked while Station Lockout is activated.

- With CPC-AII and CPC-B Version 7.0 and higher, if the Speed Dial is used to forward to an outside number and Least Cost Routing is enabled, the Speed Dial cannot use Trunk Access "9." Use trunk access 81-86 instead.

System Speed Dial

Description

Frequently called numbers can be stored using the System Speed Dial feature. System Speed Dial numbers are programmed from the Attendant Phone and can be used by any extension. With all versions, up to 90 System Speed Dial Numbers can be stored. Beginning with CPC-AII and CPC-B Version 7.0 and higher, up to 200 System Speed Dial numbers can be stored when the Speed Dial Add-on mode is selected.

For information on assigning System Speed Dials see "Attendant Assignment of Speed Dialing" on page 3-3.

Operation

To use a programmed System Speed Dial key:

1. Press an unlit line key.

   - The phone issues outside dial tone.

   - The line LED lights green.

     - "CO TALK #XX" (where "XX" is the line number) appears on the display.

2. Press the AUTO key.

   "A" appears on the display.

3. Enter the System Speed Dial code (00-89 or 000-199).

   The number and corresponding name appear on the display.

4. Complete your call and replace the handset.

   The line LED changes from green to red and then goes off.

To check a programmed System Speed Dial key:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press the CONF key.

    "C" appears in the display.

3. Press AUTO.

4. Press a System Speed Dial key.

    The programmed data appears on the display.

5. Press the ON/OFF key.

    . The ON/OFF LED goes off.

    . The date and time appear on the display.

Related Programming

. FF1 (System): Speed Dial Mode Setting (CPC-AII and CPC-B Version 7.0 and higher)

. FF1 (System): Override Toll Restriction With SSD Numbers

. FF10 (Speed Dialing): System Speed Dialing

Considerations

. If numbers do not appear on the display when you use System Speed Dial codes (00-89 or 000-199), your extension is not programmed to display that data.

. The system can be programmed to allow System Speed Dial Numbers to override toll restrictions.

. You can make outside calls using this feature, even if your extension is assigned toll restriction type 2-6.

• Speed Dial code cannot be checked while Station Lockout is activated.

. With CPC-AII and CPC-B Version 7.0 and higher, if the Speed Dial is used to forward to an outside number and Least Cost Routing is enabled, the Speed Dial cannot use Trunk Access "9." Use trunk access 8 1-86 instead.

Speed Dial Linking

Description

You can automatically link together up to five SSD numbers in one Personal Speed Dial Bin to handle telephone numbers longer than 16 characters. Pressing the one Personal Speed Dial Key dials the entire number.

Alternatively, any combination of Personal Speed Dials and System Speed Dials can be manually linked together by pressing the keys in the desired sequence. This can be useful for prepending account codes or long distance carrier access codes, etc.

For more information on programming Speed Dials, see "Speed Dialing" on page 4-87.

Operation

To automatically link multiple System Speed Dials in a Personal Speed Dial Key:

1. Determine the System Speed Dial bin numbers to be linked. These must be preprogrammed by the telephone system administrator or the attendant.

2. Pick up the receiver or press ON/OFF.

3. Press PROG.

4. Press the PSD key to be programmed.

5. Press AUTO.

6. Dial the SSD bin number. Remember that the trunk access may be selected in the SSD by CONF (C) followed by the trunk access number (9, l-6 for trunk groups 89, 8 l-86).

7. Repeat steps 5 and 6 up to 4 more times for all additional SSDs to be dialed.

8. Press HOLD when finished.

   The telephone will display "Stored PSDXXX."

To use a Personal Speed Dial Key that links multiple System Speed Dials:

1. If necessary, select the trunk group (9, 81-86). (Normally the trunk is selected by the Speed Dials.

2. Press the Personal Speed Dial key.

To manually link speed dial keys together:

1. Pick up the receiver or press **ON/OFF.**

2. If necessary, access an outside line.

3. Do one of the following:

If...	Then ...
You are using a PSD number	Press the one-touch key for the first part of the number
You are using a SSD number	Press **AUTO**. Dial the SSD bin

4. Use the one-touch keys or press **AUTO** and the system speed dial codes to dial the parts of the phone number until it is completed.

Considerations

- Before linking, you must enter the parts of the telephone number into one-touch keys or system speed dial codes. For example, program the first part into one-touch,key #1, the second part into one-touch key #2, etc.

- If the trunk access is to be programmed into a Speed Dial, press CONF then enter the trunk access (9, l-6 for trunks groups 89, 81-86).

Station Lockout

(All Versions)

Description

Use the Station Lockout feature to dial a Station Lockout code that prevents other users from using your phone.

To activate Station Lockout:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Dial "74."

   "Enter Code #" appears on the display.

3. Dial the Station Lockout code.

4. Press the ON/OFF key.

   "Set Sta. Lock" appears on the display.

To deactivate Station Lockout:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Dial "74."

   "Enter Code #" appears on the display.

3. Dial the Station Lockout code.

4. Press the ON/OFF key.

   "Set Sta. Lock" disappears from the display.

Related Programming

- FF3 (Extensions): Extension Lockout Code

Considerations

- A locked extension can be used for Intercom Calls.

- Station Lockout key codes can only be set from an attendant phone or a key phone.

- You cannot confirm Speed Dialing or set Speed Dialing while Station Lockout is activated.

- If you enter an incorrect key code and then try to dial, the phone will issue a busy tone.

- If station lockout is set, when ON/OFF is pressed, stutter dial tone is heard followed by steady dial tone.

Trunk-to-Trunk Transfer

(All Versions)

Description

Trunk-to-trunk transfer allows an extension to transfer one outside party to another outside party.

Before completing the transfer, the extension can hold a three-way conference with the two outside parties.

Operation

1. Press the HOLD key during an outside call.

   - Your current call is put on hold.

   - "Hold #XX" (where "XX' is the line number) appears on the display.

2. Press an unlit CO key.

   - The phone issues outside dial tone.

   - "Talk #XX" (where "XX" is the selected line number) appears on the display.

3. Dial the telephone number of the party you want to connect to your original call.

4. After the call goes through, press the CONF key.

- A three-party Conference Call is initiated.

- "Conf #XX #YY" (where "XX" is the fist line and "YY" the second line) appears on the display.

5. Press one of the CO keys.

- The two outside lines are connected.

- "Hold #XX #YY" (where "XX" is the first line and "YY" the second line) appears on the display.

Related Programming

- FF1 (System): Unsupervised Conference Timer

- FF2 (Trunks): Supervised Trunk Line Conference

- FF3 (Extensions): Unsupervised Conference

Considerations

- After the Trunk-to-Trunk Transfer is completed, you cannot add another party to create a three-party Conference Call.

- When the call is finished, the conference information disappears from the display and your extension returns to normal operation.

- When 'the Unsupervised Conference Timer expires, the call is automatically disconnected.

Voice Mail Transfer Key

(CPC-A II and CPC-B 6.0 or higher)

Description

The Voice Mail Transfer (VM/TRF) key allows transfers to voice mailboxes without waiting for voice mail to answer.   Figure 4-8 on page 4-98 illustrates how the system handles voice mail transfers.

Note: See "One-Touch VM Transfer" on page 3- 18 for a similar transfer key. The Voice Mail Transfer Key provides faster operation than the One Touch Voice Mail Transfer Key but may not work with some voice mail systems since you do not wait for the Voice Mail system to answer before pressing the DSS/BLF key. The One-Touch VM Transfer Key works with virtually every voice mail system.

Operation

1. Answers an incoming call, then press the VM/TRF key.

   The system automatically puts the incoming call on hold.

2. Press a DSS/BLF key or dial an extension number.

3. Complete the transfer by going onhook or pressing RELEASE, ON/OFF, or PROG.

Figure 4-8. Voice mail transfer key operation

1
A caller asks to be·transferred to the voice mailbox of ext. 426.

2.
The attendant presses the VM Transfer key,

The system places the caller on hold.

(Typically, the numbers stored under the VM Transfer key consist of the voice mail extension number, plus any special digits required by the voice mail system.)

3.
The attendant presses the DSS/BLF key for extension 426 or manually dials 426.

4.
The attendant completes the transfer by going onhook, pressing RELEASE, ON/OFF, or PROG.

As soon as the transfer is completed, the system sends the contents of the buffer to the voice mail system.

Programming

The Voice Mail Transfer Key may be assigned from a phone or through system programming.

To assign a Voice Mail key from a phone:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

   - The ON/OFF LED lights.

2. Press PROG.

3. Press the FF key to be assigned as a Voice Mail Transfer Key.

4. Press CONF AUTO AUTO.

5. Enter the Voice Mail pilot number.

6. Enter any special codes required by the voice mail system.

   Note: The length of the Voice Mail pilot number and special codes combined cannot exceed six digits. If the VM number and the special codes require more than six digits, assign the special codes to a personal or system speed dial number and enter AUTO followed by the speed dial bin number.

7. Press the HOLD key.

8. Press the ON/OFF key.

   - The ON/OFF LED goes off.

Related Programming

- FF5 (FF Key Programming): FF Key Assignments

Considerations

Key Assignment. The VM/TRF key can be assigned to any key phone, DSS/72 or EM/24. The VM/TRF key cannot be assigned to a One-Touch key.

Transfers. The VM/TRF key can be used to transfer intercom as well as CO calls to a voice mailbox.

Digit *Storage.* Up to six digits can be stored under the VM/TRF key. This total can be comprised of any combination of the voice mail extension number and the special codes. If more than six digits are required, a PSD or SSD number that contains the necessary digits can be stored under the key.

Key Operations. The system responds to key operations during the transfer in the following ways:

- Pressing the FLASH key cancels the VM/TRF and returns intercom dial tone to the user. When the VM/TRF is cancelled, the incoming call is still connected but is on hold.

- If a valid key (CO key or second DSS key, for example) is pressed, the VM/TRF is cancelled and the operation invoked by the key is performed,

- If an invalid key (REDIAL, for example) is pressed, the VM/TRF is cancelled, and the user receives busy tone.

Number of digits allowed. Once VM/TRF is pressed, the user can dial up to 10 digits before completing the transfer.

Holding calls. If a user begins to perform the voice mail transfer and the extension cannot hold a call (one call is already on non-appearance hold, for examplej, the system will keep the call in the talk state and will not allow the voice mail transfer to be initiated.

Non-transmission. If the VM/TRF key stores a number other than a voice mail extension number, the system does not send DSS/BLF information or the extension number that is dialed after pressing VM/TRF.

Voice mail data transmission. The voice mail extension number plus the extension number of the called party's mailbox will be transmitted using a dial code via the API link.

Chapter 5. DSLT Features

This chapter describes features that are available with the Digital Single Line Telephone (DSLT).

This chapter covers the following topics:

DSLT

Figure 5-1 iilustrates the DSLT. For more infonnation on DSLT operation. see the *Digital SLT User's Guide (Section 790)*.

Note: The DSLT can only be used with CPC-All and CPC-B Version 3.1 or higher.

Figure 5-1. Digital Single Line Telephone (DSLT)
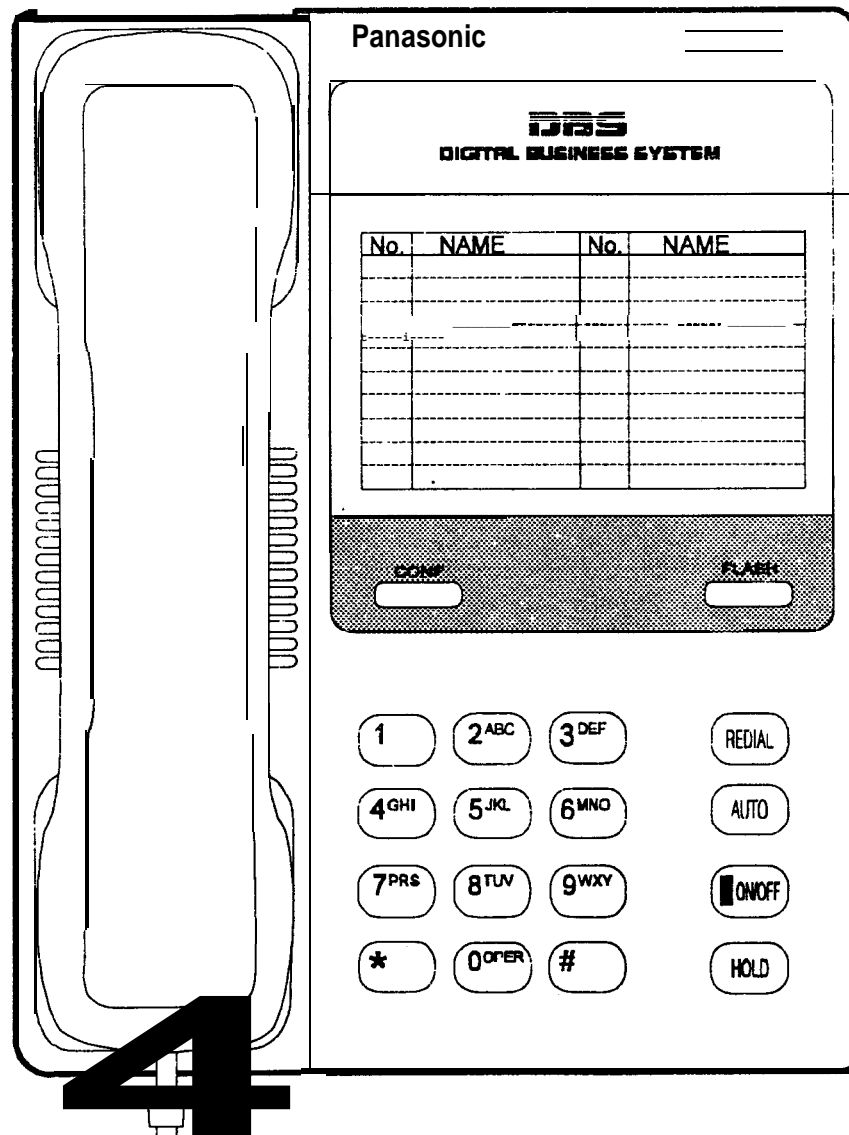
Absence Message

(Ail Versions)

Description

DSLT users can leave text messages on their phones when they are away.

When the unattended extension is called by a display phone, the text message appears on the caller's phone.

One of the following messages can be selected. Messages'5 to 9 can be changed through system programming.

Table 5-1. Absence Messages

Message No.	Message Text
0	In Meeting
1	At Lunch
2	Out of Office
3	Vacation
4	Another Office
5	User Defined
6	User Defined
7	User Defined
8	User Defined
9	User Defined

Operation

To Set an Absence Message

1. Lift the handset or press ON/OFF.

2. Dial "7 1."

3. Enter a message code between 0 and 9 (See Table 5-l).

4. Enter the time you will return (optional). See Table 5-2 for examples.

5. Replace the handset or press ON/OFF.

To Cancel an Absence Message

1. Lift the handset or press **ON/OFF.**

2. Dial "7 1."

3. Replace the handset or press **ON/OFF.**

Related Programming

- **FF1** (System) Extension Class of Service Setting (CPC-AI1 and CPC-B Version 3.1 or higher)

- FF3 (Extension) Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

- FF6 (Names and Messages): Absence Messages

Considerations

- Extensions without displays get a busy signal, rather than the Absence Message.

- If an extension user selects a message code number 5-9 that has not been set up with a message, "Absence," followed by the code number, appears on the caller'sdisplay.

- Absence Message return times can be entered as shown in Table 5-2:

Table 5-2. Example Return Times for Absence Messages

Input	Display
No input	Return
9	Return 9:00
11	Return 11:00
615	Return 6:15
1035	Return 10:35

Four-digit numbers can also be entered (0000-9999 = Hours & Minutes or Month & Date).

In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding. Beginning with Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone; trunk calls are routed to the extension defined in Permanent Call

Forwarding. In versions prior to 5.0, incoming trunk calls to extensions are routed according to the ringing assignment for the trunk.

The following types of incoming trunk calls follow Permanent Call Forward settings:

- Direct trunk calls (including DID/DNIS)

- Transferred trunk calls.

Auto Redial

(CPC-AII and CPC-B Version 7.0 or higher)

Description

If the Rediai key is pressed when the extension is idle or receiving dial tone, the last intercom or outside number is automatically redialed.

Related Programming

. FF3 (System): Auto-Redial on Extensions

. FF1 (System): Extension Class of Service Setting

. FF3 (Extension): Extension Class of Service Assignment

Busy Override

(All Versions)

Description

Extensions in the same Paging Group (l-7) can break into one another's outside or intercom calls to relay information or to create three-party Conference Calls.

Operation

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Dial the extension number.

3. When you hear busy tone, dial "4."

. Both phones issue an alert tone (system programming required).

Related Programming

• FFl (System): Alert Tone for Busy Override and OHVA

• FFl (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

• FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higherj

• FF3 (Extension): Busy Override Send

• FF3 (Extension): Busy Override Receive

• FF3 (Extension): Extension Page Group

Considerations

` • You cannot break in on three-party conference calls.

• The default for the override alert tone is "off." If the override alert tone is enabled, the tone is sent to both parties when a call is overridden.

Call Forwarding

(All Versions)

Description

Call Forwarding allows users to send their calls to another extension, to an outside line, or to voice mail. Some call forwarding enhancements are not available with earlier versions of the DBS. The following table shows the call forwarding features available with each version.

Table 5-3.   DBS Call Forwarding features

Feature	Availability	
Call Forwarding--All Calls	All versions	
Call Forwarding--No Answer	CPC-AI1 and CPC-B Version 2.0 or higher	
Call Forwarding--Busy	All versions	

Call Forwarding--Busy/No Answer	All versions
Call Forwarding--External	All versions *prior* to CPC-AII and CPC-B Version 7.0. (Beginning with CPC-AII and CPC-B Version 7.0, all forwarding types (All Calls, No Answer, Busy, Busy/No Answer) allow call forwarding outside -- eliminating the need for Call Forwarding-External. j
Permanent Call Forwarding	CPC-AII and CPC-B Version 3.1 to Version 6.11.

Call Forwarding--All Calls. When this feature is activated. all incoming calls to an extension are immediately forwarded.

Call Forwarding--No Answer. When this feature is activated, unanswered calls ring until the Call Forward No Answer timer expires. When the timer expires, the unanswered calls are forwarded.

Call Forwarding--Busy. When this feature is activated, ail incoming calls to a busy extension are forwarded.

Call Forwarding--Busy/No Answer. When this feature is activated, all incoming calls to an extension that is busy or does not answer are forwarded.

Call Forwarding--External. (*CPC-A and CPC-AII and CPC-B Versions prior to* 7.0). When this feature is activated, all incoming *intercom calls* to an extension are forwarded to an outside number. The outside number must first be entered as a system or personal speed dial number.

Any system speed dial bin or personal speed dial bin can be used to store an outside number for call forwarding.

> Note: Beginning with CPC-AI1 and CPC-B Version 7.0, all call types can be forwarded outside. The forwarding is not limited to internal calls but may include incoming outside calls.

Permanent Call Forwarding. Permanent call forwarding is assigned through system programming. Permanent call forwarding is usually used to forward calls to a voice mail system.

Extension user can invoke other forms of call forwarding (no answer, busy, all calls) to override the permanent call forwarding destination.

Permanent call forwarding can be used with busy, no answer, or busy/no answer.

Operation

To activate Call Forwarding:

1. Lift the handset or press **ON/OFF.**

    The phone issues intercom dial tone.

2. Dial "72."

3. Dial the appropriate call forwarding code.

Call Forward Type	Code
All	0
Busy/no answer	1
Busy	2
Outside	3
No answer	4

    Note: Beginning with CPC-AII and CPC-B Version 7.0, all forwarding
    types (All Calls, No Answer, Busy, Busy/No Answer) allow call
    forwarding outside eliminating the need for Call Forwarding--External.

4. If you are forwarding to an extension, enter the extension number. If you
   are forwarding to an outside number, press **AUTO** plus the appropriate
   speed did number.

    Note: Outside numbers used for call forwarding must already be
    programmed into speed dialing. (See page 5-35 for instructions.)

5. Replace the handset or press **ON/OFF.**

To cancel Call Forwarding

1. Lift the handset or press **ON/OFF.**

2. Dial "72."

3. Replace the handset or press **ON/OFF.**

Related Programming

- FF1 (System): Call Forward No Answer Timer

- FF1 (System): Extension Class of Service Setting (CPC-AI1 and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Type (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Extension (CPC-AII and CPC-B Version 3.1 or higher)

- FF10 (Speed Dialing): System Speed Dial Numbers

- FF10 (Speed Dialing): Personal Speed Dial Numbers

Considerations

- Calls can be forwarded to extensions that have call forwarding activated. For example, phone "A" can be forwarded to phone "B," even if phone "B" is forwarded to voice mail.

- With CPC-B 4.07 and later, extensions receiving forwarded trunk calls display "CFWD NNN XXXXXX," where "NNN" = the extension that forwarded the call and "XXXXXX" = the trunk name or number.

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

  Beginning with CPC-B Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone; trunk calls are routed to the extension defined in permanent call forwarding.

  The following types of incoming trunk calls follow permanent call forward settings:

- Direct trunk calls (including DID/DNIS)

- Transferred trunk calls.

- Voice calls do not forward when Call Forwarding--No Answer is used.

- Extensions for which CallForwarding-External has been set cannot:

- Be in the middle of an outside call when the feature is activated.

- Have a toll restriction setting that prohibits outside calls.

- Calls can be forwarded to a third-party voice mail (a system other than the DBS Voice Mail) by using the "Call Forward ID Code" described on page 2-13.

- Beginning with CPC-AII and CPC-B Version 7.0. all call types can be forwarded outside using speed dials. However, if Least Cost Routing is activated, dial "9" trunks cannot be used. Select another trunk group instead (8 1-86).

Call Hold
(All Versions)

Description

The HOLD key provides either exclusive or system hold, depending on system programming. With Exclusive Hold, only the extension that held the call can retrieve it. With System Hold, another extension can retrieve the call.

Operation

To place a call on Hold:

Press the HOLD key.

To release the call:

Press the HOLD key again.

Related Programming

- FF1 (System): Non-appearing Central Office Line Hold

- FF1 (System): Recall Timer for Extension-Held Intercom Calls

- FFI (System): Recall Timer for Extension-Held CO Calls

- FF1 (System): Trunk Line Automatic Hold (Key Bank Hold)

Considerations

- A held call will recall if it is not retrieved before the Hold Recall Timer expires.

.   If there is no response to the Hold Recall tone, the tone is issued at the
    Attendant Phone. However, no tone is issued at the Attendant Phone if
    Night Mode is activated.

.   If your system has onhook transfer activated, and you have placed an
    outside call on hold and then made an Intercom Call, make sure the other
    extension presses the FLASH key or hangs up before you do. If you hang
    up before the other extension, *the held outside line will be transferred to
    that extension.*

.   An error tone is issued if you attempt to hold more than one call at once.

.   The DBS can provide Music-on-Hold to callers placed on hold. See
    "Music-On-Hold" (page 2-34) for more information.

Call Park
(All Versions)

Description

You can use the Call Park function to transfer a call, even if you cannot locate
the intended recipient of the call. Simply park the call and then page the
person to whom you want to transfer the call. That person can answer the call
from any extension by dialing the number of the extension that parked the
call.

Operation

To park a call:

1. Press the HOLD key.

2. Dial "75."

To retrieve a parked call:

1. Lift the handset.

    The phone issues intercom dial tone.

2. Dial "76."

3. Dial the number of the extension that parked the call.

To retrieve a call parked by the attendant (after receiving the park number from the attendant):

1. Pick up the handset.

    The phone issues intercom dial toned.

2. Dial "76."

3. Enter the Park Number assigned to the call.

    "PARK PICK XX" (where "**XX**" is the park number) appears, and then "CO TALK #XX' (where "XX" is the trunk number of the call) appears.

Related Programming

-   **FF1** (System): Attendant Park Hold Recall Timer

-   **FF1** (System): Extension Park Hold Recall Timer

Considerations

-   An alarm tone is issued if a parked call is not released before the Park Recall Timer expires. If this happens, the user that parked the call can retrieve it by picking up the handset. If no one retrieves the call after the Park Recall Timer expires, a second alarm is issued at the attendant phone(s).

-   You cannot park more than one outside line at a time.

-   The Call Park Recall Timer is similar to the Recall Timer, except that when the Call Park Recall Timer is set for "0" a call automatically recalls in three minutes.

Call Pickup
(All Versions)

DSLTs can use both directed and group call pickup.

Direct Call Pickup

Description

A call to an extension can be answered from any other extension with the Direct Call Pickup feature.

Operation

1. Lift the handset.

2. Dial "79."

3. Enter the number of the ringing extension.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AI1 and CPC-B 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

Considerations

- If more than one caller is attempting to reach the ringing extension, the Direct Call Pickup feature answers the call that arrives first.

  Once the call has been picked up, other extensions that attempt to pick up the call receive busy tone.

- You can answer incoming calls, intercom calls (both tone and voice), call waiting, paging, transferred calls, or recalls using the Direct Call Pickup feature. You cannot answer callbacks with this feature.

Group Call Pickup

Description

Use the Group Call Pickup feature, to answer calls to other extensions within your Paging Group (01-07) without entering the number of the extension that is ringing.

Operation

1. Lift the handset.

2. Dial "70."

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Page Group

Considerations

- If more than one call is arriving at the Paging Group, the Group Call Pickup feature will answer the call to the lowest-numbered port fist.

- If the called extension belongs to more than one Paging Group, the Group Call Pickup Feature will answer the call to the lowest-numbered Paging Group first.

- You can answer incoming calls, Intercom Tone Calling, or Intercom Voice Calling using the Group Call Pickup feature. You cannot answer Paging or Callback with this feature.

- Group Call Pickup cannot be used to pick up a ringing phone in Paging Group 00. For example, if an extension is a member. of Paging Groups 00 and 06, the extension can use Group Call Pickup to answer ringing calls in Group 06, but not in Group 00.

Call Transfer

(All Versions)

The DBS provides two call transfer methods: blind transfer and screened transfer.

Blind Transfer

Description

Blind transfer allows the transfer of a call directly to an extension, without waiting for the called extension to answer.

Operation

1. Press the HOLD key to place the call on hold.

2. Dial the extension number to which the call is to be transferred.

3. Replace the handset before the other party answers.

   - You can also replace the handset after the third party answers.

   - The third party need only pick up the handset to speak to the outside line.

Related Programming

- FF 1 (System):. Onhook (Automatic) Transfer

- FF1 (System): Recall Timer for Extension-Transferred CO Calls

- FF 1 (System): Recall Timer for Attendant-Transferred CO Calls

Considerations

- For users to transfer calls by pressing HOLD, dialing an extension, and going onhook, the Onhook Transfer feature must be enabled.

- You cannot transfer a call to an extension that has Do Not Disturb or Absence Message activated.

- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to.

For example, if extension "A" is forwarded to extension "B," calls that are transferred to extension "A" w-ill be forwarded to extension "B."

. When you transfer a call to an extension that does not answer and does not have Call Forwarding activated, the transfer recalls your extension after the Transfer Recall Timer expires.

Screened Transfer

Description

Use the Screened Transfer feature to contact a third party and announce the call before transferring it.

To use Screened Transfer when your system is set for Onhook Transfer:

1. Press the HOLD key to place the call on hold.

   The phone issues intercom dial tone.

2. Dial the extension number to which the call is to be transferred.

3. When your call is answered, inform the third party of the transfer.

4. Replace the handset.

   The third party need only pick up the handset to speak to the outside line.

To use Screened Transfer when Onhook Transfer is disabled:

1. Press the HOLD key to place the outside call on hold.

   The phone issues intercom dial tone.

2. Dial the extension number to which the call is to be transferred.

3. When your call is answered, inform the third party of the transfer.

   The EXT LED stops flashing and remains lit.

4. Dial "8."

   The third party need only pick up the handset to speak to the outside line.

5. Replace the handset.

Related Programming

- FF1 (System): Onhook (Automatic) Transfer

- FF1 (System): Recall Tier for Extension -Transferred CO Calls

. FF1 (System): Recall Timer for Extension -Transferred CO Calls

Considerations

- You cannot transfer a call to an extension that has Do Not Disturb or Absence Message activated.

- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to.

  For example, if phone "A" is covered to phone "B," calls that are transferred to phone "A" will be forwarded to phone "B."

- When you transfer a call to an extension that does not answer and does not have Call Forwarding activated, the transfer recalls to your extension after the Transfer Recall Timer expires.

Call Waiting

(All Versions)

Description

You can send a Call Waiting signal, followed by a brief LCD message, to a busy extension. The party receiving the message need only replace the handset and then pick it up again to be automatically connected to your extension.

The following messages can be sent using the Call Waiting feature:

Table 5-4.   Call Waiting Text Messages

Message Code	Message
5	"Visitor Here"
6	"Need Help"
7	"Important"
9	"Emergency"

Message codes O-4 cannot be used.

Operation

To Set Call Waiting:

1. Lift the handset.

2. Dial-the extension number.

3. Upon hearing busy tone, press "3."

4. If you wish to send a text message, dial the desired message code (5-7 or 9).

   The message appears on the called party's phone if the called party has a display phone. (If the extension does not have a display, it will continue to issue a call waiting tone.)

5. Remain on the line until the called party picks up.

To answer Call Waiting (after disconnecting the current call):

1. Replace the handset.

The current call is disconnected.

2. Pick up the handset.

You are automatically connected to the extension sending the Call Waiting.

To answer Call Waiting (without disconnecting the current call):

1. 3ress HOLD.

   - The current call is disconnected.

   - The new call is connected automatically.

2. Press HOLD again to retrieve the first call.

Related Programming

- FF1 (System) Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Call Waiting/OHVA

Considerations

- Call Waiting can be used without entering a message code.

- An extension that has DND activated. has a call on hold, is ringing (from another call), or is engaged in a conference call cannot receive Call Waiting messages.

- An extension that has call forwarding activated cannot receive call waiting messages unless it has an available ML key.

Camp-on
(All Versions)

Description

If you reach a busy extension, you can use the Camp-on feature to alert you with a ring when the extension becomes free. You can then to pick up your handset to automatically dial the extension.

Operation

To activate the Camp-on feature:

1. Lift the handset.

2. Dial the desired extension number.

3. Upon hearing busy tone, press "3."

    - The phone issues a ringback tone.

    - If the Camp-on feature is not available, the phone continues to issue busy tone.

4. Replace the handset after you hear the ringback tone.

To answer the callback ring:

Pick up the handset when you hear the callback ring.

The system automatically dials the called extension.

Related Programming

- FF3 (Extension): Call Waiting/OHVA

Considerations

- The callback ring must be answered within sixteen seconds or it will be canceled.

- A Camp-on request will only be accepted *after* Call Waiting status.

- Camp-on is not allowed to an extension that has call forwarding activated.

. An extension can only have one call camped on at a time. For example, if
Extension 152 camps on to Extension 153, another extension cannot camp
on to 153, as long as 152 is camped on.

. An extension that has initiated a camp-on cannot receive a camp-on. For
instance, if Extension 200 has camped on to Extension 300, another
extension cannot camp on to 200.

. For CPC-B 5.03 and above, callbacks are not forwarded. For example, if
Extension 200 is call forwarded to Extension 300, Extension 200 can
register a callback request to Extension 400. When the callback request is
returned, it will ring Extension 200 and will not follow call forwarding.

Conference Calls
(All Versions)

Description

Conference Calls allow an extension user to add a party to an existing
conversation.

DSLT users can create the following types of Conference Calls:

. One outside line and two extensions (three-party Conference Call)

. Two outside lines and one extension (three-party Conference Call)

. Three extensions (Intercom Conference Call)

Operation

To add an extension:

1. Press the HOLD key to place the current call on hold.

2. Dial the number of the extension you wish to add to the call.

3. Press CONF when your call is answered.

To add an outside number:

1. Press the HOLD key to place the current call on hold.

2. Call the outside number.

3.   Press CONF when your call is answered.

Considerations

- Press the FLASH key to exit a Conference Call.

- The Hold feature cannot be used during a three-party conference.

Dial "0" for Attendant
(All Versions)

Description

The Attendant can be called from any extension by pressing "0."   •

If multiple attendants are assigned, dial "0" calls goes to Attendant "1" first. If attendant "1" is busy, the call then goes to Attendant "2." The call continues to transfer to the next attendant in the attendant group, if necessary.

A maximum of four attendants can be assigned.

Operation

1. Lift the handset.

2. Press "0."

Related Programming

- FF1 (System): Second Attendant Position

- FF1 (System): Third Attendant Position

- FFI (System): Fourth Attendant Position

- FF1 (System): Attendant Transfer Extension

Dial Tone Disable

(All Versions)

Description

The intercom dial tone can be turned off at a phone. Dial tone is turned off when a headset is used.

Operation

To disable the intercom dial tone:

1. Press the ON/OFF key.

   • The phone issues intercom dial tone.

2. Press "#50."

3. Press the ON/OFF key.

To reactivate dial tone:

Repeat the preceding steps.

Direct Trunk Access

(All Versions)

Description

Extension users can access specific trunks for outgoing calls. Extension users can also use Direct Trunk Access to test trunks or to access data trunks.

Operation

1. Lift the handset.

2. Dial "88" followed by the desired trunk number (01-64).

3. Dial the outside number.

Do-Not-Disturb (DND)

(All Versions)

Description

An extension can be made unavailable by activating Do-Not-Disturb (DND). Calls to extensions with DND activated receive busy tone.

Operation

To activate DND:

1. Lift the handset or press ON/OFF.

2. Dial "73."

3. Replace the handset or press the ON/OFF key.

To cancel DND:

1. Lift the handset or press ON/OFF.

2. Dial "73."

3. Replace the handset or press ON/OFF.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AI1 and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 4.0 or higher)

Considerations

- Callback Queuing can ring an extension in DND.

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

  Beginning with Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone; trunk calls are

routed to the extension defined in permanent call forwarding.

The following types of incoming trunk calls will follow permanent call forward settings:

- Direct trunk calls (including DID/DNIS)

- Transferred trunk calls.

- The DND feature cannot be activated at an extension selected to receive Call Forwarding.

Intercom Calling

(All Versions)

Descriptions

The DBS provides two methods of intercom calling: voice calling and tone calling.

Voice Calling. With voice calling, intercom calls are connected immediately, without a ringing tone.

Tone Calling. With tone calls, a ringing tone is sent to the called extension.

System programming determines whether the DBS uses voice or tone calling as a default. If voice calling is the default, dialing a "1" after the extension number will change the call to a tone call. If tone calling is the default, dialing a "1" will result in a voice call.

Operation

To make a Voice Call:

1. Lift the handset.

2. Dial the extension number.

3. If the system default is tone calling, dial a "1."

To make an Tone Call:

1. Lift the handset.

2. Dial the extension number.

3.   If the system default is voice calling, dial a "1."

The called extension rings.

Related Programming

- **FF1** (System): Extension Intercom Calling

- **FF1** (System): Alert Tone for Voice Calls

- **FF1** (System): Extension Class of Service Setting (CPC-AI1 and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 4.0 or higher)

Considerations

- When an extension's calling mode is set to voice calls, a "splash" tone can be sent to alert the extension to the voice call. System programming determines if the splash tone is provided.

- If an extension is onhook, it will receive tone calls.

- The voice calling feature is not available for DISA incoming calls.

- Voice calls do not forward if Cover No Answer is turned on.

Last Number Redial
(All Versions)

Description

The last outside number dialed may be redialed automatically by pressing the **REDIAL** key.

Operation

1. Lift the handset.

2.   Dial a trunk access code (81-86 or 9).

3.   **Press the REDIAL** key.

Considerations

- If the Auto Flash Redial feature is set, you can flash the outside line once by pressing the REDIAL key at the busy tone. The last number dialed can then be redialed.

- The Last Number Redial feature can redial a number up to sixteen digits long.

- A maximum of five Speed Dialing codes can be redialed.

Meet-Me Answer

(All Versions)

Description

You can answer a Paging call from any extension using the Meet-Me Answer feature.

Operation

1. Pick up the handset from any idle extension at which you hear a Paging call or if you are talking with another party, place the party on hold when you hear the paging call.

2. Press "77."

   Paging ceases and you are connected to the paging party.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 4.0 or higher)

Message Waiting/Callback Request

(All Versions)

Description

If you call an extension that is busy or does not answer, you can leave a message requesting a return call.

Operation

To leave a Message Waiting/Callback Request:

1. Lift the handset.

2. Dial the extension number.

3. Dial **"2"** at the busy tone or while the telephone is still ringing.

4. Replace the handset.

To answer a Message Waiting/Callback Request:

1. Pick up the handset.

   The phone issues intercom dial tone.

2. Press the AUTO key.

3. Press the **REDIAL** key.

   Your telephone automatically dials the extension that left the Callback Request.

To cancel a Callback Request:

1. **Lift** the handset or press ON/OFF.

2. Press the AUTO key.

3. Press the FLASH key.

4. Replace the handset or press the ON/OFF key.

Related Programming

- FFI (System): Extension Class of Service Setting (CPC-AI1 and CPC-B Version 3.01 or higher)

- FF3 (Extension): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.01 or higher)

Considerations

- Up to four Message Waiting/Callback Requests can be sent to one extension.

- If you call an extension a second time and the party answers, a Message Waiting/Callback Request you sent earlier will be cancelled.

- If a Message Waiting/Callback Request is sent to an extension that has Call Forwarding enabled, the Callback Request is automatically forwarded to the designated extension.

- You can send a Message Waiting/Callback Request to an extension that has Do Not Disturb or Absence Message activated.

- Beginning with CPC-A 3.28, CPC-B 4.07, and CPC-A II 6.0, making a blind transfer to an extension to which you have previously sent a callback request does not cancel your callback request. Earlier CPC versions cancelled your callback request if you transferred a call to the same extension.

Off-Hook Voice Announce (OHVA)

(All Versions)

Description

You can use the Off-Hook Voice Announce (OHVA) feature to interrupt a busy extension and then make an announcement that only the called party can hear. You can also transfer a held call to a busy extension after making the announcement using this feature.

Operation

To make an OHVA:

1. Lift the handset.

2.   Dial the desired extension number.

3.   Upon hearing busy tone, press "5."

To transfer a call using OHVA

1. Press the HOLD key.

2.   Dial the number of the extension to which the call will be transferred.

Your phone issues a busy tone if the extension is already on a call.

3.   Press "5" and announce the call to be transferred.

If the transferred call is not accepted by the called extension, press the FLASH key to cancel the transfer.

4.   Press "8."

5. Replace the handset.

To answer the call from a DSLT:

1.   Press CONF to speak with the announcing party.

2.   Press CONF again to disconnect the announcing party and return to the original call.

Related Programming

- **FF1** (System): **Onhook** (Automatic) Transfer

- **FF1** (System): Alert Tone for Busy Override **&** OHVA

- **FF1** (System): Extension Class of Service Setting (**CPC-AII** and CPC-B 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (**CPC-AII** and CPC-B 3.1 or higher)

- FF3 (Extension): Call **Waiting/OHVA**

Considerations

- If **Onhook** Transfer is enabled, the held call is transferred as soon as the extension sending the OHVA hangs up.

- If the transferred call is not answered immediately, it will queue for a specified time and then return to the extension sending the OHVA. (The recall time is set in the Transfer-Recall Timer.)

- You cannot receive a Call Waiting message during an OHVA.

- You cannot toggle back and forth between two calls during an OHVA.

Onhook Dialing
(All Versions)

Description

To use onhook dialing. press the **ON/OFF** key.

The DSLT does not have a microphone, so the user must lift the handset to talk.

Pooled Trunk Access
(All Versions)

Description

The DBS system is designed to accept from 8 to 64 outside lines. These lines can be divided into seven Pooled Trunk groups. The groups are numbered 9 and 81-86.

To select a free outside line, choose a pooled trunk group number. The DBS automatically selects a free line from the group.

Operation

1. Lift the handset.

   The phone issues an intercom dial tone.

2. Dial the desired trunk group number (81-86 or 9).

3. Dial the outside number.

Related Programming

- FF1 (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Groups "8 l-86"

- FF3 (Extension): Forced Least Cost Routing

- FF8 (LCR): LCR Settings (all)

Considerations

- There are seven groups of outside lines: 9 and 81-86. Some additional outside lines may not be assigned to a group.

- Dialing "9" activates LCR if the LCR option is enabled.

Reminder Call
(All Versions)

Description

With the Reminder Call feature, your telephone can act as an alarm clock.

Operation

To Set the Reminder Call feature:

1. Lift the handset or press ON/OFF.

   The phone issues intercom dial tone.

2. Press **"#4."**

3. Enter the time you wish the Reminder Call to be issued. Enter the desired time in **12-hour** format, followed by a "1" for a.m. or a "2" for p.m.

4. Replace the handset or press the ON/OFF key.

To Cancel the Reminder Call feature:

1. Lift the handset or press ON/OFF.

   The phone issues intercom dial tone.

2. Dial **"#4."**

3. Replace the handset or press ON/OFF.

Considerations

- A sixteen-second alarm tone will be issued at the specified time.

- One Reminder Call may be set for each telephone.

- To change the Reminder Call, enter a new time.

- If the extension is in use when the reminder call is scheduled, the reminder call is sent as soon as the extension becomes available.

Saved Number Redial
(All Versions)

Description

You can save a previously dialed number for later redialing. Unlike the Last Number Redial feature, the Saved Number Redial feature allows you redial the stored number, even if it is not the last number dialed.

Saved Number Redial can only be used for outside numbers,.

Operation

To save a number:

1. Press the **AUTO** key twice.

2. Press "*****."

3. Replace the handset.

To redial a saved number:

1. Lift the handset.

2. Dial a trunk access code (8 l-86 or 9).

3. Press the AUTO key.

4. Press "*****."

Considerations

- Any previously saved number is erased when a new number is saved.

- The Saved Number Redial feature can redial a number up to sixteen digits long.

- A maximum of five chained Speed Dialing codes can be stored.

Speed Dialing
(All Versions)

Personal Speed Dialing

Description

Extension users can store frequently called numbers using the Personal Speed Dial feature. Up to 10 Personal Speed Dial numbers can be stored at each extension.

With all versions prior to Version 7.0, the Personal Speed Dial bins are numbered 90 to 99. With CPC-AIIKPC-B Version 7.0 and higher, the Personal Speed Dial bins are numbered 900 to 909.

Extension users can program their own personal speed dial numbers, or they can be programmed from a key phone.

Operation

To assign Personal Speed Dial Numbers:

1. Lift the handset or press **ON/OFF.**

2. Press ***.**

3. Dial "80."

4. Dial a personal speed dial bin number (90-99 or 900-909).

5. Dial the number you want to store.

   - To include a trunk access code in the number, press **CONF** then dial 9 or l-6. (l-6 = trunk groups 81-86.)

- To include a pause, press REDIAL.

- To include a flash, press FLASH.

6. Press HOLD.

7. Replace the handset or press ON/OFF.

To delete a Personal Speed Dial number:

1. Lift the handset or press ON/OFF.

2. Press *.

3. Dial "80."

4. Dial the personal speed dial number (90-99 or 900-909).

5. Press HOLD.

6. Replace the handset or press ON/OFF.

7. To dial a Personal Speed Dial number:

To dial a Personal Speed Dial number:

1. Lift the handset or press ON/OFF.

2. If necessary, select an outside line.

3. Press AUTO.

4. Dial the personal speed dial number (90-99 or 900-909).

Related Programming

- FF7 (Toll Restrictions): Toll Restrictions (all)

- FF10 (Speed Dialing): Personal Speed Dial Numbers

Considerations

- Personal speed dial numbers for DSLTs can also be entered from an attendant phone.

- Personal Speed Dial numbers can contain up to sixteen digits.

- Storing a new number erases any previously stored data.

- Speed Dialing cannot be checked while Station Lockout is enabled.

- If the Speed Dial is used to forward to an outside number and Least Cost Routing is enabled, the Speed Dial cannot use Trunk Group "9."

System Speed Dial

Description

Frequently called numbers can be stored using the System Speed Dial feature. Up to 90 System Speed Dial numbers can be programmed at the Attendant Phone and used by any extension. With **CPC-AII/CPC-B** Version 7.0 and higher, up to 200 System Speed Dial numbers can be programmed at the Attendant Phone and used by any extension.

Operation

To dial a system speed dial number:

1. Pick up the handset.

2. If necessary, access an outside line.

3. Press **AUTO.**

4. Dial the system speed dial code (00-89 or 000-199).

Related Programming

- **FF1** (System): Override Toll Restriction with SSD Numbers

- **FF10** (Speed Dialing): System Speed Dialing

Station Lockout
(All Versions)

Description

Use the Station Lockout feature to dial a Station Lockout code that prevents other users from rising your phone.

To activate Station Lockout:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

2. Dial "74."

3. Dial the Station Lockout code.

4. Press the ON/OFF key.

To deactivate Station Lockout:

1. Press the ON/OFF key.

   - The phone issues intercom dial tone.

2. Dial "74."

3. Dial the Station Lockout code.

4. Press the ON/OFF key.

Related Programming

- FF3 (Extensions): Extension Lockout Code

Considerations

- A locked extension can be used for Intercom Calls.

- Station Lockout key codes can only be set from an attendant phone or a key phone.

- You cannot confii Speed Dialing or set Speed Dialing while Station Lockout is activated.

- If you enter an incorrect key code and then try to dial, the phone will issue a busy tone.

If station lockout is set, when ON/OFF is pressed, stutter dial tone is heard followed by steady dial tone.

Chapter 6. SLT Features

This chapter describes features that are available with single-line telephones (SLTs).

Single-line telephones are industry-standard 2500 sets. SLTs are not equipped with feature keys or line keys, so basic telephone operations are performed by pressing dialpad keys and/or using the switchhook.

This chapter covers the following topics:

Absence Message

(All Versions)

Description

SLT users can leave text messages on their phones when they are away.

When the unattended extension is dialed by a key phone, the text message appears on the caller's phone.

One of the following messages can be selected. Messages 5 to 9 can be changed through system programming.

Table 6-I. Absence Messages

Message No.	Message Text
0	In Meeting
1	At Lunch
2	Out of Office
3	Vacation
4	Another Office
5	User Defined
6	User Defined
7	User Defined
8	User Defined
9	User Defined

Operation

To Set an Absence Message

1. Lift the handset.

2. Dial "71."

3. Enter a message code between 0 and 9 (See Table 6-l).

4. Enter the time you will return (optional). See Table 6-2 for examples.

5. Replace the handset.

To Cancel an Absence Message

1. Lift the handset.

2. Dial "7 1."

3. Replace the handset.

Related Programming

- FFI (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

- FF6 (Names and Messages): Absence Messages

Considerations

- Extensions without displays get a busy signal, rather than the Absence Message.

- If a message code number that has not been assigned a text message is selected, "Absence," followed by the code number, appears on the caller's display.

- Absence Message return times can be entered as shown in Table 6-2:

Table 6-2. Example Return Times for Absence Messages

Input	Display
No input	Return
9	Return 9:00
11	Return 11:00
615	Return 6:15
1035	Return 10:35

Four-digit numbers can also be entered (0000-9999 = Hours & Minutes or Month & Date).

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

Beginning with CPC-B Version 5.0, calls to extensions with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone; trunk

calls are routed to the extension defined in permanent call forwarding.

The following types of incoming trunk calls follow permanent call forward settings:

- Direct trunk calls (including DID/DNIS)

- Transferred trunk calls.

- When an Absence Message is set on a DID extension, incoming DID calls are routed according to the ringing assignment programmed for the incoming trunk.

Busy Override
(All Versions)

Description

Extensions in the same Paging Group (1-7) can break into one another's outside calls or intercom calls to relay information or to create three-party Conference Calls.

Operation

Press "4" when you hear the busy tone.

An alert tone is issued at both phones.

Related Programming

- FF1 (System): Alert Tone for Busy Override & OHVA

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Busy Override Send

- FF3 (Extension): Busy Override Receive

- FF3 (Extension): Extension Page Group

Considerations

. You cannot break in on three-party conference calls.

. The default for the override alert tone is "off." If the override alert tone is enabled, the tone will be sent to both parties when a call is overridden.

Call Forwarding

(All Versions)

Call Forwarding allows users to send their calls to another extension, to an outside line, or to voice mail. All versions of the DBS provide call forwarding; however, some call forwarding enhancements are not available with earlier versions. The following table shows the call forwarding features available with each release.

Table 6-3. VRS Call Forwarding features

Feature	Availability
Call Forwarding--All Calls	All versions
Call Forwarding--No Answer	CPC-AI1 and CPC-B Version 2.0 or higher
Cal 1 Forwarding--Busy	All versions
Call Forwarding--Busy/No Answer	All versions
Call Forwarding--External	CPC-A, CPC-AII prior to 7.0 and CPC-B prior to 7.0. Beginning with CPC-AII and CPC-B Version 7.0, all forwarding types (All Calls, No Answer, Busy, Busy/No Answer) allow call forwarding outside -- eliminating the need for Call Forwarding--External.
Permanent Cal 1 Forwarding	CPC-AII and CPC-B Version 3.1 or higher

Call Forwarding--All Calls. When this feature is activated, all incoming calls to an extension are forwarded immediately.

Call Forwarding--No Answer. When this feature is activated, an unanswered call rings until the Call Forward No Answer timer expires. When the timer expires, the unanswered call is forwarded.

Call Forwarding--Busy. When this feature is activated, all incoming calls to a busy extension are forwarded to a designated extension.

Call Forwarding--Busy/No Answer. When this feature is activated, all incoming calls to an extension that is off-hook or does not answer are forwarded to a designated extension. Similarly, if the extension is busy, the calls are forwarded to the designated extension.

Call Forwarding--External. *(CPC-A, CPC-AII Versions prior to 7.0 and CPC-B Versions prior to 7.0.)* When this feature is activated, all incoming *intercom* calls to an extension are forwarded to an outside number. The outside number must be entered as a system or personal speed dial number.

Any system speed dial number or personal speed dial number can be used to store an outside number for call forwarding.

Note: Beginning with CPC-AII and CPC-B Version 7.0, all call forwarding types (All Calls, Busy/No Answer, Busy, and No Answer) can be forwarded outside eliminating the need for Call Forwarding--External. The forwarding is not limited to internal calls but may include incoming outside calls.

Permanent Call Forwarding. Permanent call forwarding is assigned through system programming. Permanent call forwarding is usually used to forward calls to a voice mail system.

Extension users can invoke other forms of call forwarding (no answer, busy, all calls) to override the permanent call forwarding destination.

Permanent call forwarding can be used with busy, no answer, or busy/no answer.

Operation

To activate Call Forwarding:

1. Lift the handset.

   The phone issues intercom dial tone.

2. Dial "72."

3. Dial the appropriate call forwarding code.

Call Forward Type	Code
All	0
Busy/no answer	1
Busy	2
Outside	3
No answer	4

Note: Beginning with CPC-AII and CPC-B Version 7.0, all forwarding types (All Calls, No Answer, Busy, Busy/No Answer) allow call forwarding outside eliminating the need for Call Forwarding--External.

4. If you are forwarding to an extension, enter the number of the extension you want to receive your calls. If you're forwarding to an outside number, dial "*" plus the appropriate speed dial number.

Note: To forward to an outside number, you must have already programmed the number into personal or system speed dialing. With CPC-A or CPC-B Versions prior to 2.0, you can only forward to an outside number that is programmed into personal speed dial number 99. Beginning with CPC-B 2.0, you can forward to any speed dial number (system or personal).

5. Replace the handset.

To cancel Call Forwarding

1. Lift the handset.

2. Dial "72."

3. Replace the handset.

Related Programming

- FF1 (System): Call Forward--No Answer Timer

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Type (CPC-AII and CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Extension (CPC-AI1 and CPC-B Version 3.1 or higher)

- FF10 (Speed Dialing): System Speed Dial Numbers

- FF10 (Speed Dialing): Personal Speed Dial Numbers

Considerations

. With CPC-A and CPC-B Versions prior to 2.0, calls cannot be forwarded to an extension that already has call forwarding activated. In other words, phone "A" could only forward to phone "B" if phone "B" was not forwarded.

   Beginning with CPC-B Version 2.0, calls can be forwarded to extensions that have call forwarding activated. For example, phone "A" can be forwarded to phone "B," even if phone "B" is forwarded to voice mail.

• Calls can be forwarded to extensions that have call forwarding activated. For example, phone "A" can be forwarded to phone "B." even if phone "B" is forwarded to voice mail.

• With CPC-AII and CPC-B 4.07 and later, extensions receiving forwarded trunk calls display "CFWD NNN XXXXXX," where "NNN" = the extension that forwarded the cdl and "XXXXXX" = the trunk name or number.

. in CPC-A and CPC-B Versions prior to 5.0. DND and Absence Messages cancel Call Forwarding.

   Beginning with CPC-B Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone: trunk calls are routed to the extension defined in permanent call forwarding.

   The following types of incoming trunk calls follow permanent call forward settings:

   - Direct trunk calls (including DID/DNIS)

   - Transferred trunk calls.

. Voice calls do not forward when Call Forwarding--No Answer is used.

. Extensions for which Call Forwarding-External has been set cannot:

   - Be in the middle of an outside call when the feature is activated.

   - Wave a toll restriction setting that prohibits outside calls.

. Calls can be forwarded to a third-party voice mail with the "Call Forward ID Code" described on page 2-13.

. Beginning with CPC-AJI and CPC-B Version 7.0, all call types can be forwarded outside using speed dials. However, if Least Cost Routing is activated, dial "9" trunks cannot be used. Select another trunk group instead (8 l-86).

Call Hold
(All Versions)

Description

Call Hold provides either exclusive or system hold, depending on system programming, With Exclusive Hold, only the extension that held the call can retrieve it. With System Hold, another extension can retrieve the call.

Operation

To place a call on Hold:

Flash the switchhook.

To release the call:

Flash the switchhook again.

Related Programming

- FF1 (System): Recall Timer for Extension-Held CO Calls

- FF1 (System): Recall Timer for Extension-Held Intercom Calls

- FF1 (System): SLT Onhook Flash Timer

- FF3 (Extensions): Single Line Telephone Hookflash (Broker's Hold/ Conference)

- FF1 (System): Single Line Telephone Flash Control

Considerations

- A held call recalls if it is not retrieved before the Hold Recall Timer expires.

- If there is no response to the Hold Recall, the call transfers to the Attendant Phone; however, no tone sounds at an Attendant Phone if Night Mode is activated.

- If you flash the switchhook during a conference call, the flash is ignored.

- If your system is set to onhook transfer, and you have placed an outside call on hold and then made an intercom call, make sure the other extension

hangs up before you do. If you hang up before the other extension, *the held outside line will be transferred to that extension.*

- The DBS can provide Music-on-Hold to callers placed on hold. See "Music-On-Hold" (page 2-34) for more information.

Call Park
(All Versions)

Description

Use the Call Park function to transfer an outside call when you cannot locate the intended recipient of the call. Park the call and then page the person to whom you want to transfer the call. That person can answer the call from any extension by dialing the number of the extension that parked the call.

Operation

To park a call:

1. Flash the switchhook.

2. Dial "75."

To retrieve a parked call:

1. Lift the handset.

   The phone issues intercom dial tone.

2. Dial "76."

3. Dial the number of the extension that parked the call.

To retrieve a call parked by the attendant (after receiving the Park Number from the Attendant):

1. Pick up the handset.

   The phone issues intercom dial toned.

2. Dial '76."

3.   Enter the Park Number assigned to the call.

"PARK PICK XX" (where "XX" is the park number) appears, and then "CO TALK ##XX" (where "XX" is the trunk number of the call) appears.

Related Programming

- FF1 (System): Park Recall Timer

Considerations

- The parked call recalls if it is not retrieved before the Recall Timer expires. If this happens, the user that parked the call can retrieve it by picking up the handset. If no one retrieves the call after the Park Recall Timer expires, the call reverts to the attendant.

- You cannot park more than one outside line at a time.

- The Park Recall Timer is similar to the Recall Timer, except that when the Park Recall Timer is set for "0" calls are automatically recalled in three minutes.

Call Pickup
(All Versions)

SLTs can use both direct and group call pickup.

Direct Call Pickup

Description

A call to an extension can be answered from any other extension with the Direct Call Pickup feature.

Operation

1. Lift the handset.

2. Dial "79."

3.   Enter the number of the ringing extension.

Related Programming

- **FF1** (System): Extension Class of Service Setting (CPC-All and CPC-B 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-All and CPC-B Version 3.1 or higher)

Considerations

- If more than one caller is attempting to reach the ringing extension, the Direct Call Pickup feature will answer the call that arrives first.

  Once the call has been picked up, other extensions that attempt to pick up the call receive busy tone.

- You can answer incoming calls, intercom calls (both tone and voice), call waiting, paging, transferred calls, or recalls using the Direct Call Pickup feature. You cannot answer camp-on callback rings with this feature.

Group Call Pickup

Description

Using the Group Call Pickup feature, you can answer calls to other extensions within your Paging Group (01-07) without entering the number of the ringing extension.

Operation

1. Lift the handset.

2. Dial "70."

Related Programming

- **FF1** (System): Extension Class of Service Setting (CPC-All and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-All and CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension Page Group

Considerations

- If more than one call is arriving at the Paging Group, the Group Call Pickup feature will answer the call to the lowest port number first.

- If the called extension belongs to more than one Paging Group, the Group Call Pickup Feature will answer the call to the lowest-numbered Paging Group first.

- You can answer incoming calls, Intercom Tone Calling, or Intercom Voice Calling using the Group Call Pickup feature.

- Group Call Pickup cannot be used to pick up a ringing phone in Paging Group 00. For example, if an extension is a member of Paging Groups 00 and 06, the extension can use Group Call Pickup to answer ringing calls in Group 06, but not in Group 00.

Call Transfer

(All Versions)

The DBS provides two call transfer methods: blind transfer and screened transfer.

With CPC-A and CPC-B Versions prior to 2.0, SLTs can only transfer trunk calls. Beginning with CPC-B Version 2.0, SLTs can transfer trunk and intercom calls.

Blind Transfer

Description

Blind transfer allows the transfer of a call directly to an extension, without waiting for the called extension to answer.

Operation

1. Flash the switchhook to place the call on hold.

2. Dial the number of the extension to which the call is to be transferred.

3. Replace the handset before the other party answers.

   - You can also replace the handset after the third party answers.

• The third party need only pick up the handset to speak to the outside line.

Related Programming

• **FF1** (System): **Onhook** (Automatic) Transfer

• **FF1** (System): Recall **Timer** for Extension-Transferred CO Calls

• **FF1** (System): Recall Timer for Extension-Transferred Intercom Cal Is

Considerations

• In order for users to transfer calls by flashing the switchhook, dialing the extension, and going **onhook,** the **Onhook** Transfer feature must be enabled.

• You cannot transfer a call to an extension that has Do Not Disturb or Absence Message activated.

• You can transfer a call to an extension that has **Call** Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to.

For **example,** if extension "A" is covered to extension **"B,"** calls that are transferred to extension "A" will be forwarded to extension "B."

• When you transfer a call to an extension that is busy or does not answer and does not have Call Forwarding activated, the transfer will recall your extension after the Transfer Recall Timer expires.

Screened Transfer

Description

Using the Screened Transfer feature, you can contact a third party via an **extension** before transferring a **call** to that party.

Operation

To use Screened Transfer when your system is set for Onhook Transfer:

1. Flash the switchhook to place the call on hold.

The phone issues intercom dial tone.

2. Dial the extension number to which the call is to be transferred.

3. When your call is answered, inform the third party of the transfer.

4. Replace the handset.

The third party need only pick up the handset to speak to the outside line.

To use Screened Transfer when Onhook Transfer is disabled:

1. Flash the switchhook to place the outside call on hold.

The phone issues intercom dial tone.

2. Dial the extension number to which the call is to be transferred.

3. When your call is answered, inform the third party of the transfer.

The EXT LED stops flashing **and remains lit.**

4. Dial "8."

The **third** party need only pick up the handset to speak to the outside line.

5. Replace the handset.

Related Programming

- FF1 (System): **Onhook** (Automatic) Transfer

.   FF1 (System): Recall Timer for Extension-Transferred CO Calls

- FF1 (System): Recall Timer for Extension-Transferred Intercom Calls

Considerations

- You cannot transfer a call to an extension that has Do Not Disturb or Absence Message activated.

- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to.

  For example, if phone "A" is covered to phone "B," calls that are transferred to phone "A" will be forwarded to phone "B."

- When you transfer a call to an extension that is busy or does not answer and does not have Call Forwarding activated, a recall tone sounds at your extension after Transfer Recall Timer expires.

Call Waiting

(All Versions)

Description

You can send a Call Waiting signal, followed by a brief LCD message, to a busy extension. The party receiving the message need only replace the handset and then pick it up again to be automatically connected to your extension.

The following messages can be sent using the Call Waiting feature:

Table 6-4. Call Waiting Text Messages

Message Code	Message
5	"Visitor Here"
6	"Need Help"
7	"Important*'
9	"Emergency'*

Message codes O-4 are not available.

Operation

To Set Call Waiting:

1. Lift the handset.

2. Dial the extension number.

3. Upon hearing busy tone, press "3."

4. If you wish to send a text message, dial the desired message code (5-7 or 9).

   The message displays on the called party's phone if the called party has a key phone. (If the called party does not have a display, the extension continues to issue a call waiting tone.)

5.   Remain on the line until the called party picks up.

To answer Call Waiting (and disconnect the current call):

1. Replace the handset.

   The current call is disconnected.

2.   Pick up the handset.

   You are automatically be connected to the extension sending the Call Waiting.

To answer Call Waiting (without disconnecting the current call):

1. Flash the switchhook.

   - The current call is disconnected.

   - The new call is connected automatically.

2.   Flash the switchhook again to retrieve the original call.

Related Programming

- **FF1** (System) Extension Class of Service Setting **(CPC-AII** and CPC-B Version 3.1 or higher ₑᵣ

- FF3 (Extension): Extension Class of Service Assignment **(CPC-AII** and CPC-B Version 3.1 or higher)

- FF3 (Extension): Call **Waiting/OHVA**

Considerations

- Call Waiting can be used without entering a message code.

- Extensions that have DND activated, have a call on hold, are ringing (from another call), or are engaged in a conference call cannot receive Call Waiting.

- Call Waiting cannot be sent to an ML key.

Camp-on

(CPC-A 3.1 or higher, CPC-AII, and all Versions of CPC-B)

Description

If you reach a busy extension, you can use the Camp-on feature to alert you with a ring when the extension becomes free. You can then pick up your handset to automatically dial the extension.

Operation

To activate the Camp-on feature:

1. Lift the handset.

2. Dial the desired extension number.

3. Upon hearing busy tone, press "3."

   - The phone issues **ringback** tone.

   - If the Camp-on feature is not available, the phone continues to issue a busy tone.

4. Replace the handset after you hear the **ringback** tone.

5. Wait for the callback ring.

To answer the callback ring:

Pick up the handset when you hear the callback ring.

The system automatically dials the called extension.

Related Programming

- FF3 (Extension): Call **Waiting/OHVA** Tone

- FF3 (Extension

Considerations

- The callback ring must be answered within sixteen seconds or it is canceled.

- **A** Camp-on request will only be accepted *after* Call **Waiting status.**

- ⚘▫◆ cannot camp-on to an extension that has call forwarding activated.

- **An extension can only have one call camped on at a time. For example, if** Extension 152 camps on to Extension 153, another extension cannot camp on to 153, as long as 152 is camped on.

- An extension that has initiated a camp-on cannot receive a camp-on. For instance, if Extension 200 has camped on to Extension 300, another extension cannot camp on to 200.

- With CPC-AI1 and CPC-B 5.03 and above, callbacks are not forwarded. For example, if Extension 200 is call forwarded to Extension 300, Extension 200 can register a callback request to Extension 400. When the callback request is returned, it rings Extension 200 and does not follow call forwarding.

Conference Calls
(All Versions)

Description

Conference Calling allows extension users to add a party to an existing conversation.

SLT users can create the following types of Conference Calls:

- One outside line and two, extensions

- Two outside lines and one extension **(CPC-AII** and CPC-B Version 3.1 or later)

- Three extensions.

Operation

To add an extension:

1. Flash the switchhook to place the current call on hold.

2. Dial the number of the extension you wish to add to the call.

3. Dial '7" when your call is answered.

To add an outside number (CPC-All and CPC-B Version 3.1 or higher):

1. Flash the switchhook to place the current call on hold.

2. Dial a trunk group number (8 l-86 or 9).

3. Dial the outside number.

4. Flash the switchhook when your call is answered.

Related Programming

- FF3 (Extension): Single Line Telephone Hookflash (Brokers Hold/ Conference)

Considerations

- Call Waiting tone can be received during conference calls. however. you cannot respond to call waiting until the completion of the conference call because you cannot place the parties in the conference on hold.

- A switchhook flash is ignored during a conference call.

- Calls forwarded externally cannot create a conference.

- The Hold feature cannot be used during a three-party conference.

Dial "0" for Attendant

(CPC-AII and CPC-B Version 2.0 or higher)

Description

Users can call the Attendant from any extension by pressing "0."

If multiple attendants are assigned, a dial "0" call goes to Attendant "1" first. If attendant "1" is busy, the call goes to Attendant "2." The call continues to transfer to the next attendant in the attendant group if necessary.

A maximum of four attendants can be assigned.

Operation

1. Lift the handset.

2. Press "0."

Related Programming

- **FF1** (System): Second Attendant Position

- **FF1** (System): Third Attendant Position

- **FF1** (System): Fourth Attendant Position

- **FF1** (System): Attendant Transfer Extension

Dial Tone Disable

(All Versions)

Description

The intercom dial tone can be turned off at an attendant phone. Dial tone is turned off when a headset is used.

Operation

To disable the intercom dial tone:

1. Lift the handset

   - The phone issues intercom dial tone.

2. Press **"#50."**

3. Replace the handset.

To reactivate dial tone:

Repeat the preceding steps.

Direct Trunk Access
(All Versions)

Description

Extensions can access a specific trunk for outgoing calls. Extensions can also use Direct Trunk Access to test trunks or to access data trunks.

Operation

1. Lift the handset.

2. Dial **"88"** followed by the desired trunk number (01-64).

3. Dial the outside number.

4. Replace the handset.

Do-Not-Disturb (DND)
(All Versions)

Descrip tion

An extension can be made unavailable by activating Do-Not-Disturb (DND). When DND is activated at an extension, calls to that extension receive busy tone.

Operation

To activate DND:

1. Lift the handset.

2. Dial "73."

3. Replace the handset.

   DND is indicated by stutter dial tone followed by dial tone when you go
. off-hook.

To **cancel DND:**

1. Lift the handset.

2. Dial "73."

3. Replace the handset.

RelatedProgramming

- **FF1** (System): Extension Class of Service Setting **(CPC-AII** and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AI1 and CPC-B Version 4.0 or higher)

Considerations

- In CPC-A and CPC-B Versions prior to 5.0, DND and Absence Messages cancel Call Forwarding.

  Beginning with Version 5.0, calls to an extension with DND or Absence Message turned on are treated differently, depending on whether they are trunk or intercom calls. Intercom calls receive busy tone: trunk calls are routed to the extension defined in permanent call forwarding.

  The following types of incoming trunk calls will follow permanent call forward settings:

  - Direct trunk calls (including **DID/DNIS)**

  - Transferred trunk calls.

- The DND feature cannot be activated at an extension selected to receive Call Forwarding.

- If Message Waiting/Call-Back is applied to an extension in DND, after DND is cancelled then stutter dial tone will still be heard to indicate the callback request. Press "**##**" to call the party that originated the callback request.

Intercom Calling

(All Versions)

Descriptions

The DBS provides two methods of intercom calling: voice calling and tone calling.

Voice Calling. With voice calling, intercom calls are connected immediately, without a ringing tone.

Tone Calling. With tone calls, a ringing tone is sent to the called extensidn.

System programming determines whether the DBS uses voice or tone calling as a default. If voice calling is the default, dialing a "1" after the extension number changes the call to a tone call. **If** tone calling is the default, dialing a "1" results in a voice call.

Operation

To make a Voice Call:

1. Lift the handset.

2. Dial the extension number.

3. If the system default is tone calling, dial a "1."

To make an Tone Call:

1. Lift the handset.

2. Dial the extension number.

3. If the system default is voice calling, dial a " 1."

   The called extension will ring.

Related Programming

- FF1 (System): Extension Intercom Calling

- FF1 (System): Alert Tone for Voice Calls

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (**CPC-AII** and CPC-B Version 4.0 or higher)

Considerations

- When an extension's calling mode is set for voice calls, a "splash" tone can be sent to alert the extension to the voice call. System programming determines if the splash tone is provided.

- If an extension is **onhook,** it will receive tone calls.

- The voice calling feature is not available for DISA incoming calls.

- Voice calls do not forward if Cover No Answer is turned on.

Last Number Redial

(All Versions)

Description

The last outside number dialed may be redialed automatically.

Operation

1. Lift the handset.

2. Dial a trunk access code (81-86 or 9).

3. Flash the switchhook.

4. **Dial** "89."

Considerations

. The Last Number Redial feature can redial a number up to sixteen digits long.

- , A maximum of five chained Speed Dialing codes can be redialed;

`   .

Meet-Me Answer

(All Versions)

Description

You can answer a Paging call from any extension using the Meet-Me Answer feature.

Operation

1. Pick up the handset from any extension at which you hear the Paging call.

2. Press "77."

Paging ceases and you are connected to the party trying to reach you.

Related Programming

- FF1 (System): Extension Class of Service Setting (CPC-AII and CPC-B Version 4.0 or higher)

- FF3 (Extension): Extension Class of Service Assignment (CPC-AII and CPC-B Version 4.0 or higher)

Considerations

- You can only use the Meet-Me Answer feature at an extension that does not have an incoming call.

- If an external paging system or a Universal Answer system has been installed, use Group Call Pickup to respond to a Paging call.

Message Waiting/Callback Request

(All Versions)

Description

If you try to call an extension that is busy or does not answer, you can leave a message requesting a return call.

Operation

To leave a Message Waiting/Callback Request:

1. Lift the handset.

2. **Dial** the extension number.

3. Dial "2" at the busy tone or while the telephone is still ringing.

4. Replace the handset.

To answer a Message Waiting/Callback Request (CPC Ail and **CPC-B only):**

1. Pickup the handset.

   The phone issues a stutter dial tone followed by constant dial tone.

2. Dial **"##."**.

   Your telephone automatically dials the extension that left the Message Waiting Callback Request.

To cancel a Message Waiting/Callback Request (CPC-All and CPC-B only):

1. Lift the handset.

2. Dial **"#*"**.

3. Replace the handset.

Related Programming

- **FF1** (System) Extension **Class** of Service Setting (**CPC-AII** and CPC-B Version 3.1 or higher)

- FF3 (Extension) Extension Class of Service Assignment (CPC-AI! and CPC-B Version 3.1 or higher)

Considerations

- With CPC-A, **SLTs** cannot receive callback requests.

- Up to four Message Waiting/Callback Requests can be sent to any **one** extension.

- If a Callback Request is sent to an extension for which **Call** Forwarding is set, the Callback Request is automatically forwarded to the designated extension. The Message Waiting/Callback request is not cleared if a connect is **extablished** with the extension forwarded to.

- You can send a Callback Request to an extension that has Do Not Disturb or Absence Message activated.

- Beginning with CPC-A 3.28, CPC-B 4.07, and CPC-A II 6.0, **making** a blind transfer to an extension to which you have previously **sent** a callback request will not cancel your callback request. Earlier CPC versions cancelled your callback request if you transferred a call to the **same** extension.

Off-Hook Voice Announce (OHVA)
(CPC-A Version 3.1; All Versions of CPC-A **II** and CPC-B)

Description

Use the Off-Hook Voice Announce (OHVA) feature to interrupt a busy extension and **then make** an announcement that only the called party can hear.

Operation

To make an OHVA:

1. **Lift** the handset.

2. Dial the desired extension number.

3. Upon hearing busy tone, press "5."

Related Programming

-   **FF1** (System): Alert Tone for Busy Override **&** OHVA

-   **FF1** (System): Extension Class of Service Setting (**CPC-AII** and CPC-B 3.1 or higher)

-   FF3 (Extension): Extension Class of Service Assignment (**CPC-AII** and CPC-B 3.1 or higher)

-   FF3 (Extension): Call **Waiting/OHVA** (Enable)

Considerations

-   If **Onhook** Transfer is enabled, the held call is transferred as soon as the **extension** sending the OHVA hangs up.

-   You cannot receive a Call Waiting message during an OHVA.

-   You cannot toggle back and forth between two calls while receiving an OHVA.

-   If you make an **Offhook** Voice Announcement to an SLT, the SLT user **and the other party** will **hear the announcement.**

Pooled Trunk Access

(All Versions)

Description

The DBS system is designed to accept from 8 to 64 outside lines. These lines can be divided into seven Pooled Trunk groups. The groups are numbered 9 and 8 l-86.

*Selecting a pooled trunk access number automatically selects a free trunk from the group.

Operation

1. Lift the handset.

The phone issues intercom dial tone.

2. Dial the desired trunk group number (8 l-86 or 9).

3. Dial the outside number.

Related Programming

- **FF1** (System): Least Cost Routing (LCR) Access

- FF2 (Trunks): Pooled Trunk Access for Group "9"

- FF2 (Trunks): Pooled Trunk Access for Group "8 l-86"

- FF3 (Extension): Forced Least Cost Routing

- **FF8** (LCR) LCR Settings (all)

Considerations

- There are seven groups of outside lines: 9 and 8 l-86.

- Dialing "9" activates LCR if the LCR option is enabled.

Speed Dialing
(All Versions)

Personal Speed Dialing

Description

Frequently called numbers can be stored using the Personal Speed Dial feature. Personal speed dial numbers are assigned to **SLTs** from attendant or key phones. Up to **10** Personal Speed **Dial** numbers can be stored for each SLT.

With all versions prior to Version 7.0, the Personal Speed Dial bins are numbered 90 to 99. With **CPC-AII** and CPC-B Version 7.0 and higher, the Personal Speed Dial bins are numbered 900 to 909.

Operation

To program a Personal Speed Dial

1. Pick up the handset

2. Dial *80.

3. Dial the Personal Speed Dial number (90-99 or 900909)).

4. **Dial** * followed by the trunk access number (9, 1-6 for trunk access 89, **8 l-86).**

5. Dial the telephone number.

6. Hang up.

To dial a Personal Speed Dial number:

1. Pick up the handset.

2. **If** necessary, access an outside line.

3. Dial "80."

4. Dial the Personal Speed Dial number(90-99 or 900-909).

System Speed Dial

Description

Frequently called numbers can be stored using the System Speed Dial feature. Up to 90 System Speed Dial numbers (00-89) can be programmed at the Attendant Phone and can be used by any extension. Beginning with CPC-AII and CPC-B Version 7.0, up to 200 System Speed Dial numbers (000-199) can be stored for each SLT.

Operation

To dial a system speed dial number:

1. Pick up the handset.

2. If necessary, access an outside line.

3. Dial "80."

4. Dial the system speed dial code (00-89 or 000-199).

Related Programming

- **FF1** (System): Override Toll Restriction with SSD Numbers

- **FF10** (Speed Dialing): System Speed Numbers

Station Lockout

(All Versions)

Description

Use the Station Lockout feature to dial a Station Lockout code that prevents other users from using your phone.

To activate Station Lockout:

1. Lift the handset.

   . • The phone issues intercom dial tone.

2. Did "74."

3. Dial the Station Lockout code.

4. Replace the handset.

To deactivate Station Lockout:

1. Lift the handset.

   • The phone issues intercom dial tone.

2. Dial "74."

3. Dial the Station Lockout code.

4. Replace the handset.

Related Programming

- FF3 (Extensions): Extension Lockout Code

Considerations

- A locked extension can be used for intercom Calls.

- Station Lockout key codes can only be set from an attendant phone or a key phone.

- You cannot confirm Speed Dialing or set Speed Dialing while Station Lockout is activated.

- If you enter an incorrect key code and then try to dial, the phone will issue a busy tone.

- If station lockout is set, when ON/OFF is pressed, stutter dial tone is heard followed by steady dial tone.