Digital Business System

PANASONIC DBS

Panasonic ®

Installation

Programming Guidance

Technician's Notes

DBS
Digital Business System

Installation

Section 300

Panasonic
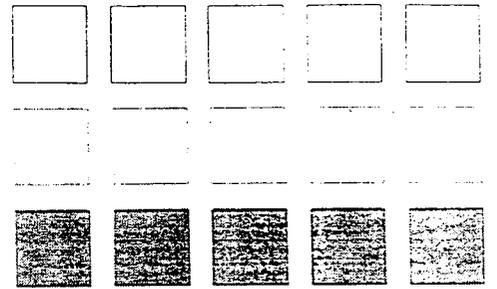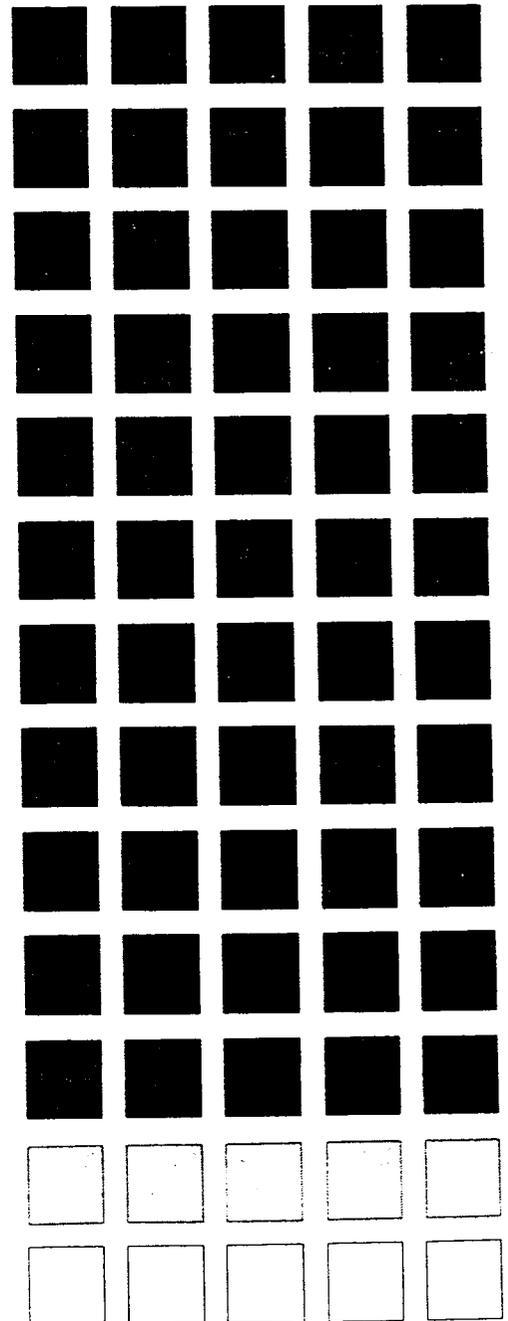
Contents

About This Manual

Chapter 1. Requirements

Chapter 2. System Overview

Chapter 3. Cabinet Installation

Chapter 4. Trunks and Lines

Chapter 5. Peripheral Equipment

List of Figures

viii

List of Tables

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 the "Requirements" chapter.
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 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 are included to ensure proper operation.

Model Numbers and FCC Information

Table 1-1. DBS model numbers

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

Table 1-2. FCC information

Item	Specification
Type of Service	The DBS is designed for use with standard telephone lines. Direct connection to party lines or coin-operated phones is prohibited.
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
Service Order Code	Analog Trunks: 9.0F
	T1: 6.0P
Facility Interface Code	Analog Trunks: 02LS2
	T1: 04DU9-DN, 04DU9-1 SN
Required Network Interface Code	Analog Trunks: RJ21X
	T1: RJ48C

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.

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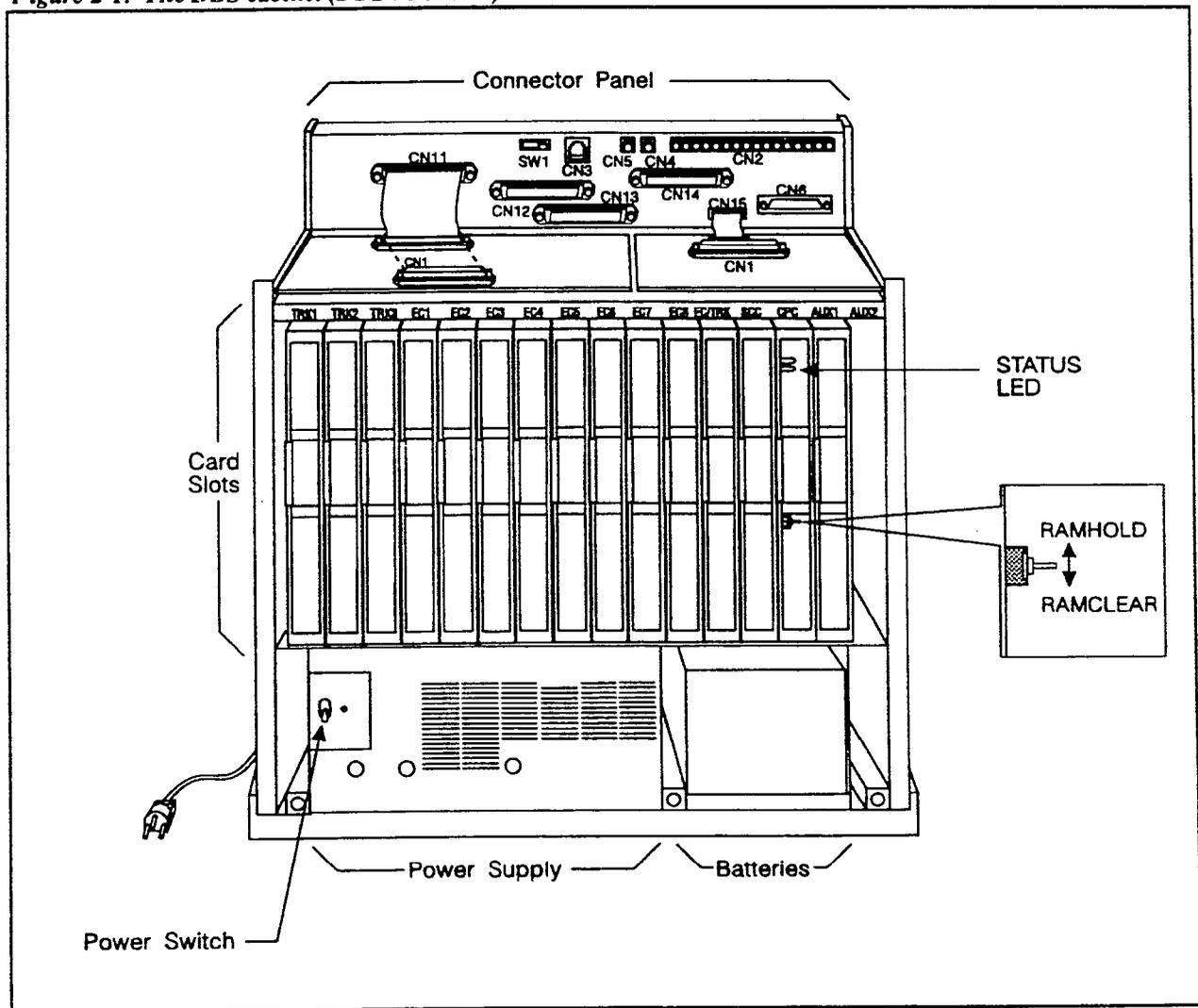
In addition to trunk and line connection, the connector panel is also used to connect peripheral equipment, such as paging speakers, external ringers, and music-on-hold/background music sources. Figure 2-2 on page 2-4 shows trunk and line connections, as well as some peripheral connections. Peripheral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

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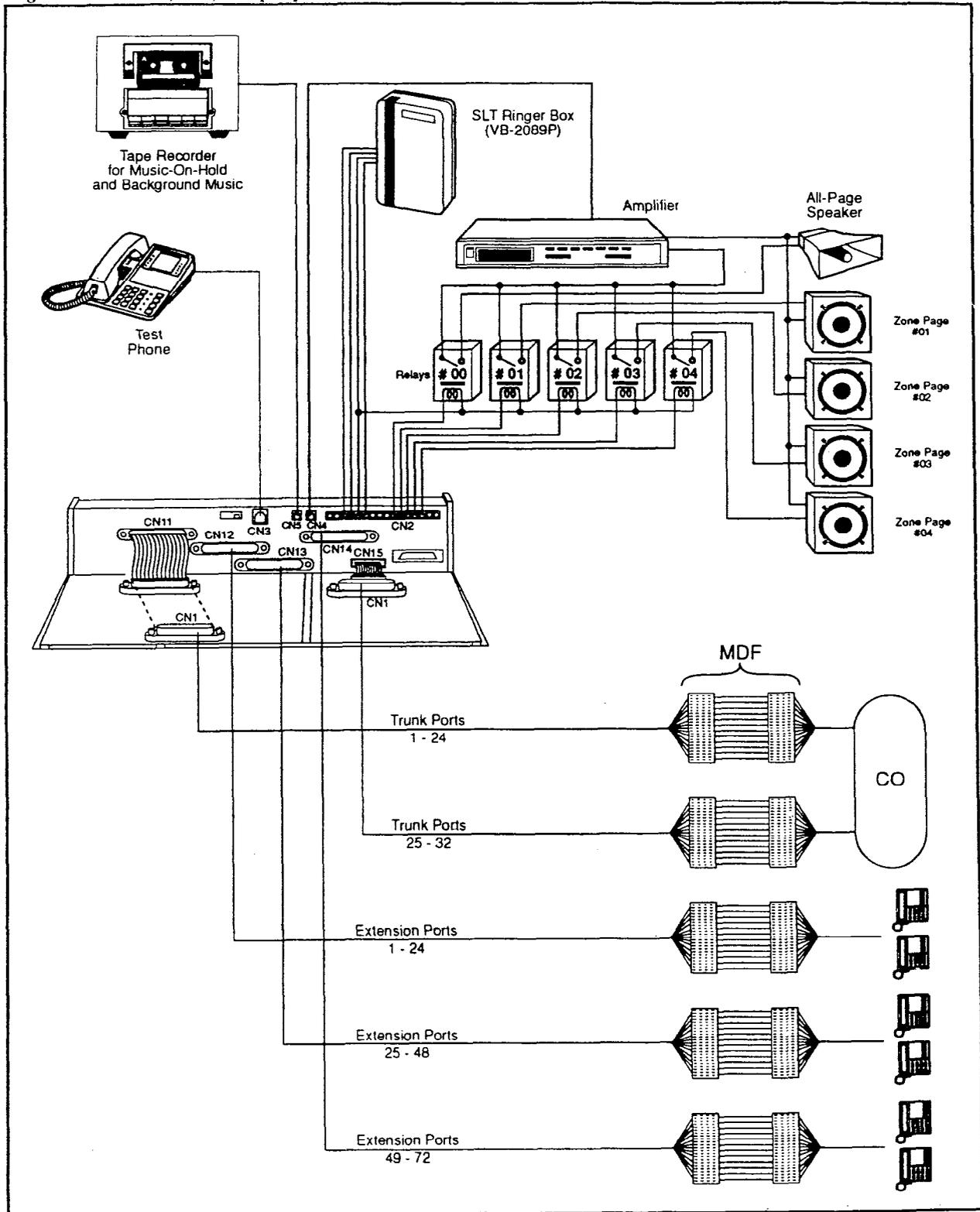
Configurations

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, as well as different combinations of systems.

Table 2-1. 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 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

Card Type	Card Designation	Card Description	Maximums per Cabinet		
			DBS 40	DBS 72	DBS 96
Analog Trunks	L-TRK/4 (VB-43510)	4-port loop trunk	2 total	3 total	4 total
	L-TRK/8 (VB-43511)	8-port loop trunk			
	G-TRK/8 (VB-43531)	8-port ground-start trunk			
	DID (VB-43541)	Direct-inward-dialing trunk			
Digital Trunks	T1 Trunk Card (VB-43561) (See Note 1.)	T1 interface	1	1	1
Digital Lines	DEC (VB-43611)	8-port digital line card	4 (4 total)	7 (7 total)	9 (9 total)
Analog Lines	AEC (VB-43621) (See Note 2.)	8-port analog line card	3	4	4
Service Circuits	SCC-A (VB-43420)	Service circuit card	1	1	1
	SCC-B (VB-43421)	Service-circuit card			
Processor Cards	CPC-A (VB-43410)	Call processor card	1	1	1
	CPC-B (VB-43411)	Call processor card			
DTMF Circuits	MFR (VB-43431)	8-circuit DTMF receiver	1	1	1
Interface Cards	API (VB-43940)	Applications processor interface	1	1	1
	CBL-M (VB-43110)	Interface card for connecting two systems (master end)	1	1	1
	CBL-S (VB-43110)	Interface card for connecting two systems (slave end)	1	1	1

Notes:

1. The T1 MDF card and the T1 Sync Unit are also required when the T1 Trunk Card is used. (See "Hardware Requirements" on page 4-9 for more information.)

2. The AEC maximums shown apply when simultaneous CO ringing is desired for all phones. Up to six AEC cards can be used in the DBS 72 and up to eight can be used in the DBS 96, as long as simultaneous CO ringing is not required. If simultaneous CO ringing is assigned for more than 32 SLTs, ringing may be delayed.

MCC/Panasonic
Business Telephone, Engineering Department

TO: All DBS Dealers

FROM: MCC/Panasonic
        Business Telephone, Engineering Department

DATE: August 30, 1993

RE: Documentation Update

This documentation update contains a new version of *Installation (Section 300)*. This manual replaces the existing version of *Section 300*.

Please inform us if you find changes that should be made to this or any other DBS manual. You can send your changes to the following address, or you can fax them to 404-740-2899.

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Alpharetta, GA 30201

Printed circuit cards are installed in dedicated slots within the DBS cabinet. Table 2-3 shows the cards that can be installed in each slot. Figure 2-3 on page 2-8 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	
Digital Trunks	T1	EC/TRK
Digital Lines	DEC	EC 1-8 or EC/TRK
Analog Lines	AEC	EC 2-8 or EC/TRK
Service Circuits	SCC-A	SCC
	SCC-B	
Processor Cards	CPC-A	CPC
	CPC-B	
DTMF Circuits	MFR	AUX1 or AUX2 CPC (See Note 1.)
Interface Cards	API	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-43110 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 2-3. *Slot labels for printed circuit packages*
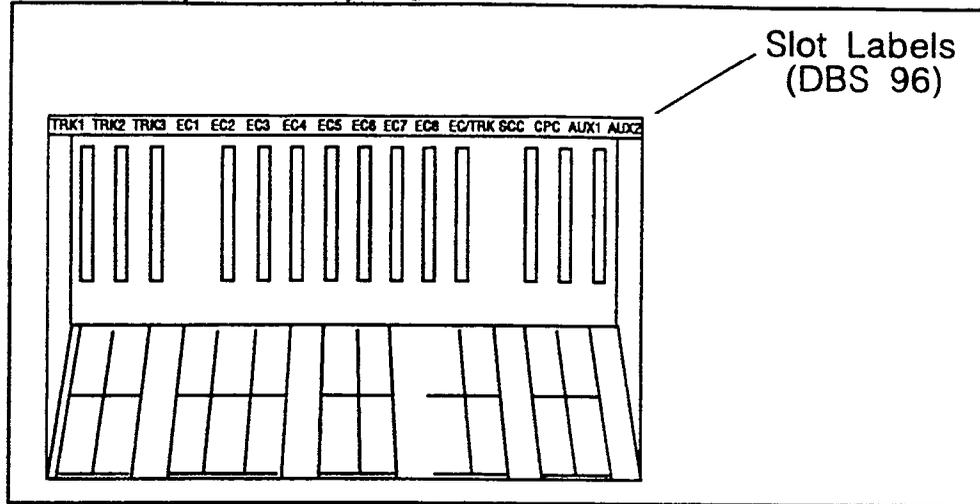
Processor Description

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

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 the *Feature Operation, Section 700*.

Table 2-4. *CPC/SCC features*

Feature	CPC/SCC Requirements
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. (SCC-B ROM 1.3 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 1-1.

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
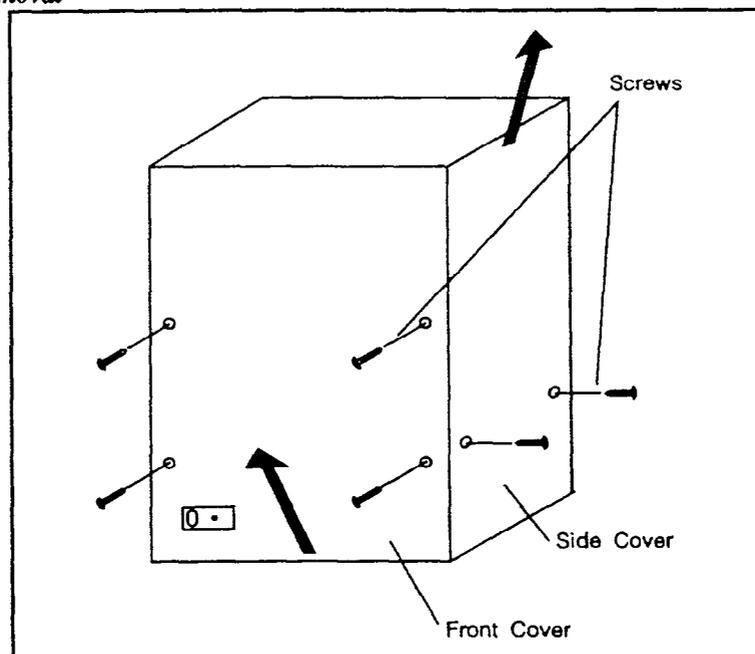
4. Attach the mounting brackets to the four corners of the back side of the cabinet.

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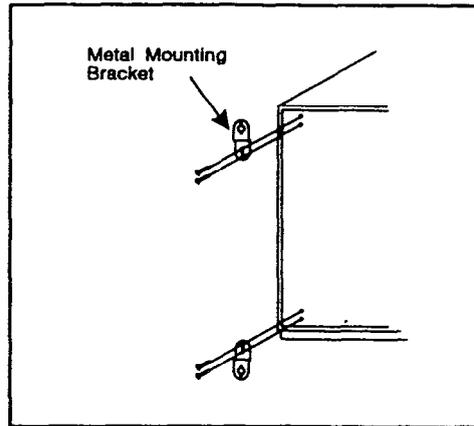
5. Install four screws in the wall studs according to the dimensions given in Figure 3-3. (Note that the width dimension is different for the DBS 40.)

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
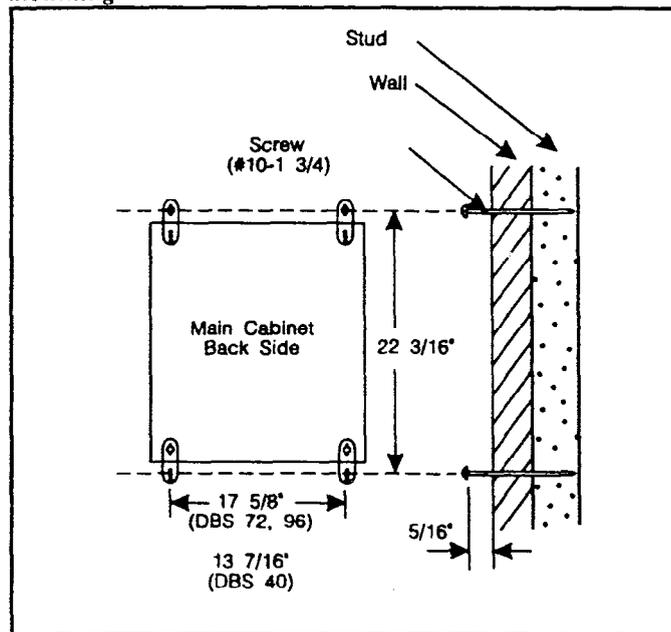
6. Hang the cabinet on the wall by placing the mounting brackets over the screws.

7. Tighten the screws to secure the cabinet.

Grounding

Guidelines

- Before grounding the DBS, read the "Lightning Protection/Grounding" requirements beginning on page 1-4.

- 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
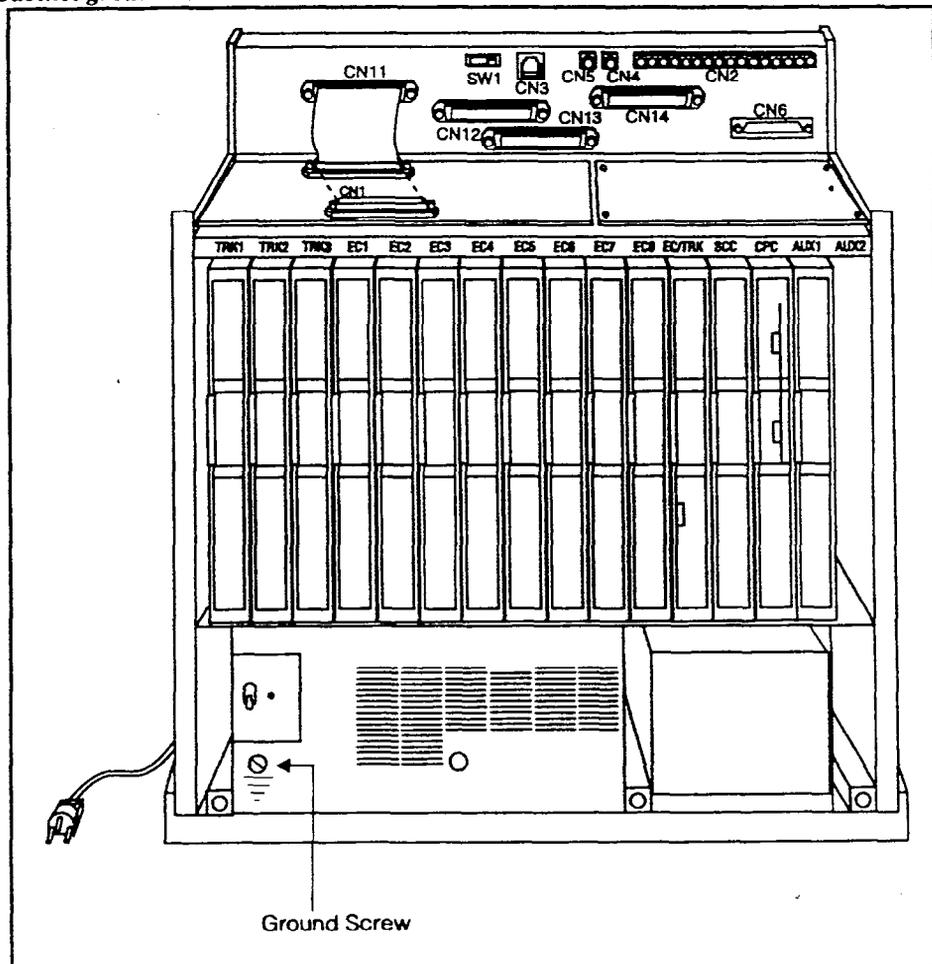
Card Installation

Guidelines

> **CAUTION:**
>
> Before handling printed circuit cards, discharge static electricity by grounding yourself. Static electricity can damage components.
>
> Turn off the power before installing cards. 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're installing a CPC-A card with a 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
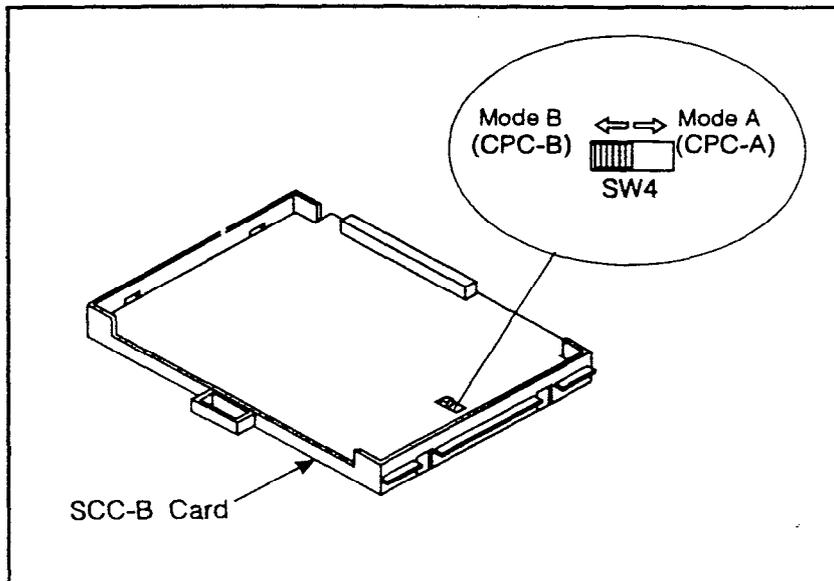
- Before installing the CPC card, determine if the DBS will be used as a KSU or PBX. To use as a PBX, cut Strap S1 on the CPC. Cutting this strap allows use of pooled trunks as opposed to line appearances.

Figure 3-6. CPC Strap S1
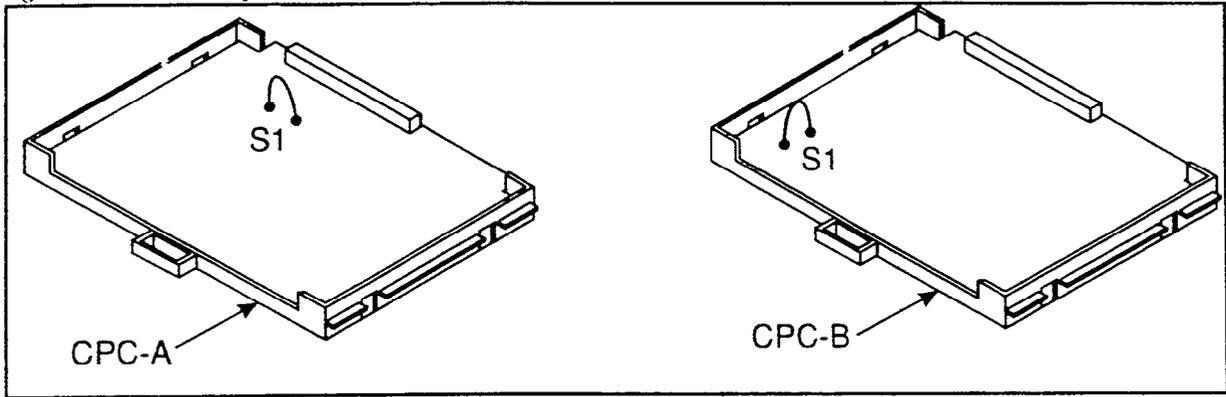
- Install cards only in their dedicated slots. The slot type is marked on the cabinet directly above each slot.

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.
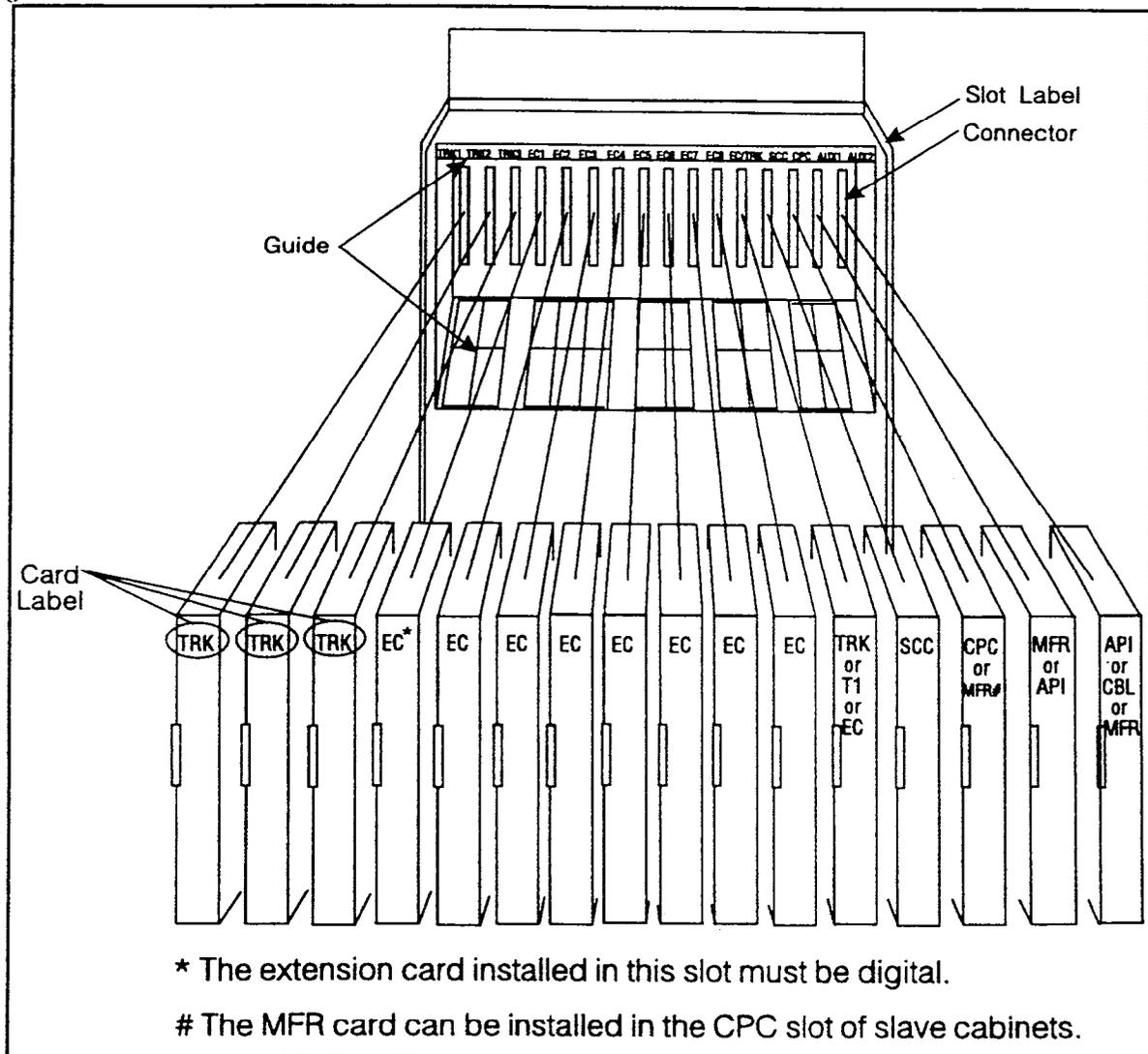
Battery Backup

Guidelines

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

Table 3.1. Battery backup packages for the DBS 40, 72, and 96

System	Battery Backup Part No.
DBS 40	VB-2450A-2P
DBS 72 and 96	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, up to 30 minutes for the DBS 96.

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

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
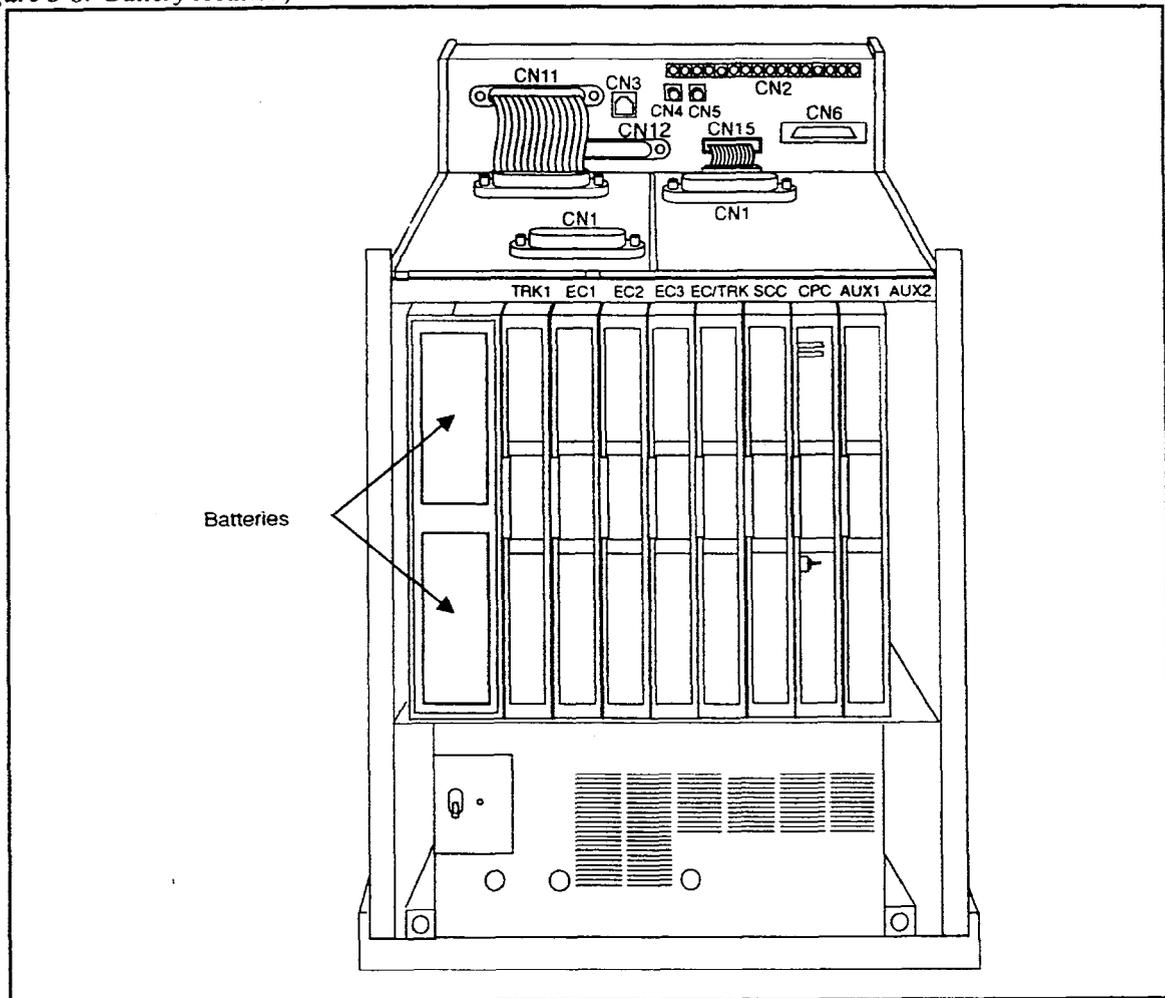
2. Connect the positive cable (red) to the + terminal of the top battery.

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 four batteries inside the tray.

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

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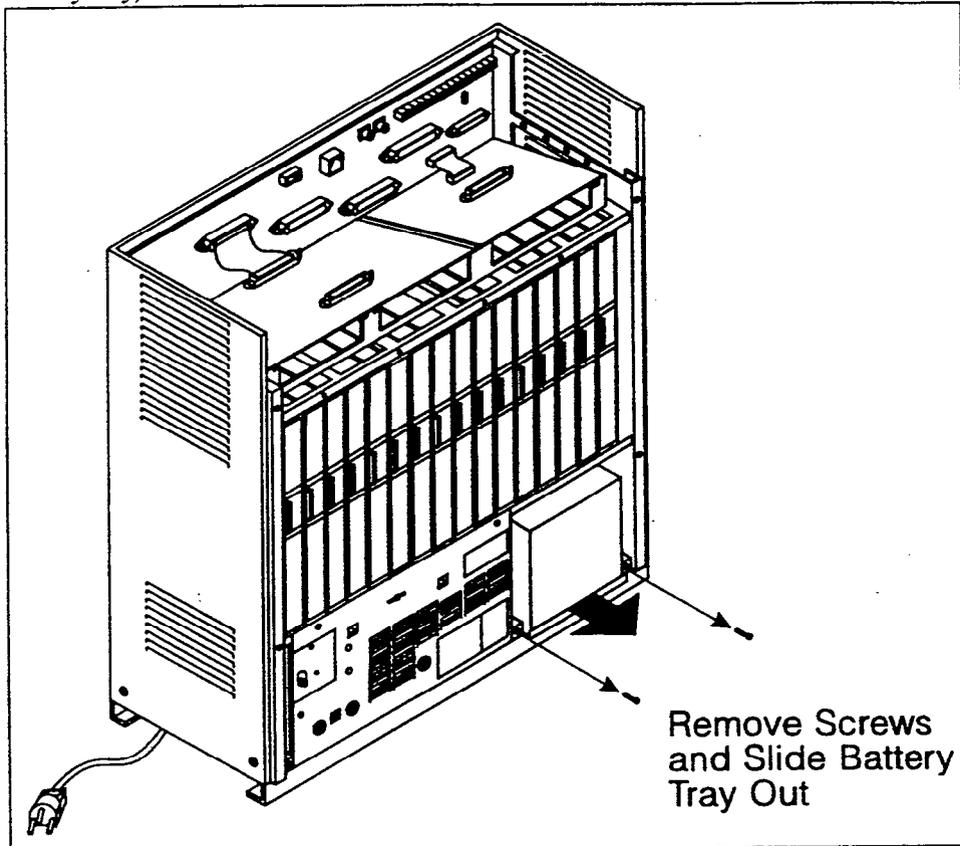
2. Connect the positive cable (red) to the + terminal on the first battery.

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
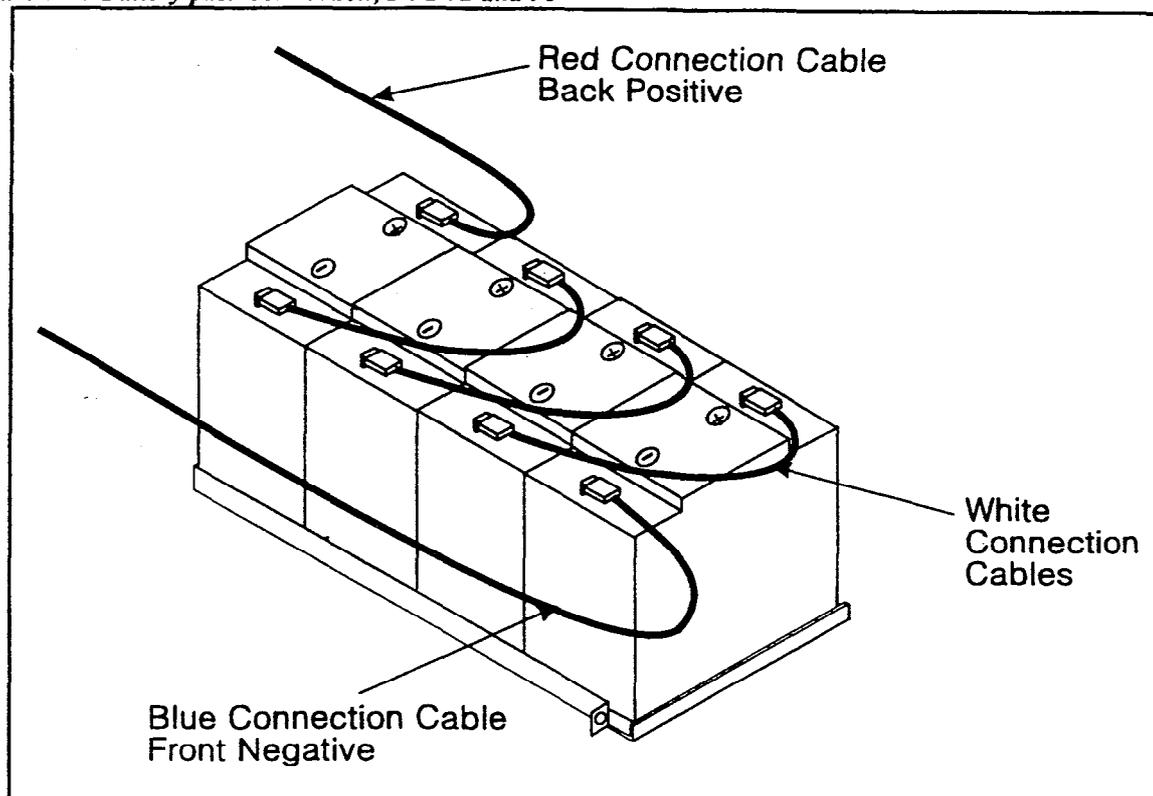
Key Phone Wall Mounting

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
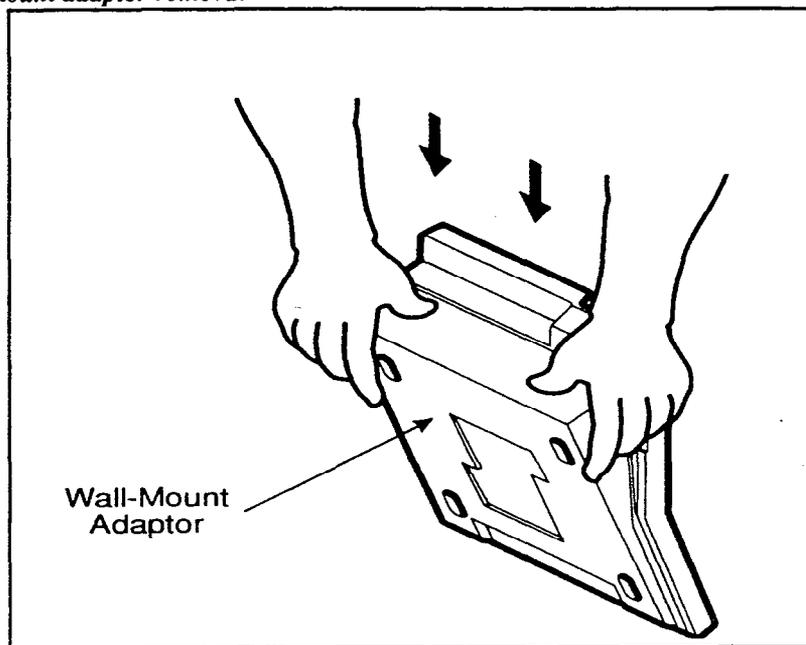
3. Turn the wall-mount adaptor around and re-attach it to the phone.

Figure 3-12.Wall-mount adaptor removal
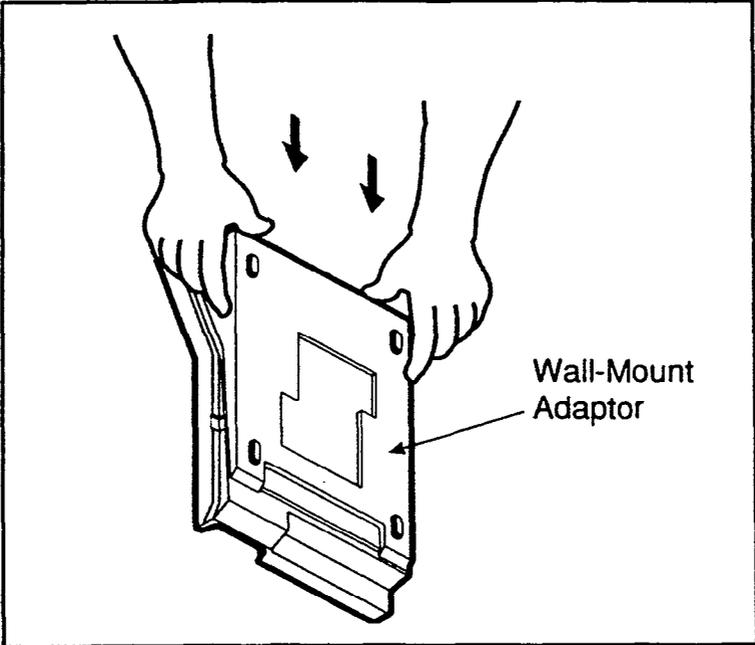
Wall-Mount
Adaptor

4. Remove the handset guide with a small screwdriver, turn it over, and reinsert it into the phone.

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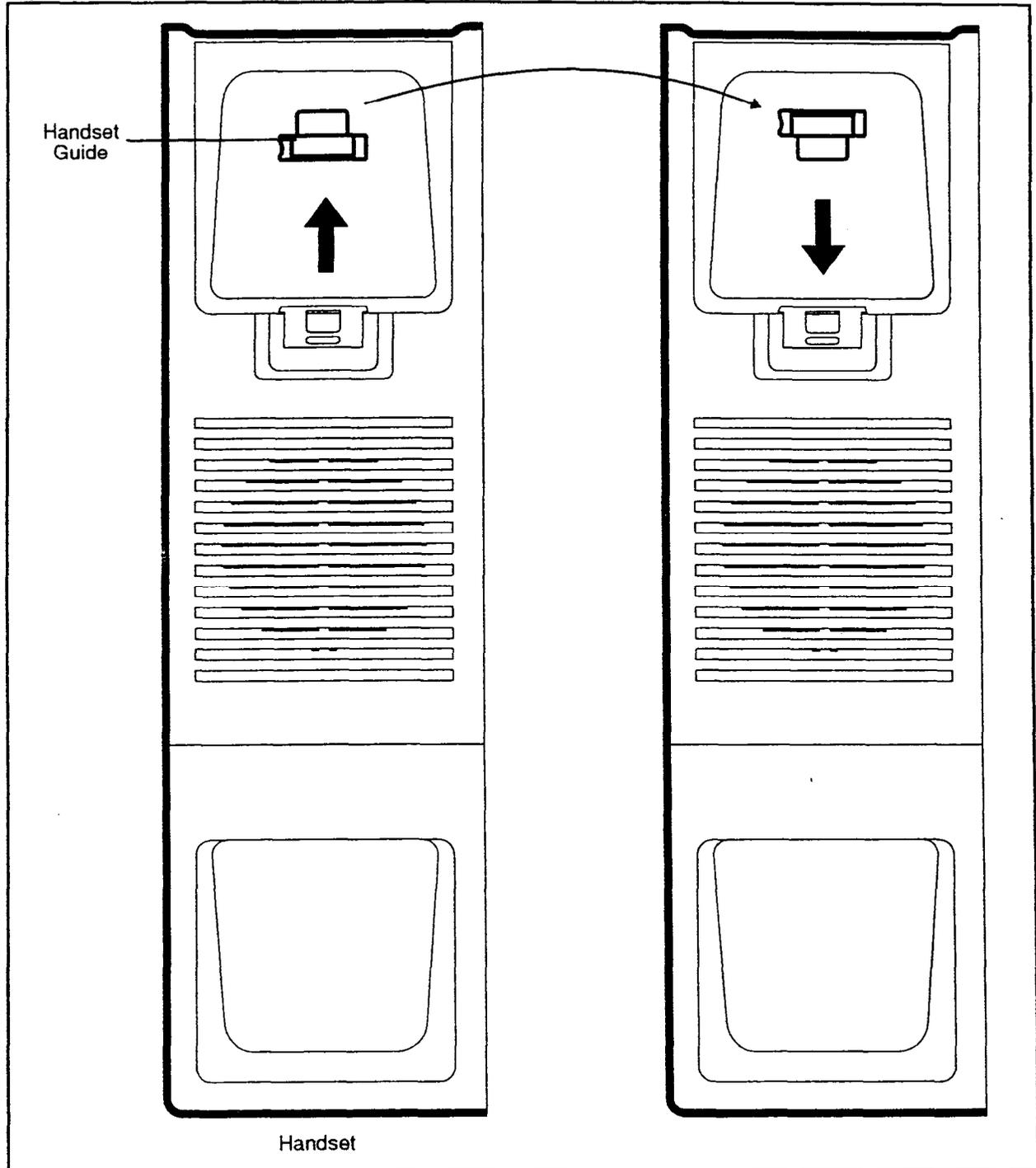
DSLT Wall Mounting

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
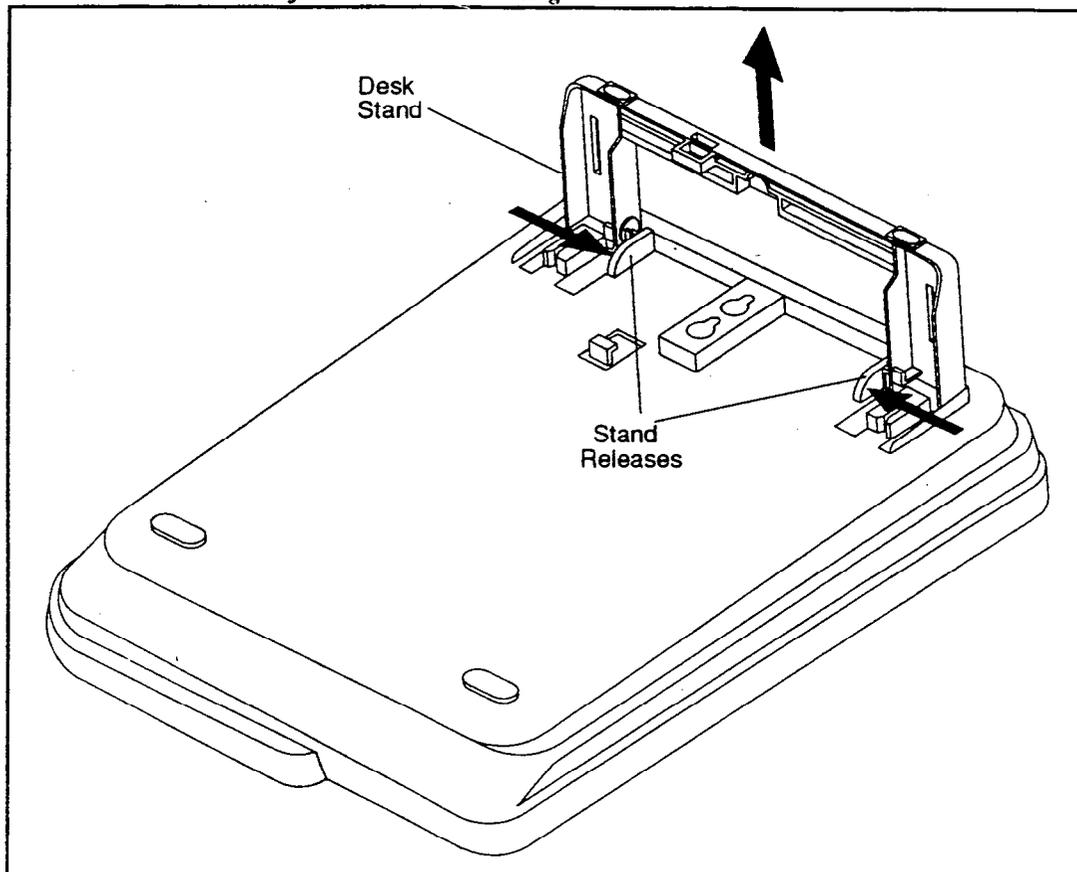
2. Attach the desk stand to the bottom of the phone by aligning the tabs and tab guides and sliding it into place (Figure 3-15).

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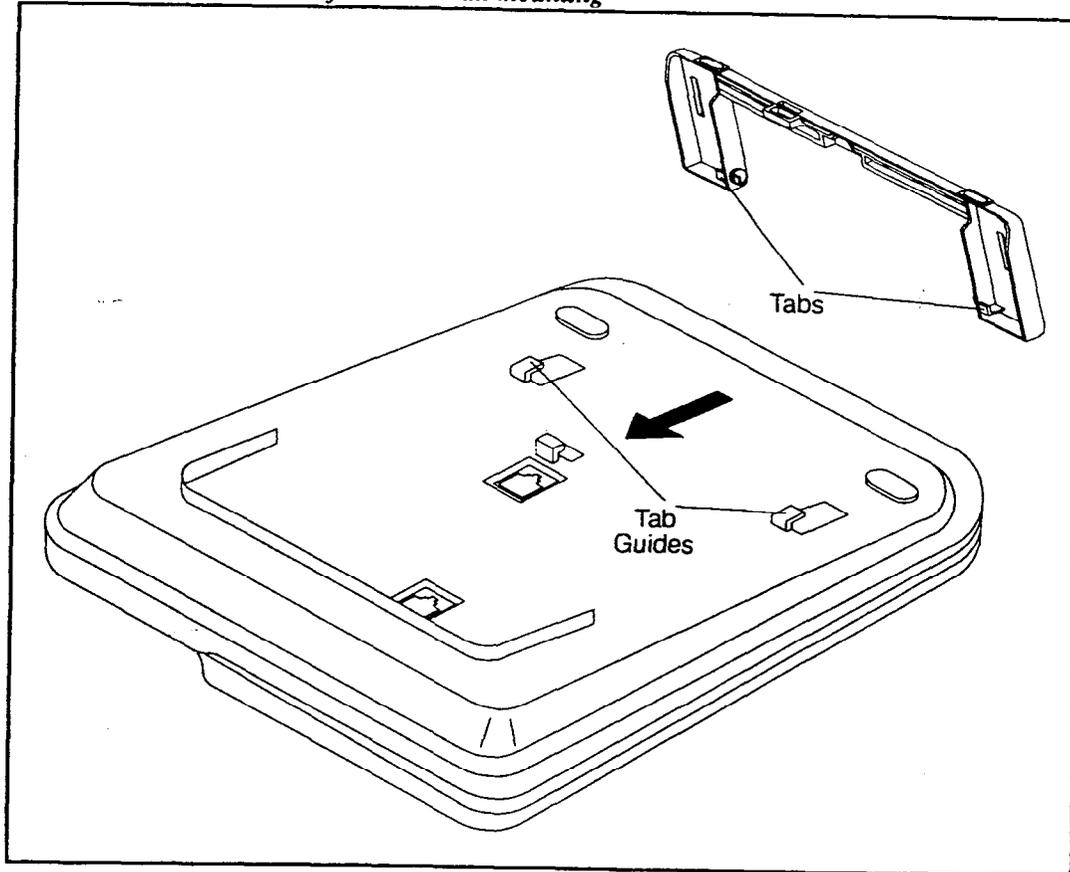
3. Remove the handset guide with a small screwdriver, turn it over, and reinsert it into the phone.

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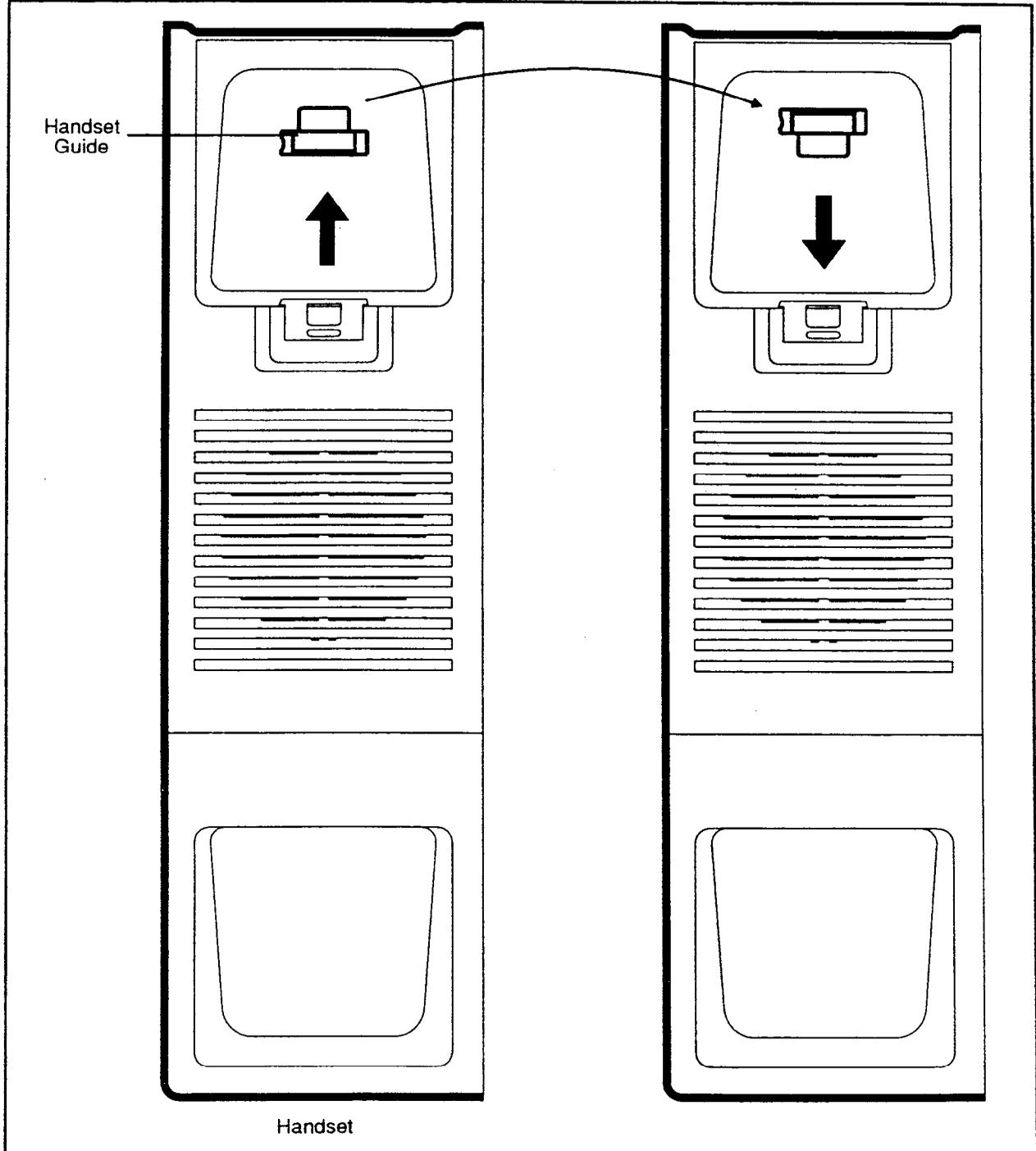
System Initialization

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 CLEAR.

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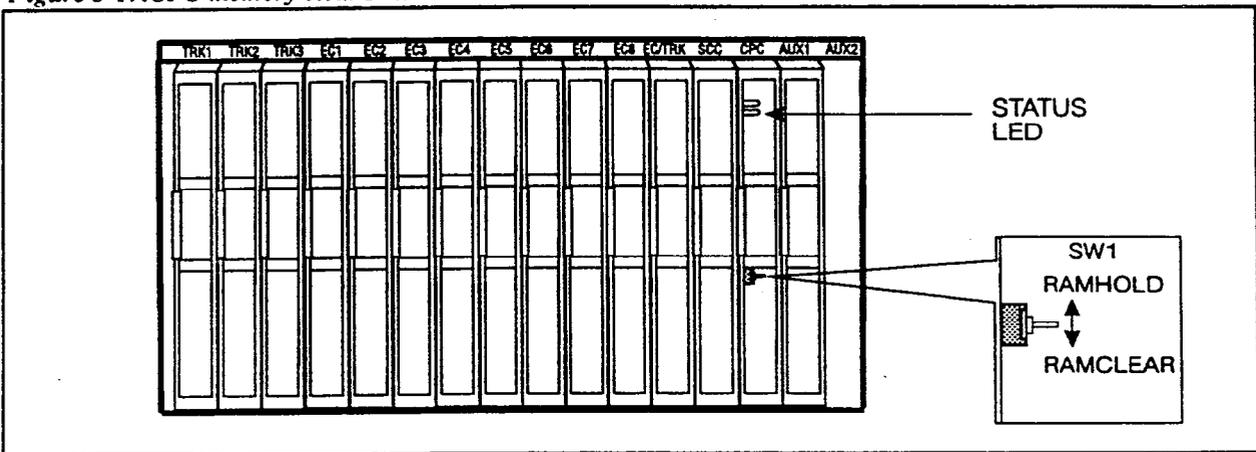
4. Turn the power switch on.

   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 SW1 on the CPC to HOLD.

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 SW1 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 it's okay for the phones connected to ports 7 and 8 to be out of service.

- A DSS/72 can be connected to the display phone for text entry.

Installation

1. Connect the telephone and DSS (optional) to CN3 on the Connector Panel. (See Figure 3-18 on page 3-21.)

2. Set SW1 to "Test."

3. When programming is completed, set SW1 back to "ST."

Figure 3-18.Test telephone connection
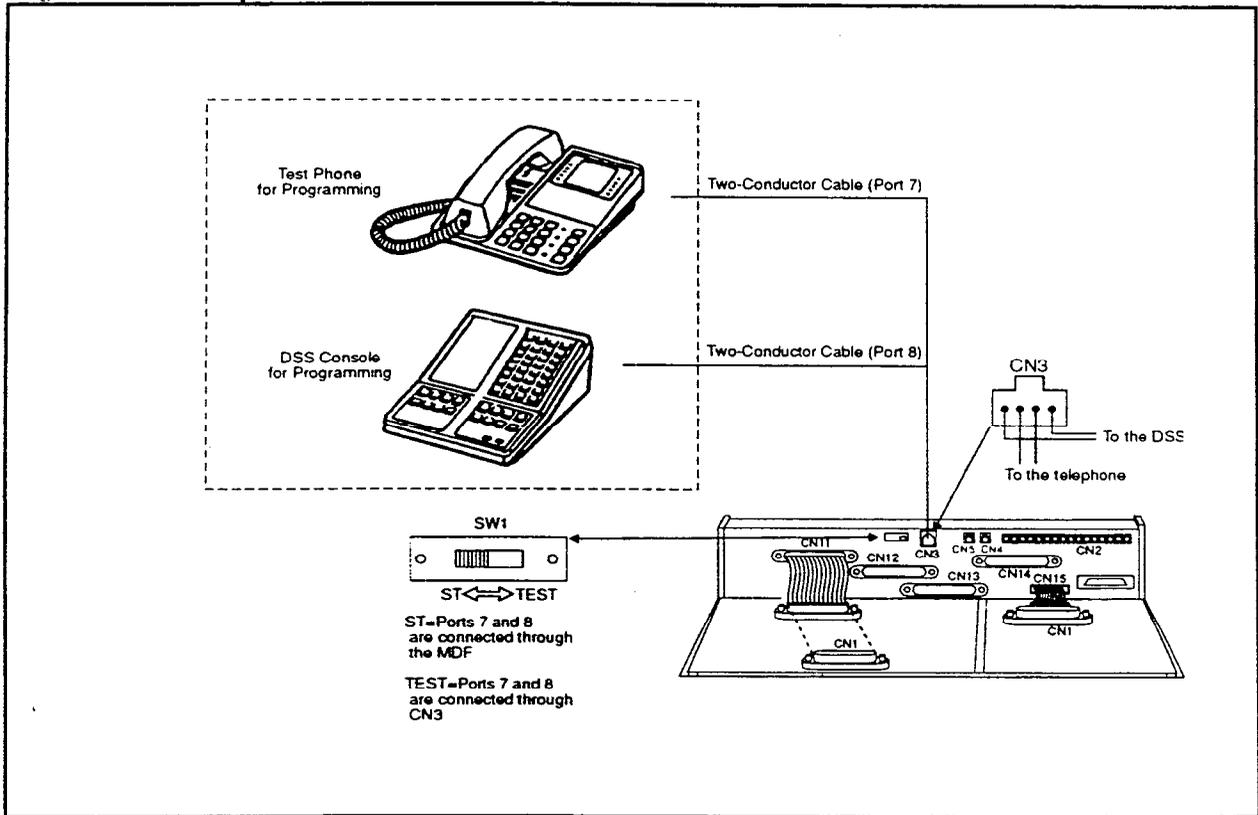
Chapter 4. Trunks and Lines

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

Trunks

Trunk Connectors

Each DBS cabinet is provided with one main trunk connector, which is labeled CN1. 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
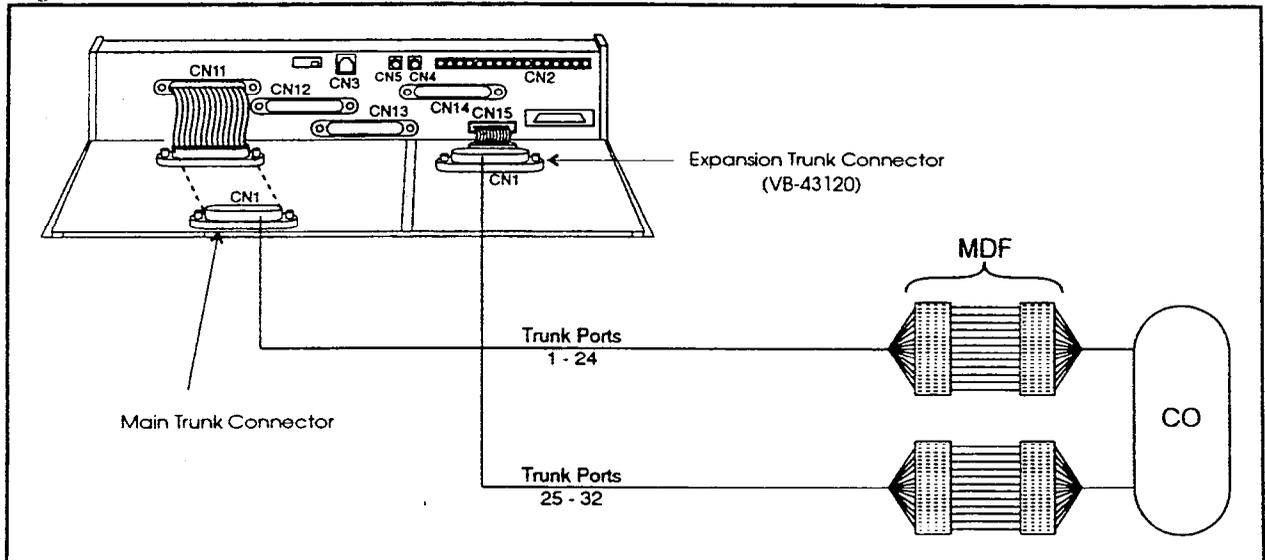
The number of trunks that can be connected through the main trunk connector depends on the type of system you have and the number of trunk cards installed. Table 4-1 shows the main trunks and expansion trunks available with each system type. Chapter 6 includes trunk maximums for two-cabinet systems.

Table 4-1. Main trunks and expansion trunks provided with each system type

System Type	Main Trunk Numbers	Expansion Trunk Numbers
DBS 40	1-8	9-16
DBS 72	1-16	17-24
DBS 96	1-24	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 4-41.

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

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

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

Trunk Slot	Color Code	Pin No.	Desig.	DBS 40	DBS 72	DBS 96
EC/TRK	WH-BL BL-WH	26 1	1T 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

Loop-Start Trunks

Guidelines

- Two versions of the loop-start trunk are available: the four-port version (VB-43510) 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 4-41

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

Installation

1. Install the loop-start trunk in a trunk slot.

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

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 4-41.

- 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 2.0 or higher).

Figure 4-2. -48V power supply installation
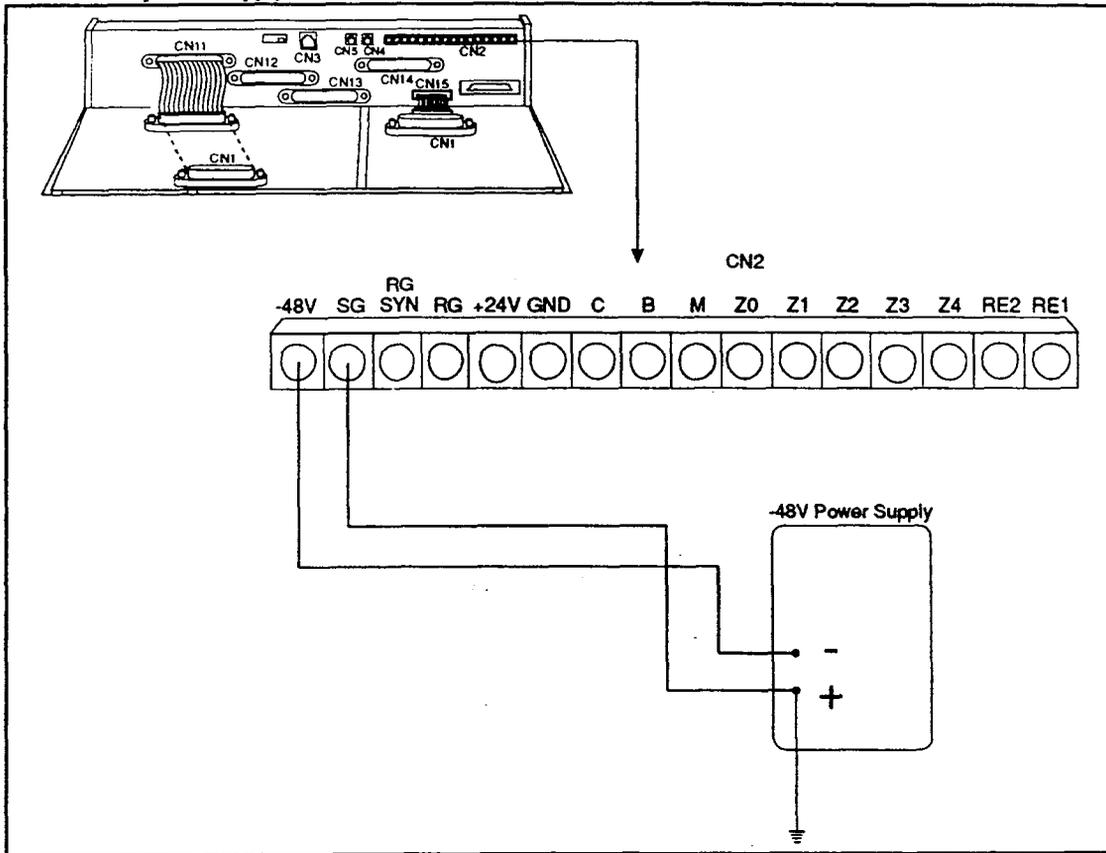
3. Ground the positive side of the -48V power supply to the building ground.

   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 4-18.

Hardware Requirements

- The T1 requires the following DBS hardware.

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

CPC-B 4.0 (VB-43411)	SCC-B (VB-43421)	T1 Trunk Card (VB-43561)	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 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.				

Table 4-7. T1 Hardware requirements for double-cabinet systems

T1 Location	CPC-B V4 (VB-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-43110) (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 T1 cards that can be installed in double-cabinet systems depends on the sizes of the connected systems. Table 4-12 on page 4-13 shows T1 maximums for double-cabinet systems.

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

Table 4-8. T1 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. Furthermore, the number of analog trunks that can be used are always decremented in quantities of 8.

   For instance, if you're 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).

However, because 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 4-9 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.

Note: Analog trunks are numbered beginning with "1." T1 trunk channels 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 T1 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, DBS 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 two-cabinet systems.

Table 4-12. Maximum T1 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. T1 and analog trunk assignments, DBS 40 + 40 (16-channel fractional T1 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 ↓ 24	N/A	T1 channel 8 ↓ T1 channel 1

Table 4-14. T1 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
25 ↓ 32	N/A	T1 channel 16 ↓ T1 channel 9
33 ↓ 40	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 T1 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 ↓ 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. T1 and analog trunk assignments, DBS 96 + DBS 72 (24-channel T1 in the master; 24-channel T1 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 ↓ T1 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 4-17. T1 and analog trunk assignments, DBS 96 + DBS 96 (24-channel T1 in the master; 24-channel T1 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 ↓ 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 T1s you are installing.

If you're installing ...	Use this procedure...
A T1 in a single cabinet	"Installing a T1 in a Single Cabinet" (page 4-18)
One T1 in a double cabinet, with the T1 located in the master	"Installing a T1 in a Single Cabinet" (page 4-18)
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 4-25)
T1s in both the master and slave	"Installing a T1 in a Double Cabinet with T1s in the Master and Slave" (page 4-25)

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 4-10.

Note: For systems consisting of a DBS 72 connected to a DBS 40, the T1 Interface cannot be used.

1. Before beginning T1 installation, perform the "New Function Reset" command (FF1 8# 1# (0-1)#). *This command must be issued before the T1 can be installed properly.*

2. Check connector 4 (CN4) on the Sync Unit (VB-43563). CN4 should be strapped differently depending on whether the DBS is used with the public network or a private network.

To connect to the public network ...	Strap Pins 2 and 3
To connect to a private network (Free-run mode) ...	Strap Pins 1 and 2

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

Figure 4-3. Connector 4 (CN4) strapping, Sync Unit
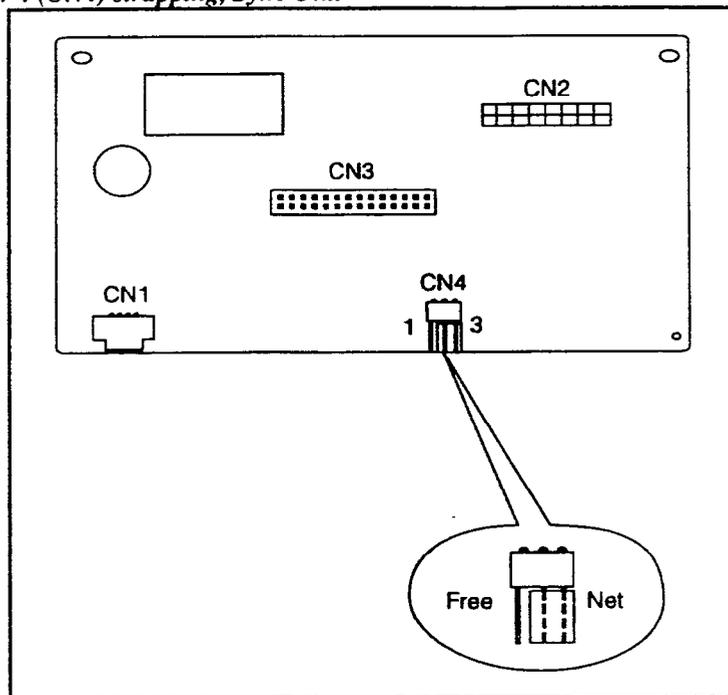
3. Attach the Sync Unit to the CPC-B card.

   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 4-4. T1 Sync Unit installation
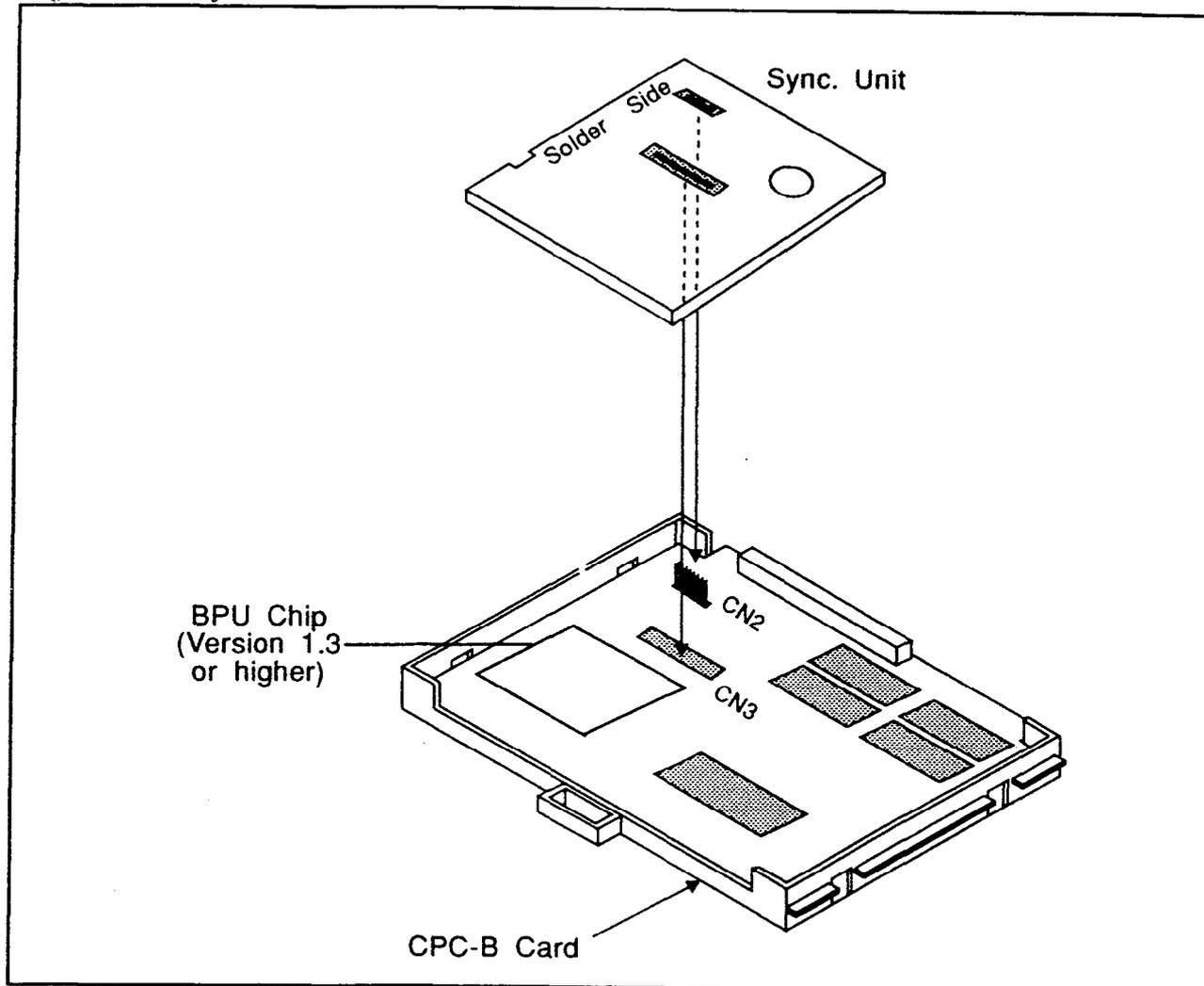
4. Install the T1 MDF (main distribution frame) card in the top of the cabinet as shown in Figure 4-5.

Figure 4-5. T1 MDF card installation
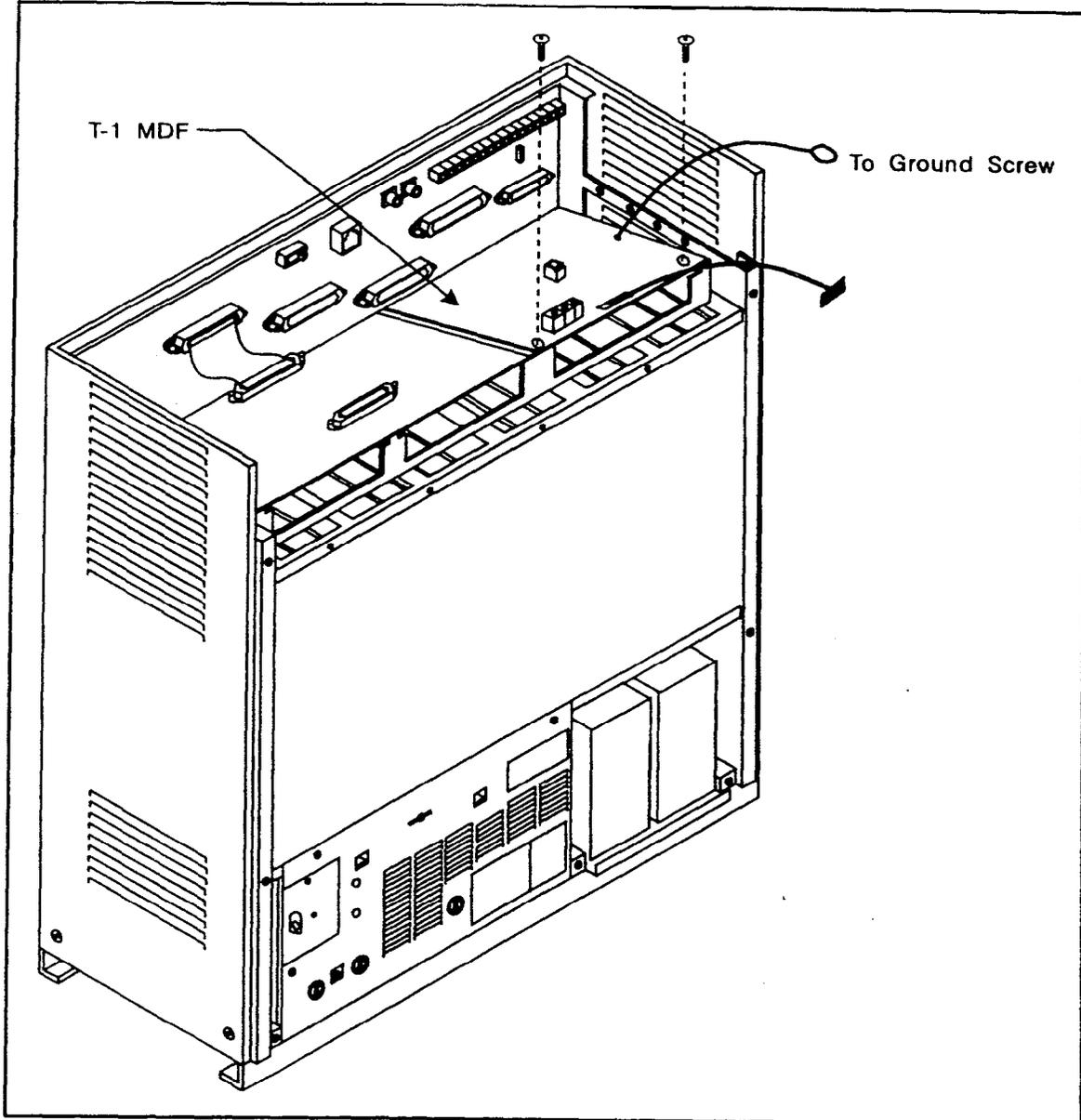
5. Set SW1 on the T1 card according to the following table.

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

Table 4-18. Switch settings for SW1 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

6. Install the T1 card in the "EC/TRK" slot

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

Figure 4-6. Sync Unit and T1 connection, single-cabinet installation
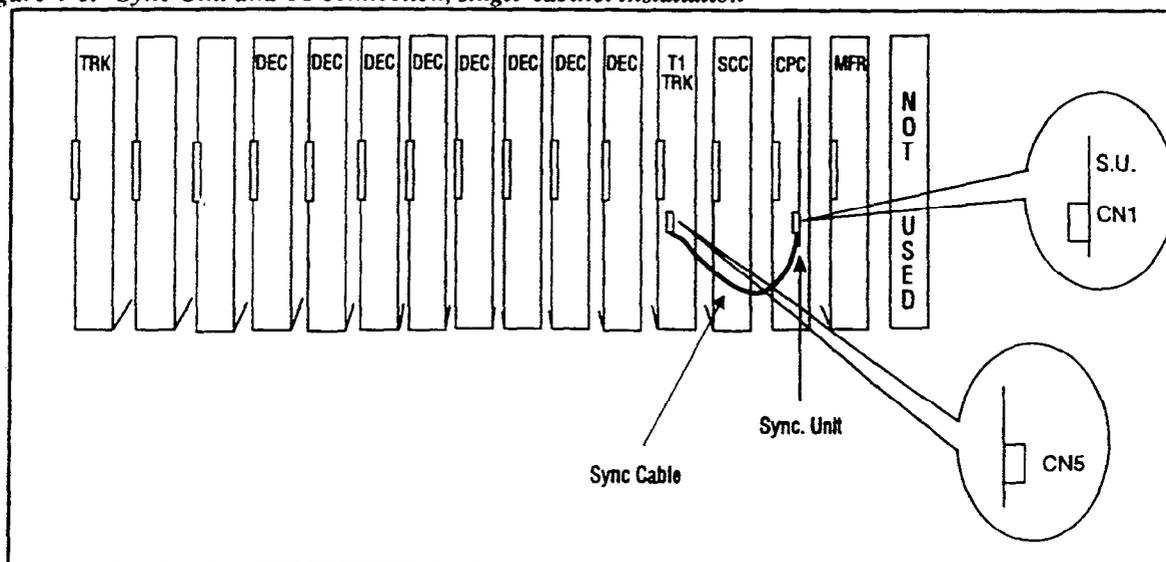
8. Connect the cable attached to CN3 on the T1 MDF card to CN3 on the T1 card (Figure 4-8).

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

Figure 4-7.   RJ48 pinouts, CN1 connector

CN1 (RJ48)
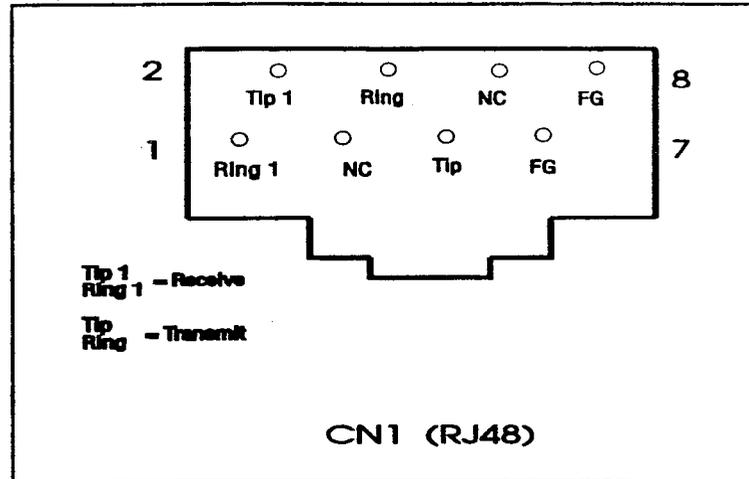
10. Connect the ground cable from the T1 MDF card to the cabinet as shown in Figure 4-8.

Figure 4-8. T1 cabinet connections, single-cabinet installation
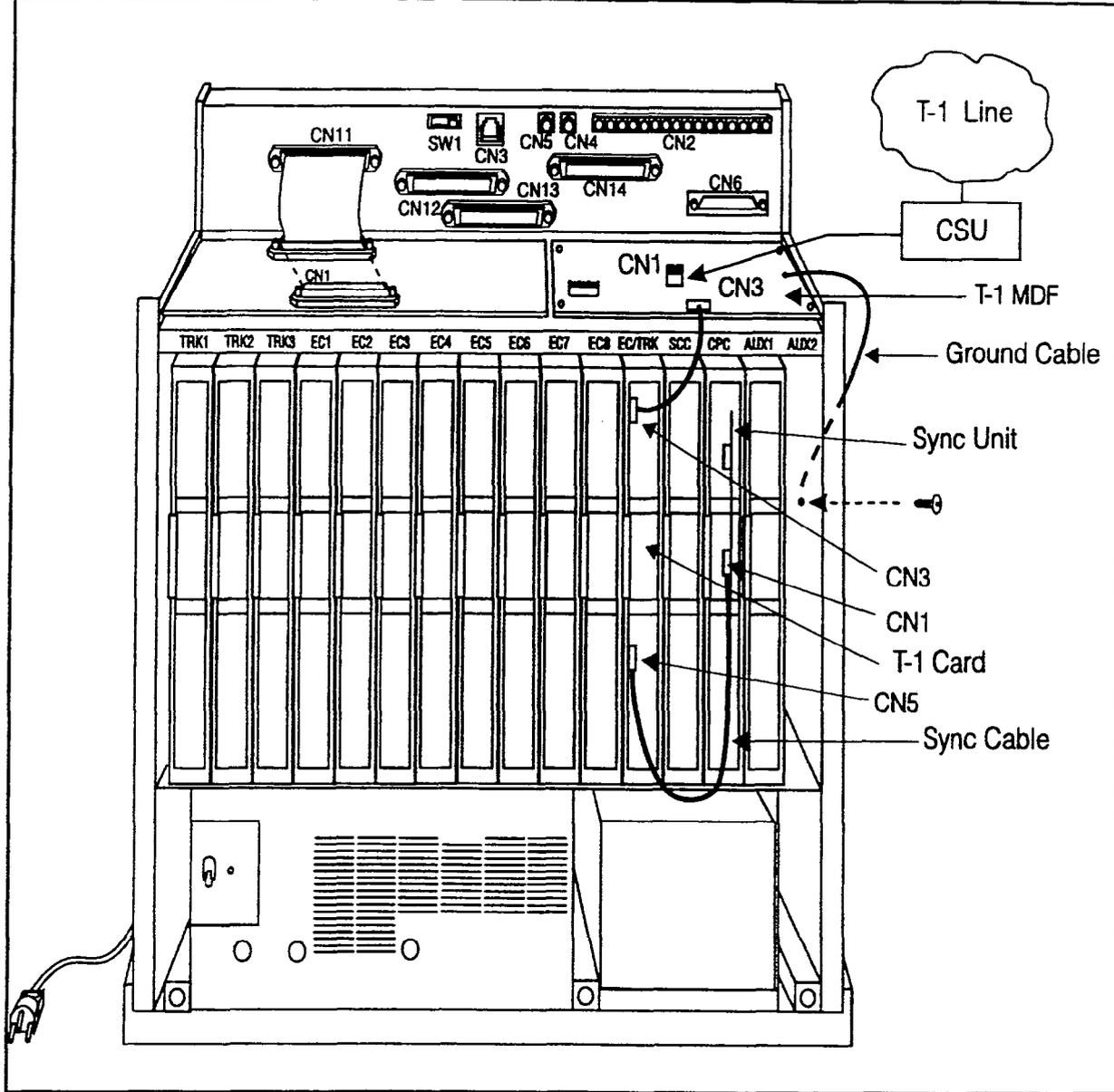
Installing T1 in a Double Cabinet with the T1 in the Slave

1. Before beginning T1 installation, perform the "New Function Reset" command (FF1 8# 1# (0-1)#). *This command must be issued before the T1 can be installed properly.*

2. Install the Sync Unit in the master cabinet as described in Steps 2 and 3 under "Installation for a Single T1."

3. Install a T1 MDF card in the slave cabinet. (See Step 4 on page 4-21.)

4. Set Switch 1 on the T1 card. (See Step 5 on page 4-22.)

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

6. Connect the Sync Cable from CN1 on the Sync Unit to CN5 on the T1 card (Figure 4-9).

   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.

7. At the slave cabinet, connect the cable attached to CN3 on the T1 MDF card to CN3 on the T1 card (Figure 4-8).

8. Using an RJ48 cable, connect CN1 of the T1 MDF card to the CSU. (See Figure 4-7 on page 4-23 for RJ48 pinouts.)

9. At the slave cabinet, connect the ground cable on the T1 MDF card as shown in Figure 4-8 on page 4-24.

Figure 4-9.   Sync cable connections, double-cabinet with a T1 in the slave

Note: The number of analog trunks that can be installed depends on how many T1 channels are used.
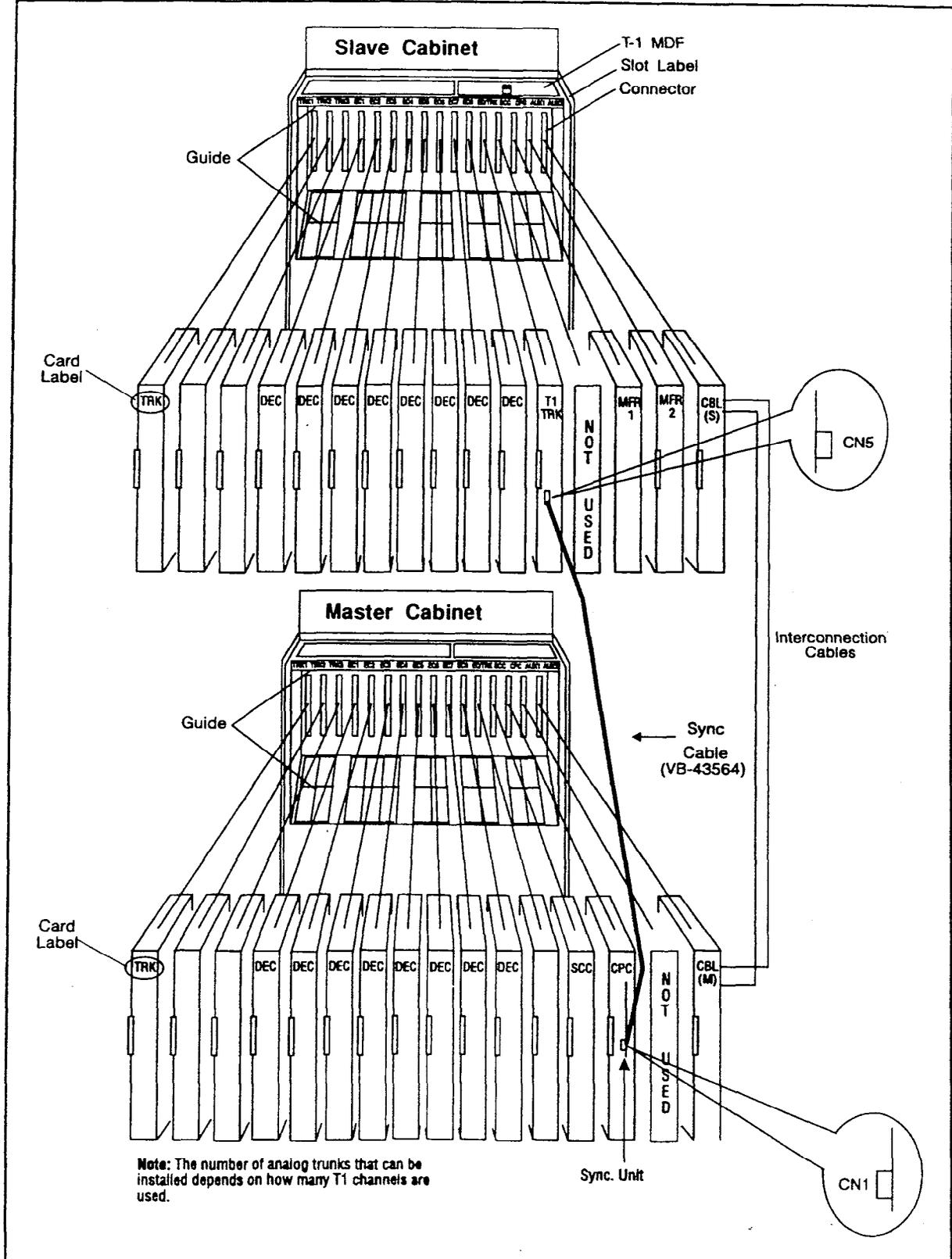
Installing T1 in a Double Cabinet with T1s in the Master and Slave

1. Before beginning T1 installation, perform the "New Function Reset" command (FF1 8# 1# (0-1)#). *This command must be issued before the T1 can be installed properly.*

2. Install the Sync Unit in the master cabinet as described in Steps 2 and 3 under "Installation for a Single T1."

3. Install a T1 MDF card in each cabinet. (See Step 4 on page 4-21.)

4. Set Switch 1 on the T1 cards. (See Step 5 on page 4-22.)

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

6. Connect the Clock Sync Cable from CN4 on the master-cabinet T1 to CN5 on the slave-cabinet T1, as shown in Figure 4-10.

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

7. At the master cabinet, connect the Sync Cable from CN1 on the Sync Unit to CN5 on the T1 card (Figure 4-10).

8. At each cabinet, connect the cable attached to CN3 on the T1 MDF card to CN3 on the T1 card (Figure 4-8).

9. Using an RJ48 cable, connect CN1 of each T1 MDF card to a CSU. (See Figure 4-7 on page 4-23 for RJ48 pinouts.)

10. For both cabinets, connect the ground cable from the T1 MDF card as shown in Figure 4-8 on page 4-24.

Figure 4-10. Clock sync cable and sync cable connections, double-cabinet installation
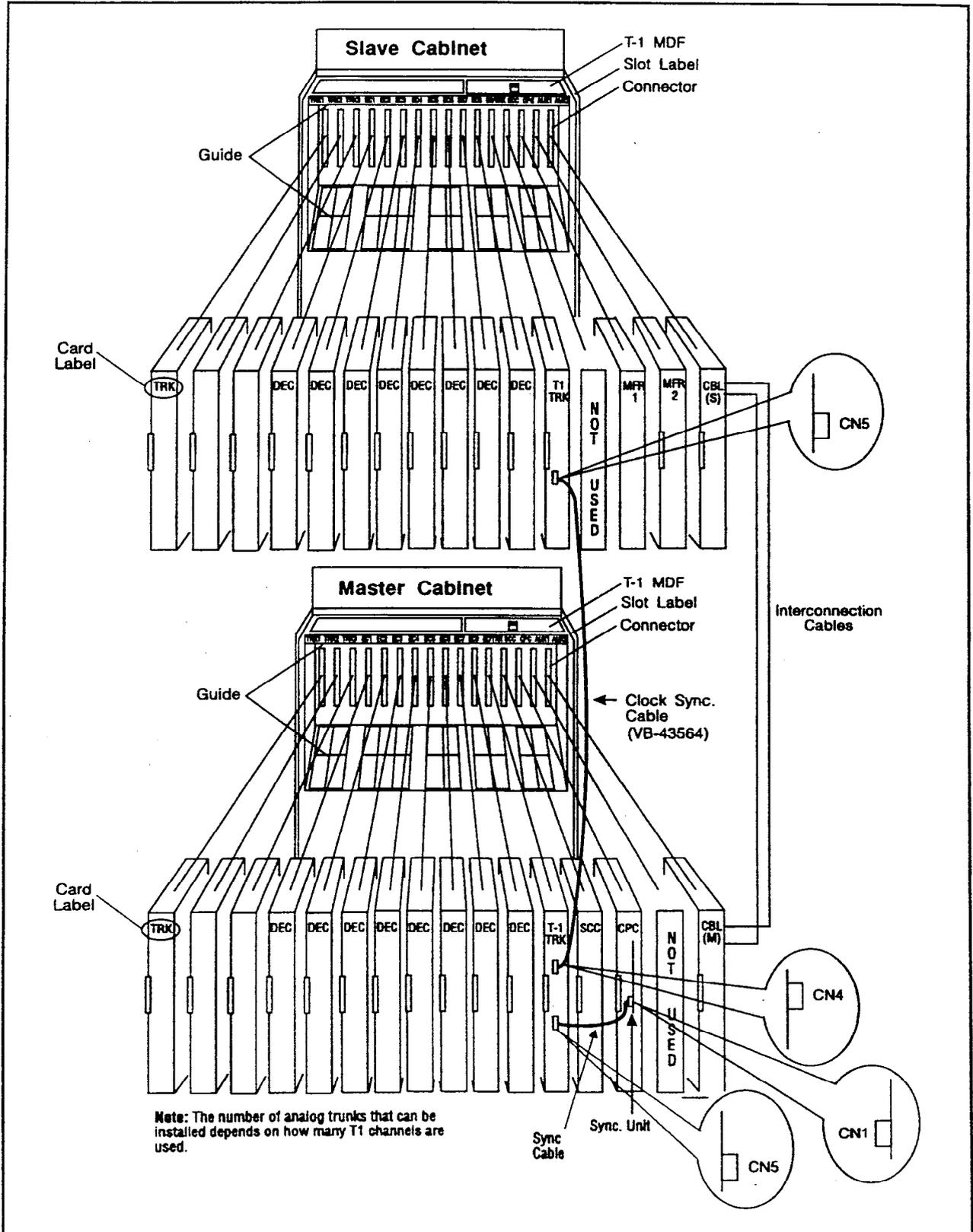
Lines

Extension Connectors

The number of extension ports that can be connected to your system depends on the type of system you have. Figure 4-11 shows the maximum number of extensions that can be connected to each system when the extension expansion connector is used.

Table 4-1 summarizes the number of ports that can be used without the extension expansion connector. Chapter 6 includes extension maximums for two-cabinet systems.

Figure 4-11. DBS extension connections
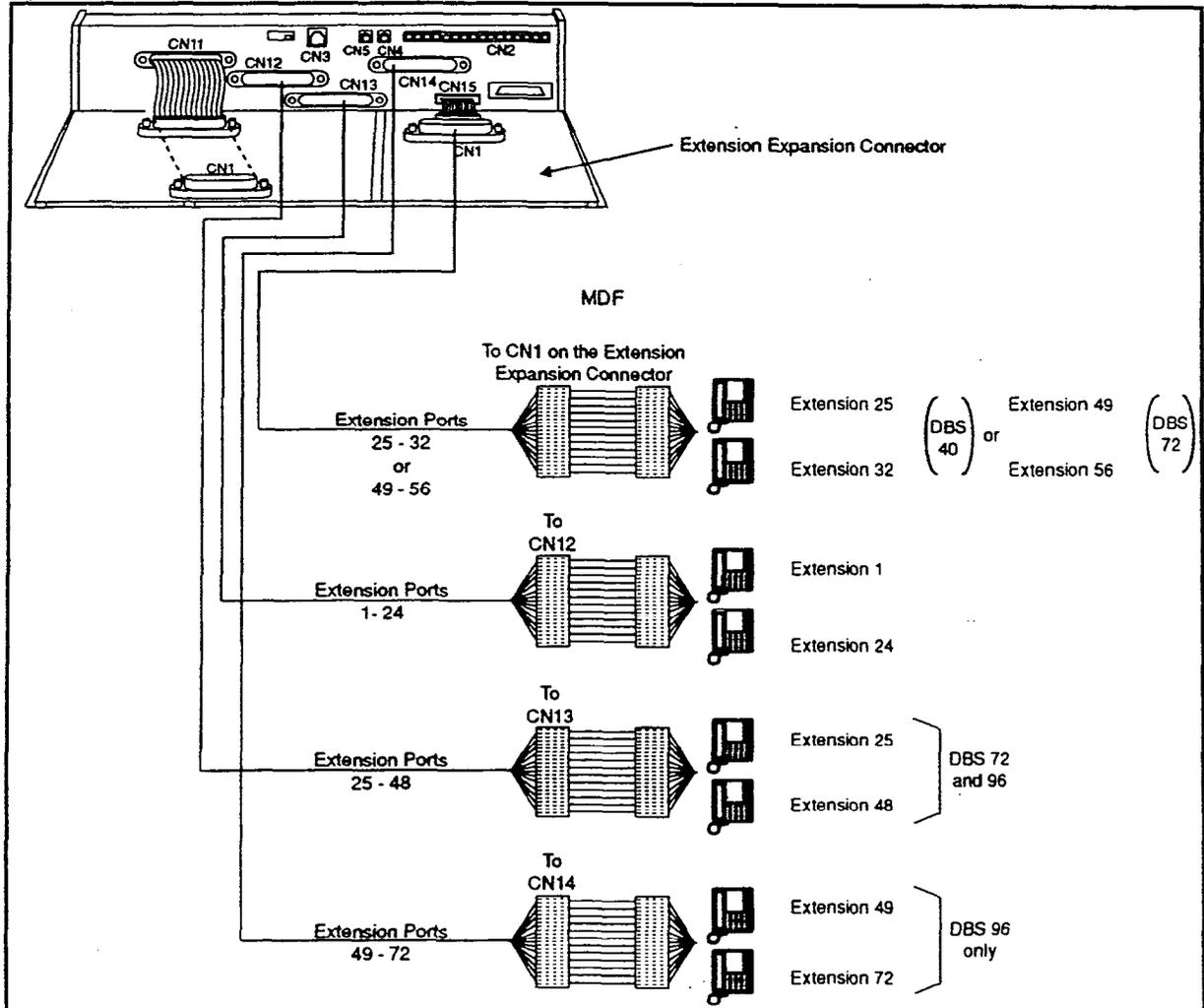
Table 4-19. Extension ports provided with each system

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 4-20. Pinouts and color codes for extension connector 12

Slot	Color	Pin No.	Design.	Slot	Color	Pin No.	Design.	Slot	Color	Pin No.	Design.
EC1 (See Note)	WH-BL BL-WH	26 1	T1 R1	EC2	RD-BR BR-RD	34 9	T1 R1	EC3	YL-OR OR-YL	42 17	T1 R1
	WH-OR OR-WH	27 2	T1 R1		RD-SL SL-RD	35 10	T1 R1		YL-GN GN-YL	43 18	T1 R1
	WH-GN GN-WH	28 3	T1 R1		BK-BL BL-BK	36 11	T1 R1		YL-BR BR-YL	44 19	T1 R1
	WH-BR BR-WH	29 4	T1 R1		BK-OR OR-BK	37 12	T1 R1		YL-SL SL-YL	45 20	T1 R1
	WH-SL SL-WH	30 5	T1 R1		BK-GN GN-BK	38 13	T1 R1		VI-BL BL-VI	46 21	T1 R1
	RD-BL BL-RD	31 6	T1 R1		BK-BR BR-BK	39 14	T1 R1		VI-OR OR-VI	47 22	T1 R1
	RD-OR OR-RD	32 7	T1 R1		BK-SL SL-BK	40 15	T1 R1		VI-GN GN-VI	48 23	T1 R1
	RD-GN GN-RD	33 8	T1 R1		YL-BL BL-YL	41 16	T1 R1		VI-BR BR-VI	49 24	T1 R1
									VI-SL SL-VI	50 25	N/A

Note: Only digital extensions can be used in slot EC1.

Table 4-21. Pinouts and color codes for extension connector 13

Slot	Color	Pin No.	Design.	Slot	Color	Pin No.	Design.	Slot	Color	Pin No.	Design.
EC4	WH-BL	26	T1	EC5	RD-BR	34	T1	EC6	YL-OR	42	T1
	BL-WH	1	R1		BR-RD	9	R1		OR-YL	17	R1
	WH-OR	27	T1		RD-SL	35	T1		YL-GN	43	T1
	OR-WH	2	R1		SL-RD	10	R1		GN-YL	18	R1
	WH-GN	28	T1		BK-BL	36	T1		YL-BR	44	T1
	GN-WH	3	R1		BL-BK	11	R1		BR-YL	19	R1
	WH-BR	29	T1		BK-OR	37	T1		YL-SL	45	T1
	BR-WH	4	R1		OR-BK	12	R1		SL-YL	20	R1
	WH-SL	30	T1		BK-GN	38	T1		VI-BL	46	T1
	SL-WH	5	R1		GN-BK	13	R1		BL-VI	21	R1
	RD-BL	31	T1		BK-BR	39	T1		VI-OR	47	T1
	BL-RD	6	R1		BR-BK	14	R1		OR-VI	22	R1
	RD-OR	32	T1		BK-SL	40	T1		VI-GN	48	T1
	OR-RD	7	R1		SL-BK	15	R1		GN-VI	23	R1
	RD-GN	33	T1		YL-BL	41	T1		VI-BR	49	T1
	GN-RD	8	R1		BL-YL	16	R1		BR-VI	24	R1
									VI-SL	50	N/A
									SL-VI	25	

Table 4-22. Pinouts and color codes for extension connector 14

Slot	Color	Pin No.	Design.	Slot	Color	Pin No.	Design.	Slot	Color	Pin No.	Design.
EC7	WH-BL BL-WH	26 1	T1 R1	EC8	RD-BR BR-RD	34 9	T1 R1	EC/TRK (See Note.)	YL-OR OR-YL	42 17	T1 R1
	WH-OR OR-WH	27 2	T1 R1		RD-SL SL-RD	35 10	T1 R1		YL-GN GN-YL	43 18	T1 R1
	WH-GN GN-WH	28 3	T1 R1		BK-BL BL-BK	36 11	T1 R1		YL-BR BR-YL	44 19	T1 R1
	WH-BR BR-WH	29 4	T1 R1		BK-OR OR-BK	37 12	T1 R1		YL-SL SL-YL	45 20	T1 R1
	WH-SL SL-WH	30 5	T1 R1		BK-GN GN-BK	38 13	T1 R1		VI-BL BL-VI	46 21	T1 R1
	RD-BL BL-RD	31 6	T1 R1		BK-BR BR-BK	39 14	T1 R1		VI-OR OR-VI	47 22	T1 R1
	RD-OR OR-RD	32 7	T1 R1		BK-SL SL-BK	40 15	T1 R1		VI-GN GN-VI	48 23	T1 R1
	RD-GN GN-RD	33 8	T1 R1		YL-BL BL-YL	41 16	T1 R1		VI-BR BR-VI	49 24	T1 R1
									VI-SL SL-VI	50 25	N/A

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.

Analog Extensions

Guidelines

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

- Analog extensions also require the SLT ringer box (VB-2089P).

Installation

1. Install the AEC cards in extension slots.

2. Install the MFR card in AUX1 or AUX2, depending on whether an API card is installed. If an API card is installed, install the MFR card in AUX1.

3. Install the SLT Ringer Box as shown in Figure 4-12.

Figure 4-12. SLT ringer box installation
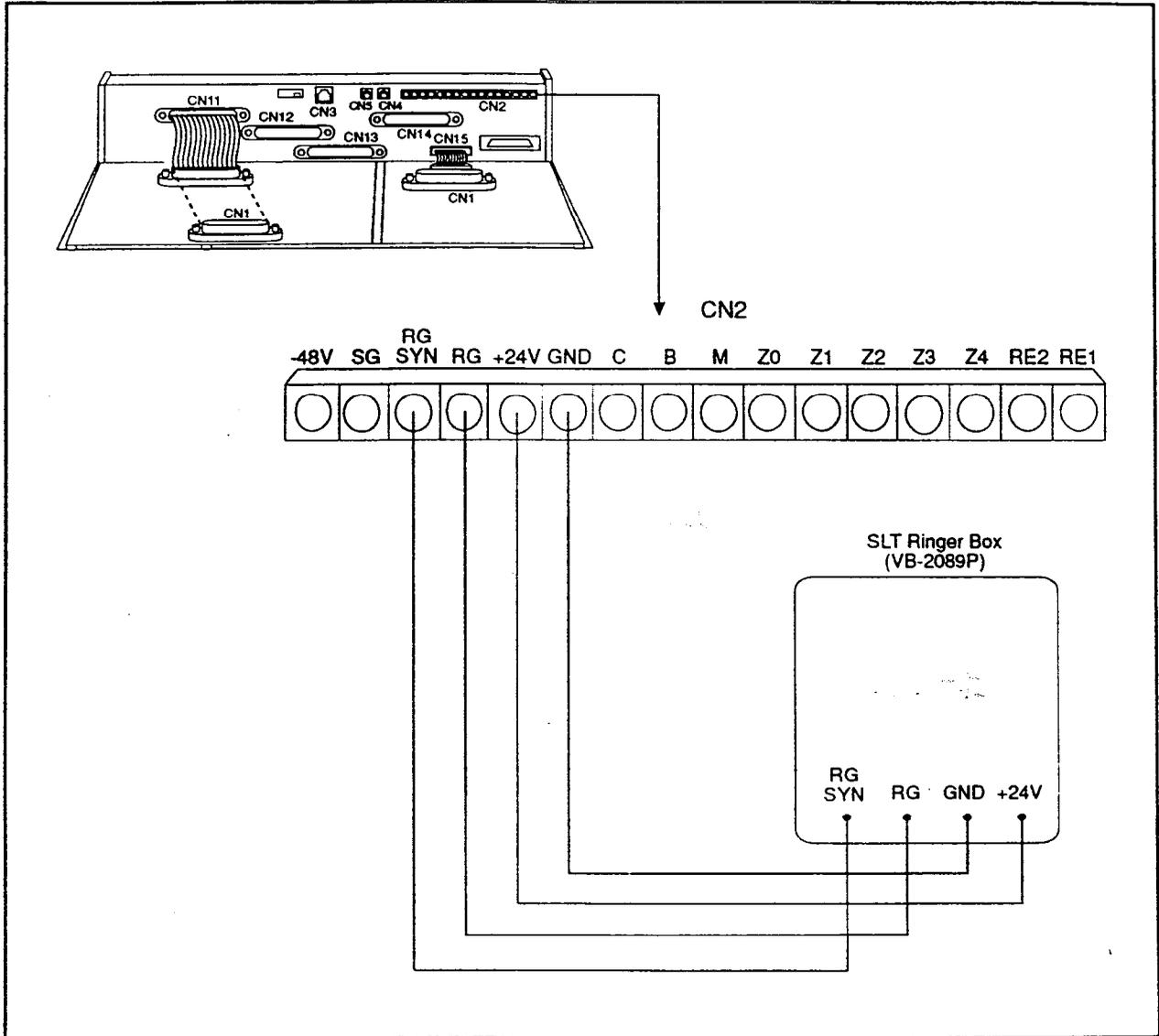
4. Use a standard 50-pin cable to connect the extensions from the MDF to the appropriate extension connector. (Refer to Tables 4-20 through 4-22 for extension pinouts.)

5. If you're installing a DBS 40 system, attach the EMI filter to the amphenol cable as shown in Figure 4-13.

Figure 4-13. EMI filter installation (DBS 40 only)
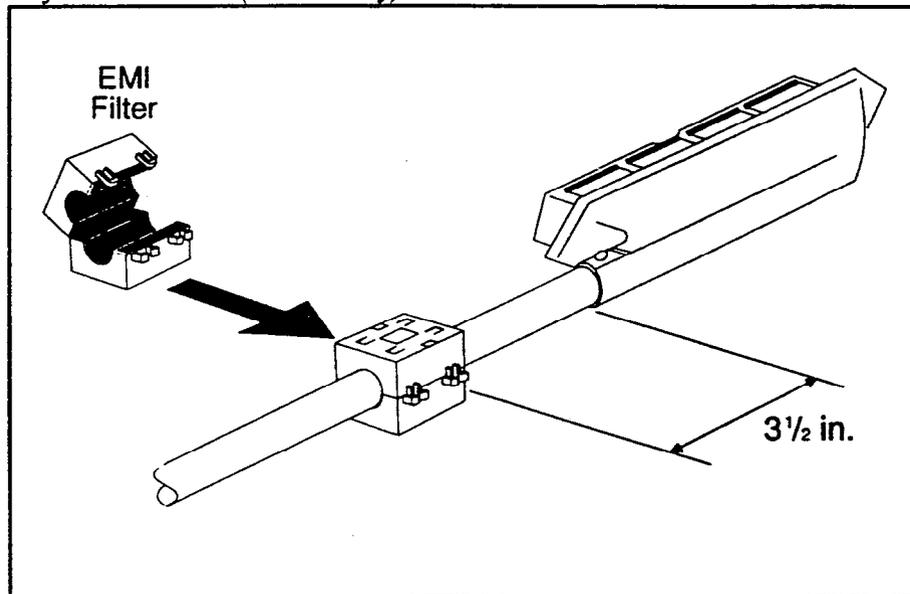
Digital Extensions

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 4-11 on page 4-29. (Refer to Tables 4-20 through 4-22 for extension pinouts.)

3. If you're installing a DBS 40, attach the EMI filter to the amphenol cable, as shown in Figure 4-13.

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, 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 and 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 4-14. DSS/72 connection
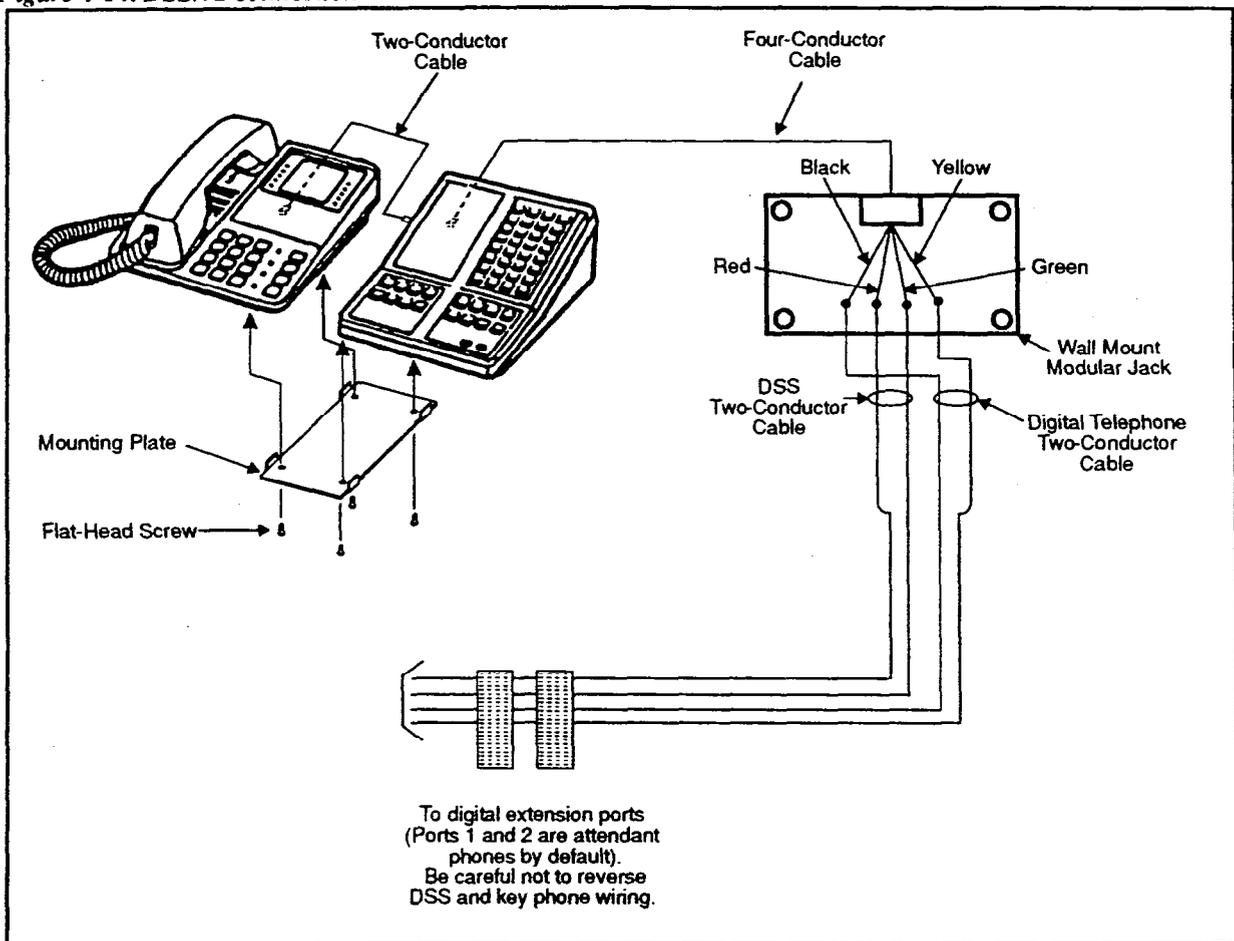
EM/24

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 4-15.

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 4-15. EM/24 connection
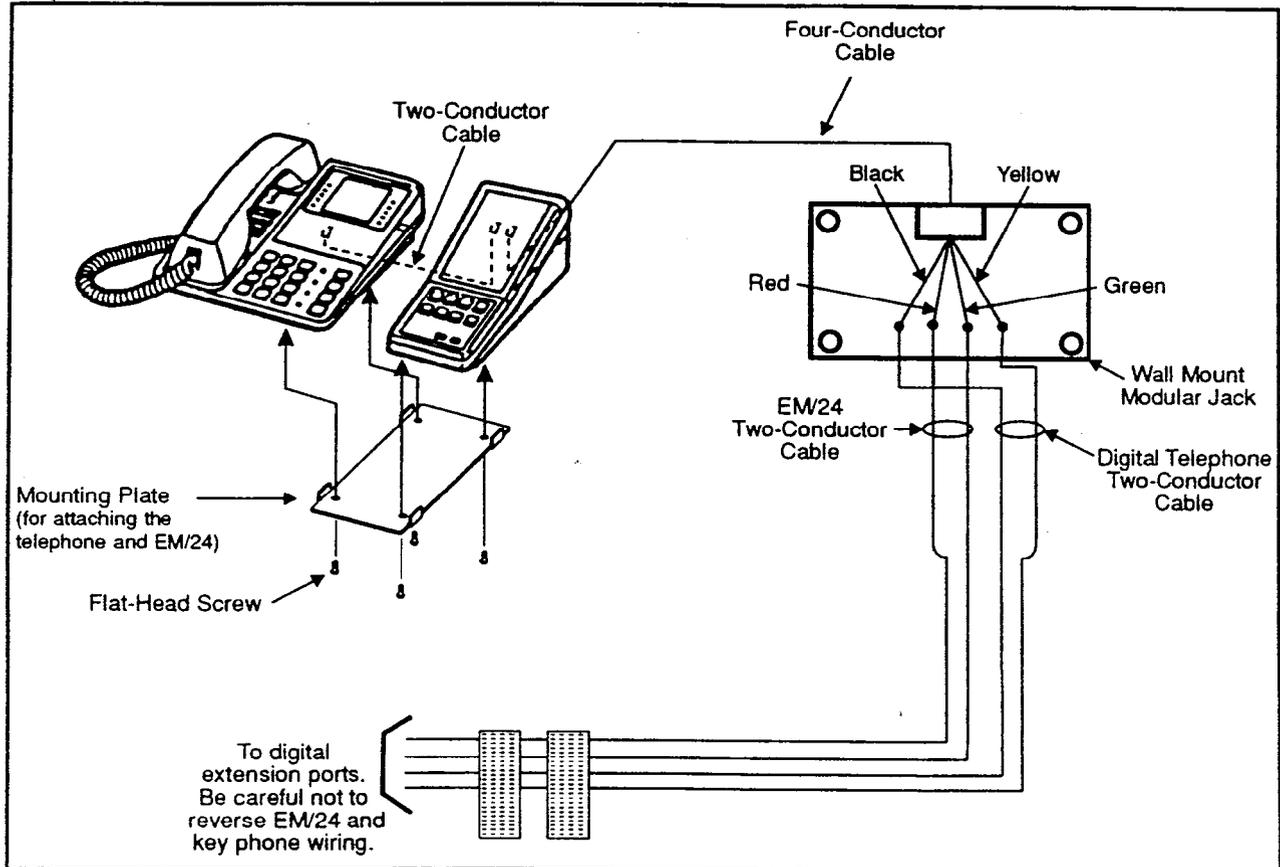
Trunk and Line Expansion

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-43120
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 4-33 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 4-16.

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.

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

Figure 4-16. Trunk or extension expansion
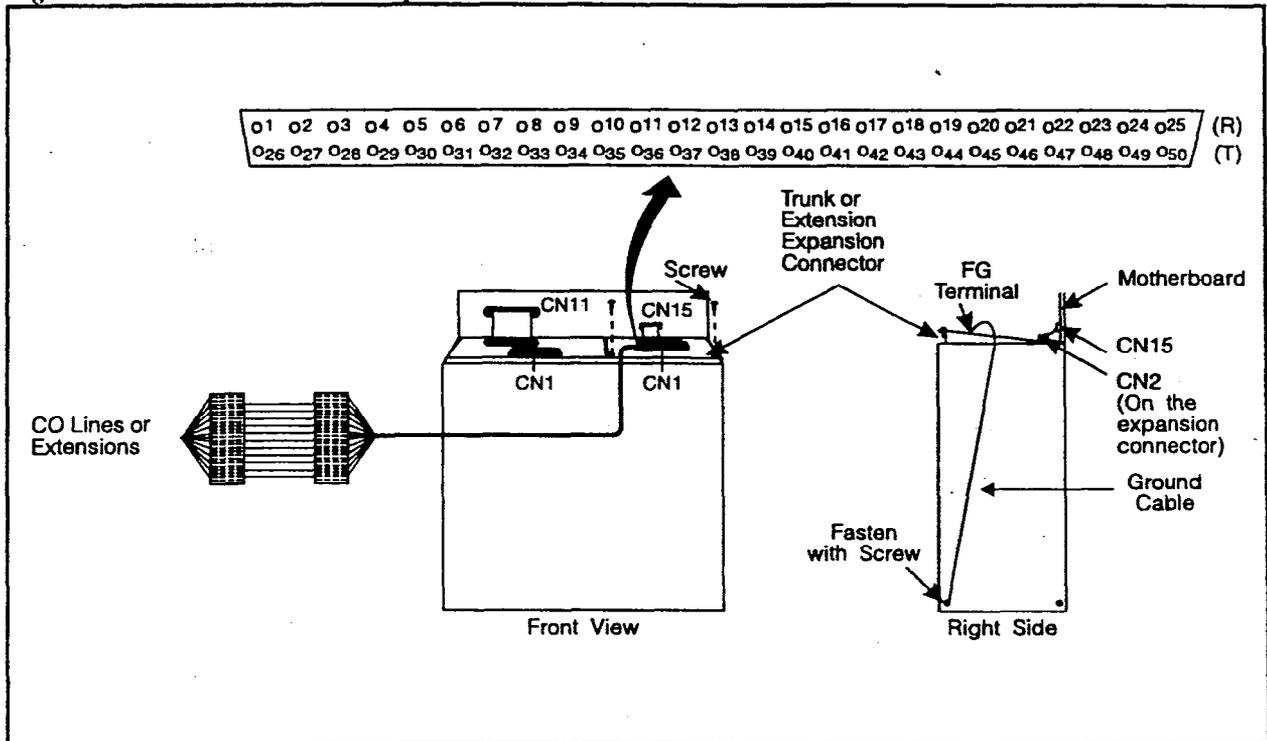
Chapter 5. Peripheral Equipment

This chapter 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.

Local PCAS Terminal or SMDR Device

Guidelines

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

- The following table contains RS-232C designations.

Table 5-1. RS-232C pin designations used for CN6

Signal Name	Description
FG	Frame Ground
TD	Transmitted Data
RD	Received Data
RTS	Request to Send
CTS	Clear to Send
DSR	Data Set Ready
SG	Signal Ground
DTR	Data Terminal Ready
DCD	Data Carrier Detect

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

Installation

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

   Figures 5-1 and 5-2 show 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 PCAS or SMDR device.

Figure 5-1. RS-232C connection, 25-pin to 25-pin

Main Cabinet (CN6) RS-232C				PCAS or SMDR Printer RS-232C			
Circuit Type (EIA)	Signal Name	Pin No. and Connection			Signal Name	Circuit Type	
						EIA	CCITT
AA	FG	1		1	FG	AA	101
BA	TD	2		2	TD	BA	103
BB	RD	3		3	RD	BB	104
CB	CTS	5		5	CTS	CB	105
CC	DSR	6		6	DSR	CC	106
AB	SG	7		7	SG	AB	102
CF	DCD	8		8	DCD	CF	109
CD	DTR	20		20	DTR	CD	108.2
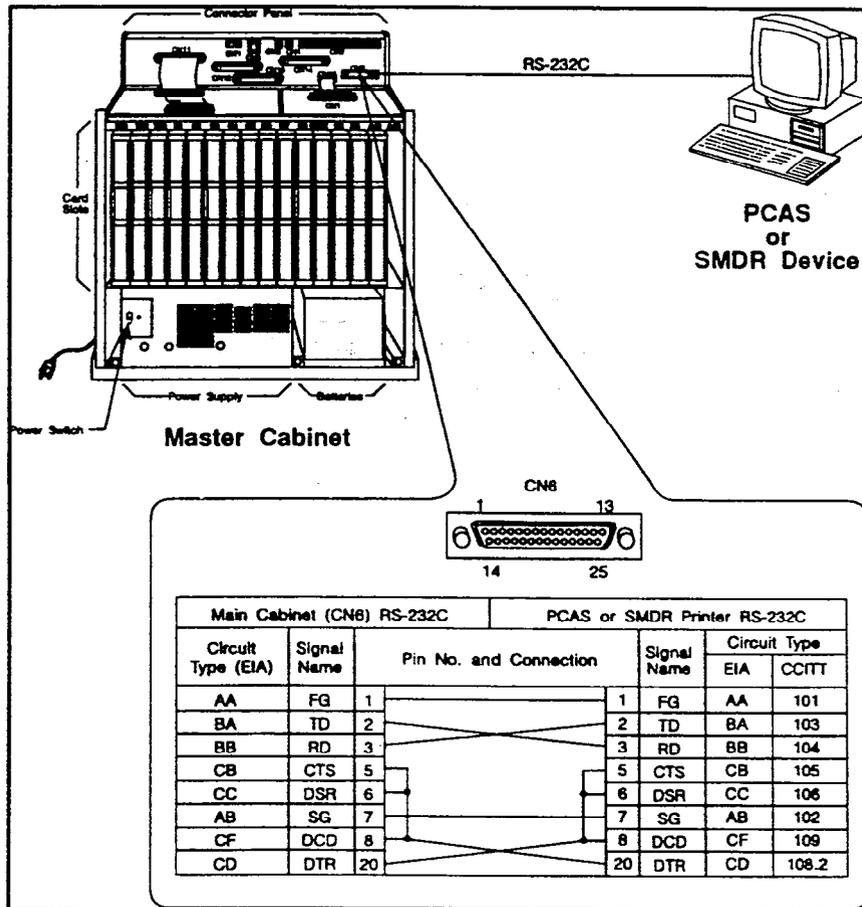
Figure 5-2. RS-232C connection, 25-pin to 9-pin

TD	2	—————————	2	RD
RD	3	—————————	3	TD
CTS	4	—————————	7	RTS
RTS	5		4	DTR
DSR	6			
DCD	8			
SG	7	—————————	5	SG
DTR	20	—————————	1	DCD
			6	DSR
			8	CTS
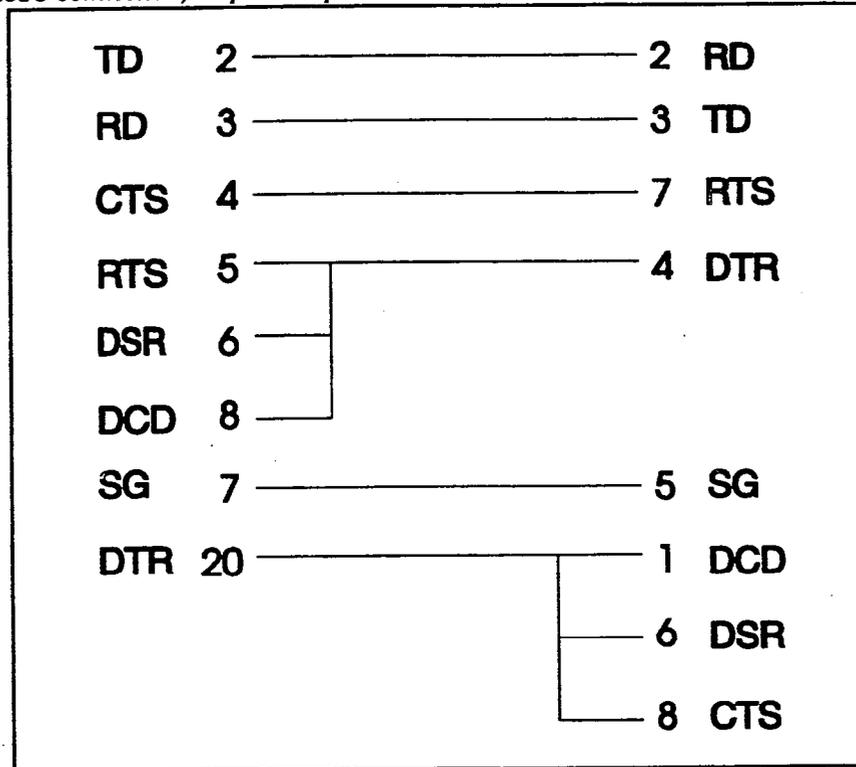
Remote Administration Interface (RAI)

Guidelines

- The RAI 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. The following table shows the transmission rate of each card, along with the SCC version it can be used with.

Table 5-2. RAI 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 bps/1200 bps	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 via 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
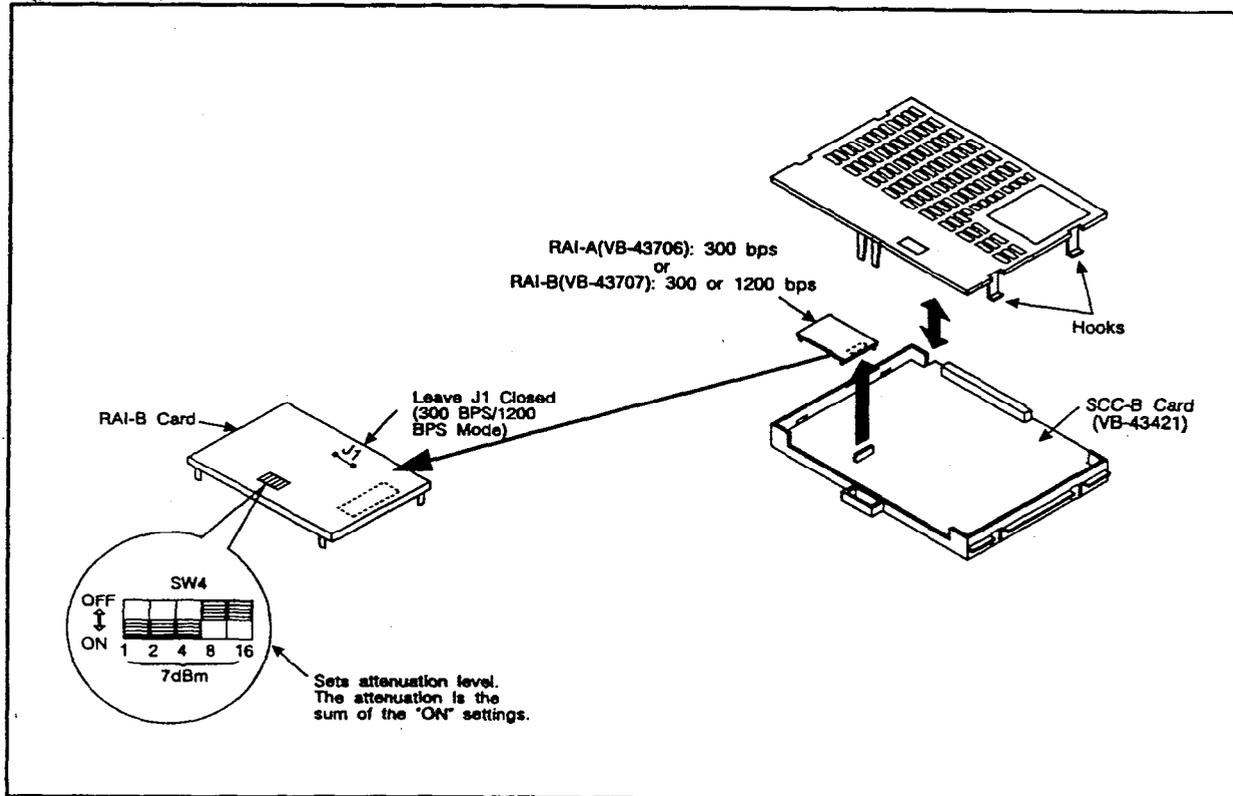
Background Music/Music-On-Hold

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.

Installation

1. If you're using a single source for both BGM and MOH, connect the source to CN5 on the Connector Panel. If you're using se   ate sources, connect the MOH source to CN5 and the BGM source to the   M conne   on the SCC card.

2. Strap the CN5 block (SCC-A) or the CN4 bloc SCC-B) a   ding 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 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
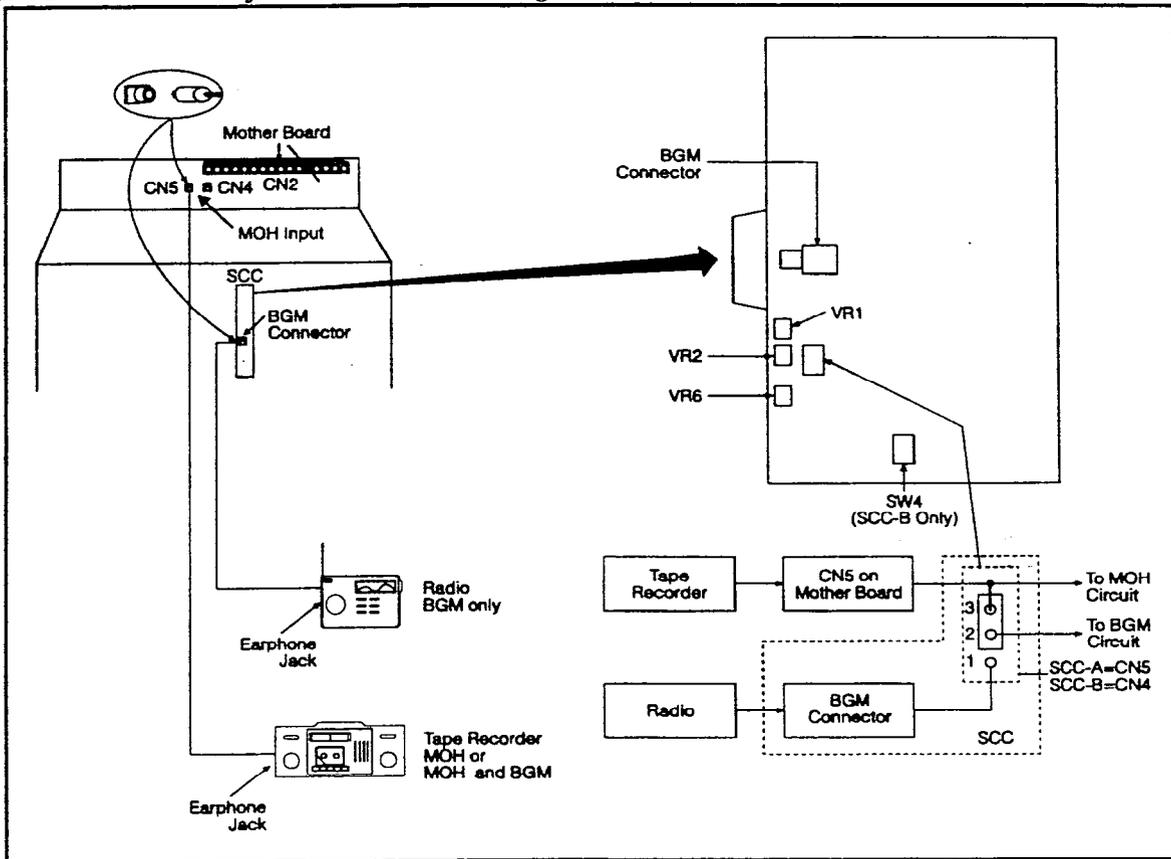
Off-Premises Adaptor (OPX)

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.

- The following tools are required to install the OPX Adaptor:

  - Phillips screwdriver

  - Needle-nose pliers

  - Diagonal cutters

Installation

The following procedures describe direct OPX connection and OPX connection 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 5-11) to make an opening for the cables coming into the OPX 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 5-5. Cable punch-out plate, OPX Adaptor
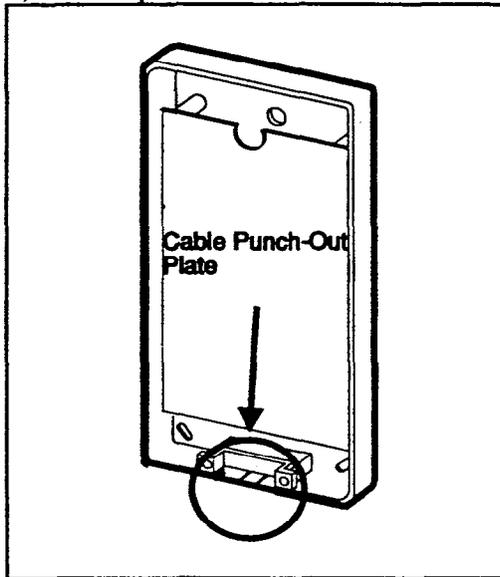
3. Mount the OPX Adaptor to the wall.

   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 "TT" leads to the OPX station.

7. Install the cover on the OPX Adaptor.

8. Power the system down then back up, or unplug the cable connected to the digital extension, then plug it back in.

Installing an OPX Station Through a Central Office

1. Perform Steps 1 through 5, which begin 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. Connect the OPX station to the central office.

4. 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.

5. If a ringing supply is used, cut Straps J1 and J2 on the OPX Adaptor.

6. Install the cover on the OPX Adaptor.

7. 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

To off-premise
SLT

TR

TT

To the DBS
Frame Ground
screw

GND

1 CN3 3

Off-Premise
Extension Adaptor
(VB-43702)
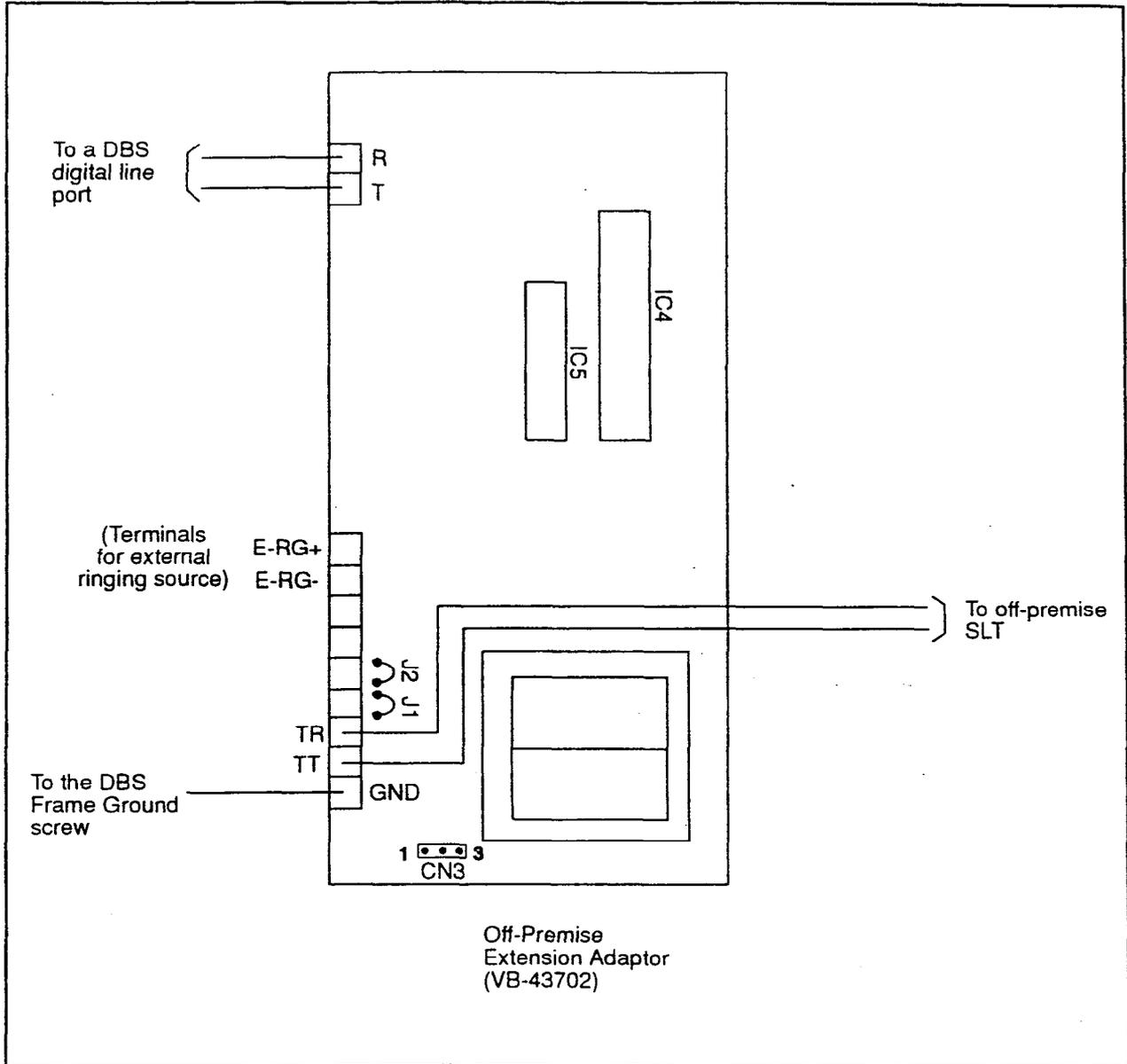
Paging

Guidelines

- The paging amplifier, 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.

- 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.

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.

3. Connect the relays to the amplifier.

4. Connect the relays to the +24V and zone paging terminals (Z0-Z4) on the Connector Panel.

Figure 5-7. External paging installation

(
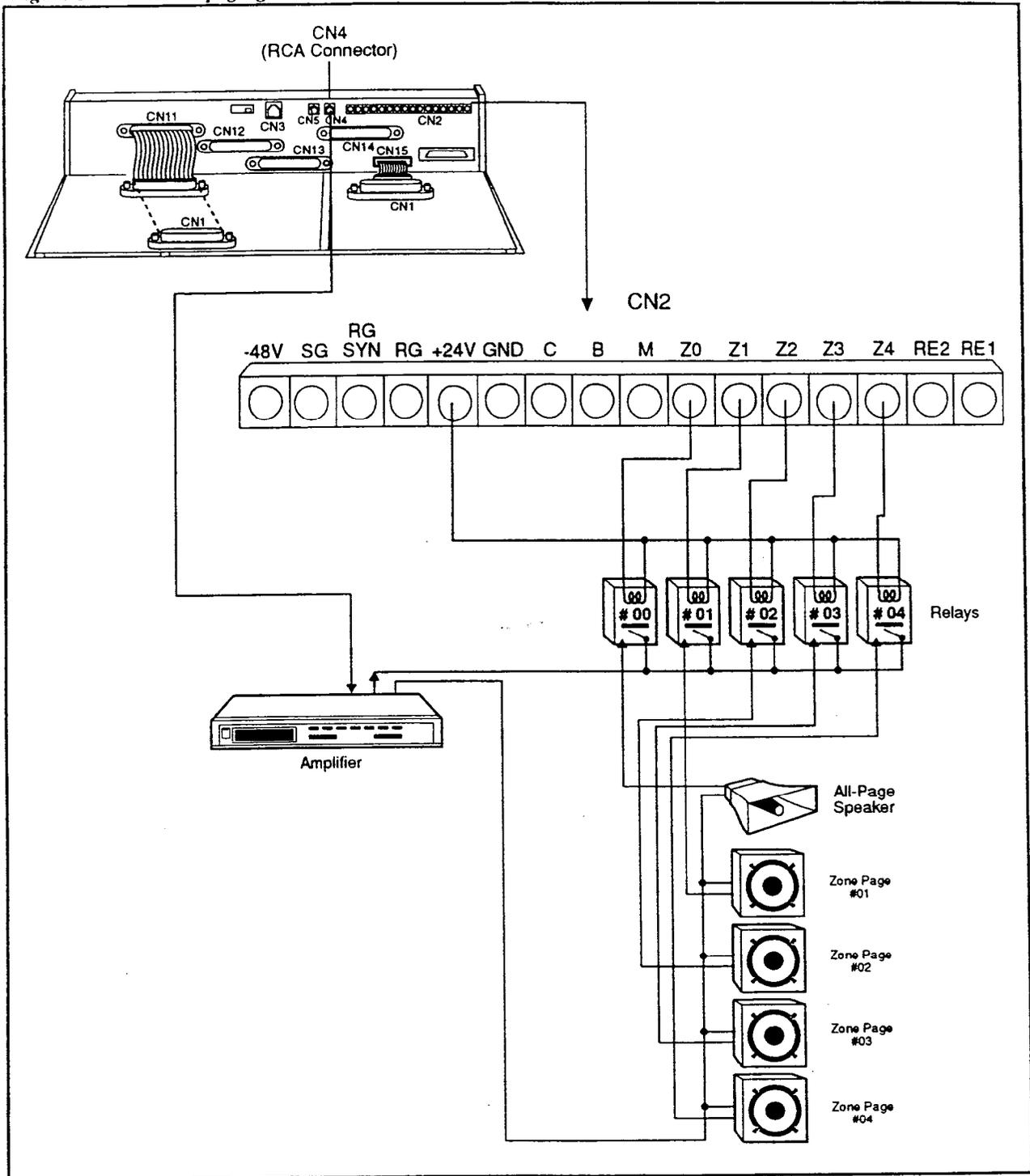
External Ringer (UNA Device)

Guidelines

- An external ringer can be used to alert users when Universal Night Answer (UNA) calls come in.

- The external ringer is not provided with the DBS. It must be purchased separately.

- UNA calls can also be set to ring over an external paging system.

- 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 5-8 on page 5-17.)

   Note: Connecting the ringer to the "C" and "M" terminals provides a "1 second on/3 seconds off" ringing pattern. 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 5-8. External ringer (UNA device) installation
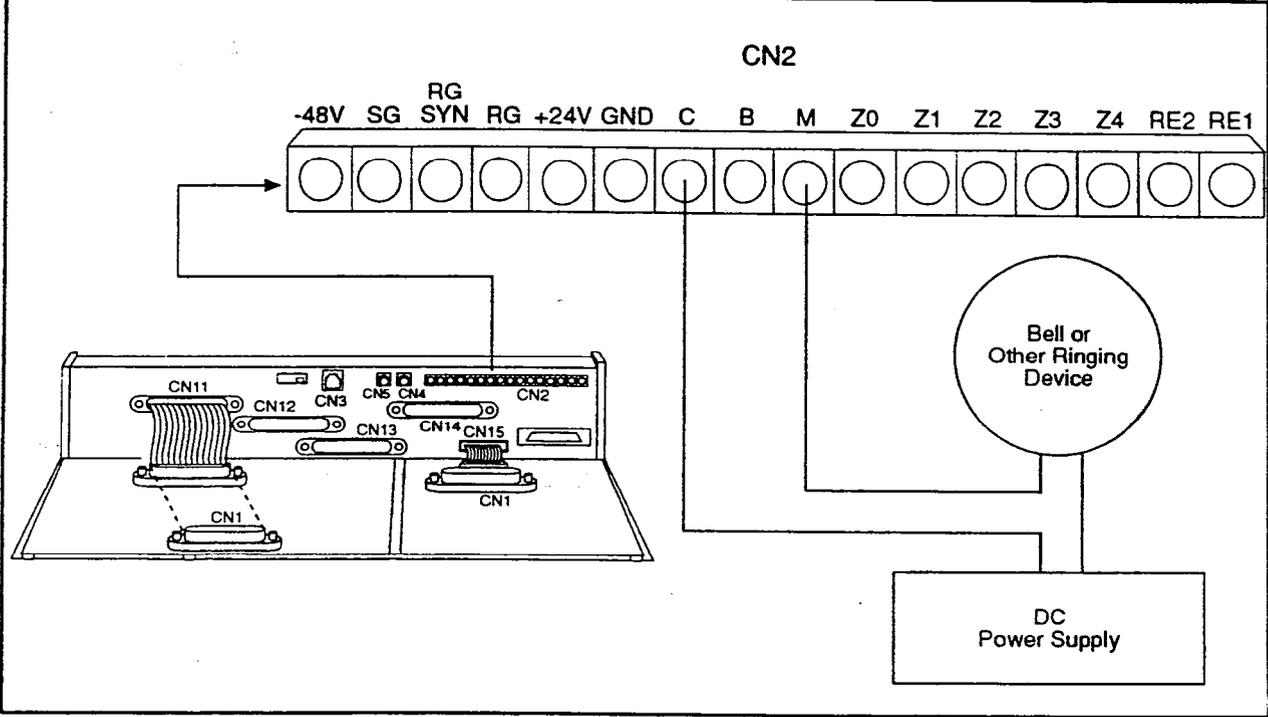
Power Failure Transfer

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 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 cutters

Installation

1. Remove the cover from the Power Failure Unit (PFU).

2. Remove the cable punch-out plate (Figure 5-9) to make a opening for the cables coming into the PFU.

   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 5-9. Cable punch-out plate, Power Failure Unit
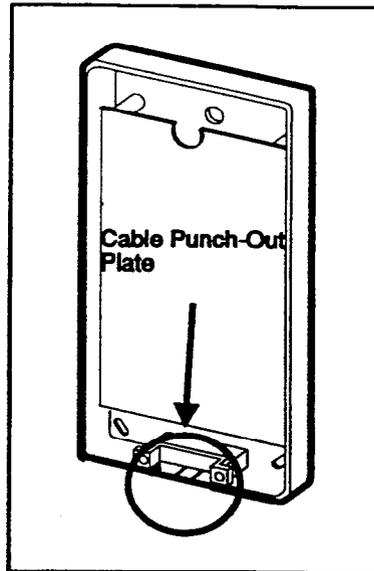
3. Mount the PFU on the wall using the three screws provided with the unit. (See Figure 5-10.)

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 5-10.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. D

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
AEC Extension Port No. D
— To SLT

Trunk Line A
Trunk Line B
Trunk Line C
Trunk Line D
— To the Central Office

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 cutters

Installation

1. Remove the cover from the Voice Announce Unit.

2. Set SW1 and SW2 according to the following tables. (Default settings are italicized.)

See Figure 5-13 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*
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 1-3)								
Switch	**Timer (in seconds)**							
	4	8	12	*16*	20	24	28	No Answer
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

Switch Block 1 (SW1) DTMF Detection Timer	
Switch	**Function**
4	*ON=80 ms* OFF=40 ms

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 5-10. 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 5-11) to make an opening for the cable coming into the VAU.

   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 5-11.Cable punch-out plate, Voice Announce Unit
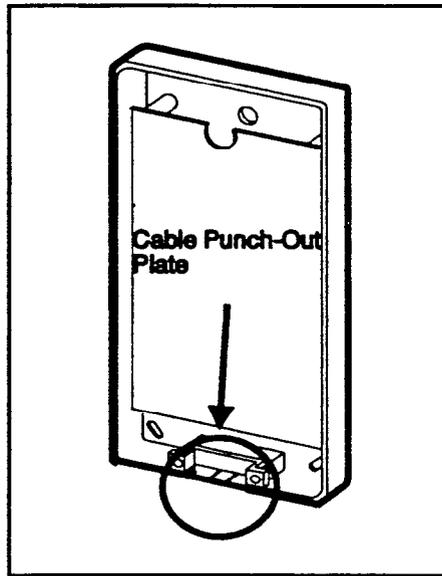
4. Mount the VAU on the wall using the three screws provided with the unit. (See Figure 5-13.)

5. Connect the extension cable from the DBS to CN1 on the VAU.

   Note that two inside pins on CN1 are port 1. The two pins on either side are port 2, as shown in Figure 5-12.

Figure 5-12. Extension cord connection to the VAU
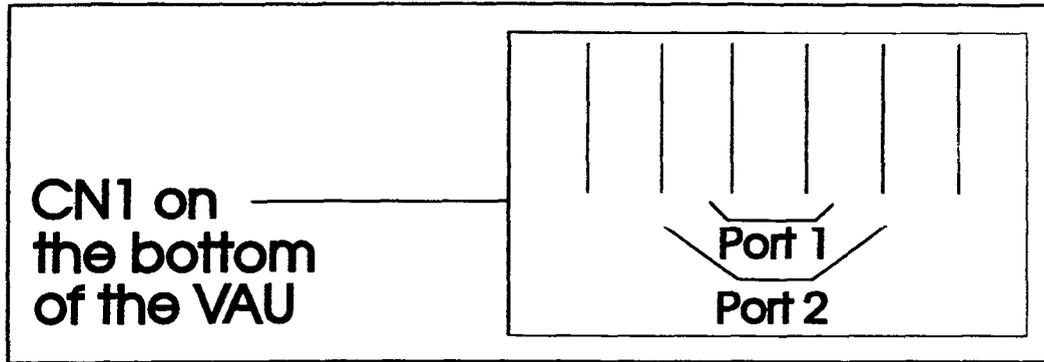
6. Install the cover on the VAU.

Figure 5-13. Voice Announce Unit (VAU) installation
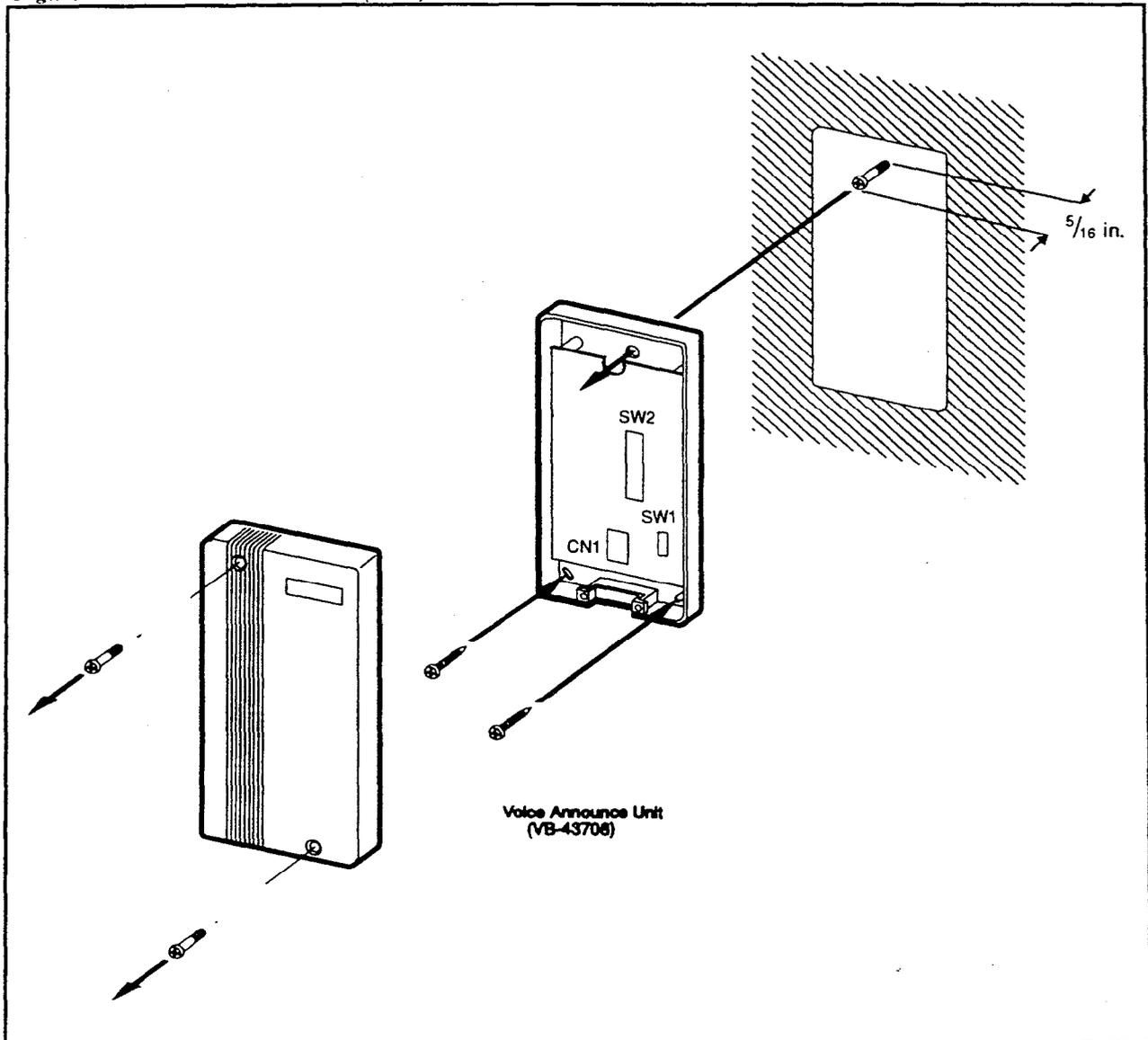
Door Box Adaptor

Guidelines

- The Door Box Adaptor (VB-43701) requires a door opener and door sensor. In addition, a Door Box (VA-43705) is normally used with the Door Box Adaptor. The door opener and door sensor are not sold by Panasonic; they can be purchased separately from an electronics dealer.

- Each Door Box and opener use one trunk port. Also, each sensor uses one trunk port.

- Up to two door openers and two Door Boxes can be connected to a Door Box Adaptor.

- The Door Opener can be set to open for 15 seconds, 30 seconds, or one minute.

- The following tools are required to install the Door Box Adaptor:

  - Phillips screwdriver

  - Needle-nose pliers

  - Diagonal cutters

Installation

1. Remove the cover from the Door Box Adaptor.

2. Set the switches in the Door Box Adaptor according to Figure 5-15.

3. Remove the cable punch-out plate (Figure 5-14) 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 5-14.Cable punch-out plate, Door Box Adaptor
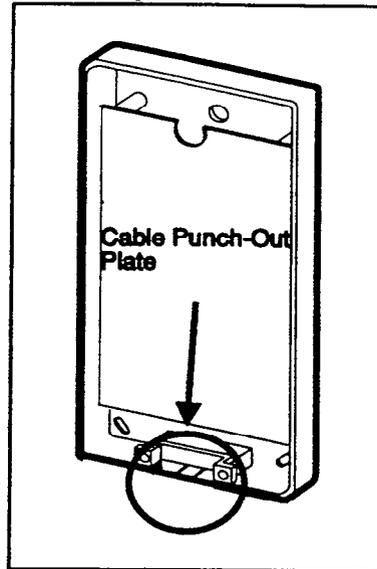
4. Mount the Door Box Adaptor on the wall using the three screws provided with the unit.

5. Connect the trunk line(s) to the Door Box Adaptor, as shown in Figure 5-15.

   The "CO.D" 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 5-15.Installation of the door box, door opener, and door sensor

1	Sensor Type	ON	Detect-Close
		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	OFF	ON	OFF
60 Sec	OFF	OFF	ON

Door Opener Operation Time	Dip SW 6	7	8
1 Sec	ON	OFF	OFF
3 Sec	OFF	ON	OFF
5 Sec	OFF	OFF	ON

ON
OFF
1 2 3 4 5 6 7 8

Door Box Adaptor (VB-43701)

Contact Ratings for Opener 1 and 2:

120V AC: 0.3 amps
30V DC: 1 amp

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

5-27

Chapter 6. Double-Cabinet Systems

Two DBS cabinets can be connected in order to increase linesize. This chapter includes connection procedures, as well as capacities for two-cabinet systems.

See Chapter 4 for instructions on installing T1s in two-cabinet systems.

Guidelines

- Two DBS cabinets can be connected to increase linesize. The maximum linesize 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 SLTs 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 6-1. Trunk and extension port maximums for double-cabinet systems

System Combinations		Trunk Ports	Extension Ports	Expansion Ports (Trunk lines or extensions)
Master	Slave			
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 DBS72 and DBS40 are connected, expansion ports cannot be used.				

- Figures 6-1 through 6-6 shows slot usage for two-cabinet combinations.

Figure 6-1. Slot usage for two-cabinet systems, DBS 40 + DBS 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 4-9 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	MFR*	MFR*	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. Slot usage for two-cabinet systems, DBS 72 + DBS 72

DBS 72 (Slave)

TRK1	TRK2	EC1	EC2	EC3	EC4	EC5	EC6	EC/TRK	SCC	CPC	AUX1	AUX2
TRK 17-24	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)

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:

*See "T1 Interface" on page 4-9 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.)

Figure 6-4. Slot usage for two-cabinet systems, DBS 96 + DBS 40

DBS 40 (Slave)

TRK1	EC1	EC2	EC3	EC/TRK	SCC	CPC	AUX1	AUX2
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)

TRK1	TRK2	TRK3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/TRK	SCC	CPC	AUX1	AUX2
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 4-9 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)

TRK1	TRK2	EC1	EC2	EC3	EC4	EC5	EC6	EC/TRK	SCC	CPC	AUX1	AUX2
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)

TRK1	TRK2	TRK3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/TRK	SCC	CPC	AUX1	AUX2
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 4-9 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)

TRK1	TRK2	TRK3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/TRK	SCC	CPC	AUX1	AUX2
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)

TRK1	TRK2	TRK3	EC1	EC2	EC3	EC4	EC5	EC6	EC7	EC8	EC/TRK	SCC	CPC	AUX1	AUX2
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 4-9 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.)

Installation

1. Install the trunk and extension cards according to the layouts shown in the Figures 6-1 through 6-6.

   Note that the port numbers for each slot are fixed.

2. If you're using two MFR cards, cut Strap S3 on the second card.

Figure 6-7. Strap 3, MFR card
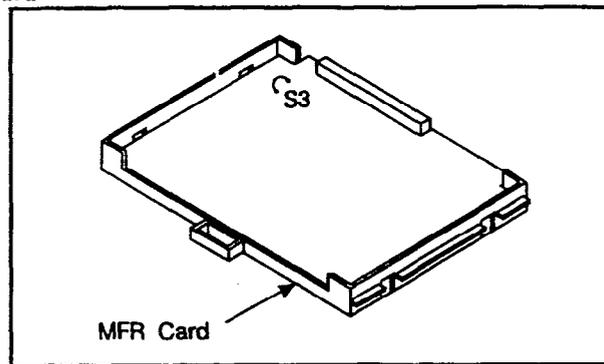
3. Using the cables provided, connect the CBL-M card in the master cabinet to the CBL-S card installed in the slave cabinet.

   Note: The EMI filter must be installed less than 3/8 inches from the right sides of both the master and slave CBL cards.

Figure 6-8. Double-cabinet installation
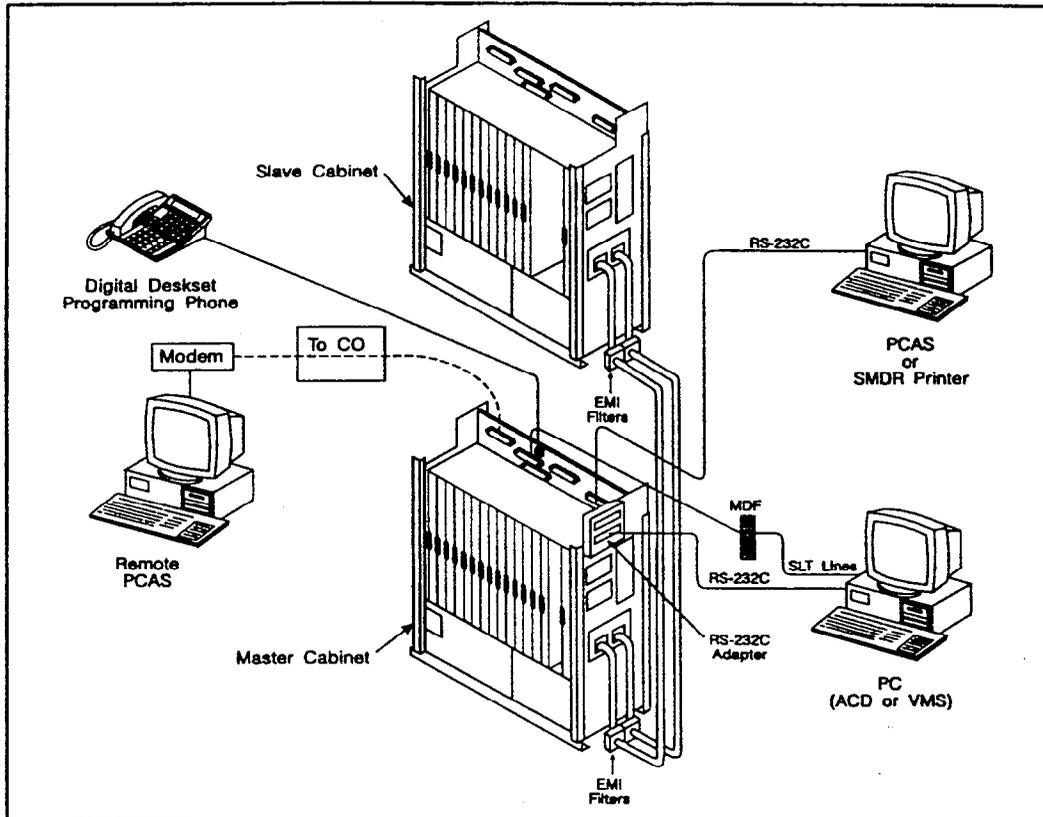
4. Connect two 24V power supply cords from the CBL-S card to the 24V and
   GND terminals on CN2 of the Connector Panel of the slave cabinet.

Figure 6-9. CBL-S to Connector Panel connection, slave cabinet
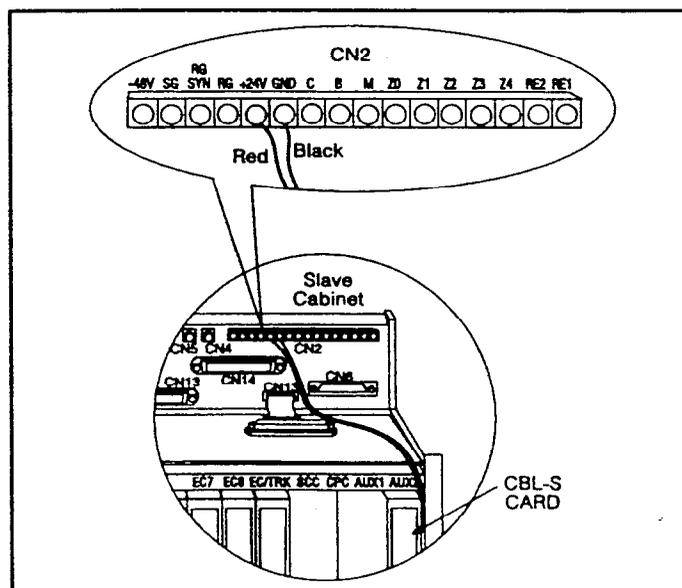
5. Set SW1 on the CBL-M card according to the following table.

Table 6-2. CBL-M switch settings

System Combinations		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 that 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 was 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.

Electrical Characteristics

Table 7-1. Input power

Equipment	Power Requirements
All DBS cabinets	120V AC 60 Hz ± 10 %
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-2450A-2P	40 minutes
DBS 72	VB-2650-2P	40 minutes
DBS 96	VB-2650-2P	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, single-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 1/2 x 7 1/2 x 9		
EM/24	3 3/13 x 3 1/8 x 8 3/8		
Weight (lbs)			
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.

Table 7-8. Feature-related capacities

Resource	Maximums
Attendants	
No. of attendants with CPC-A	2
No. of attendants with CPC-B (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
    CPC-B
	
	0
	4 (1 per attendant)

Callback 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	8 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
Speed dial	
No. of personal speed dial numbers	10 per extension (90 ~ 99)
No. of system speed dial numbers	90 (00 ~ 89)
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-43221	22-key speakerphone			
VB-43223	22-key speakerphone with LCD display			
VB-43225	22-key speakerphone with large LCD display			
VB-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: 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	32	56	72
VB-43885	15 ft. handset cord			
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)	1	1	1
VB-43411	Call processor card (CPC-B)			
VB-43420	Service circuit card (SCC-A)	1	1	1
VB-43421	Service circuit card (SCC-B)			
VB-43431	DTMF signal receiver for 8 SLT lines (MFR/8)	1	1	1
VB-43510	4-port loop-start trunk card (L-TRK/4)	2	3	4
VB-43511	8-port loop-start trunk card (L-TRK/8)			
VB-43541	Direct-inward-dialing trunk card (DID)			
VB-43531	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 (4 total)	7 (7 total)	9 (9 total)
VB-43621	8-port analog extension card (AEC)	3	4	4

Part No.	Description	Quantity		
		DBS 40	DBS 72	DBS 96
Expansion Connectors				
VB-43120	Trunk expansion connector	1	1	1
VB-43121	Extension expansion connector			
Doorbox Equipment				
VB-43701	Door box adaptor	16	24	32
VB-43705	Door box	32	48	64
Optional Equipment				
VB-43706	Remote Administration Interface (RAI-A)	1	1	1
VB-43707	Remote Administration Interface (RAI-B)			
VB-2450A-2P	Built-in system backup batteries	1	N/A	N/A
VB-2650-2P	Built-in system backup batteries	N/A	1	1
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-43981	VMS software	1		
VB-43983	ACD software			
VB-43991	PCAS software			

Table 7-10. Hardware maximums for double-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-43221	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-43231	34-key keyphone						
VB-43233	34-key keyphone w/ LCD display						
Phone Options							
VB-43310	24-key expansion module (EM24)	32	44	56	52	64	72
VB-43320	72-key DSS/BLF module (DSS/72)	CPC-A: 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	56	72	104	104	128	144
VB-43885	15 ft. handset cord						
VB-43886	25 ft. handset cord						
VB-43890	K-type handset						

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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-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	Direct-inward-dialing trunk card (DID)						
VB-43531	8-port ground-start trunk card (G-TRK/8)						
VB-43561	T1 Interface	2	2	2	2	2	2
VB-43562	T1 MDF Card	2	2	2	2	2	2
VB-43563	T1 Sync Card	1	1	1	1	1	1
VB-43611	8-port digital extension card (DEC)	7 (7 total)	9 (9 total)	13 (13 total)	13 (13 total)	16 (16 total)	18 (18 total)
VB-43621	8-port analog extension card (AEC)	6	7	8	7	8	8

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 expansion connector	2	2	2	2	2	2
VB-43121	Extension expansion connector	2	2	2	2	1*	0*
Doorbox Equipment							
VB-43701	Door box adaptor	24	24	48	48	58	64
VB-43705	Door box	48	48	96	96	112	128
Optional Equipment							
VB-43706	Remote Administration Interface (RAI-A)	1	1	1	1	1	1
VB-43707	Remote Administration Interface (RAI-B)	1	1	1	1	1	1
VB-2450A-2P	Built-in system backup batteries	2	N/A 1	N/A	N/A 1	N/A	N/A
VB-2650-2P	Built-in system backup batteries	N/A	1 N/A	2	1 N/A	2	2
VB-2089P	SLT ringer box	2	2	2	2	2	2
VA-43703	4-line power failure unit	12	14	16	14	16	16
VB-43702	Off-premise extension adaptor	16	16	16	16	16	16
VB-43940	Application processor interface (API)	1	1	1	1	1	1
VB-43981	VMS software	1	1	1	1	1	1
VB-43983	ACD software	1	1	1	1	1	1
VB-43991	PCAS software	1	1	1	1	1	1

*Note: 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.

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
DSS/72	20 Ohms	22	619
		24	779
		26	490
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 push-button SLT)	900 Ohms (excluding end impedance)	22	27877
		24	17532
		26	11025
Doorphone (Loop between the DBS and the Door-phone Adaptor)	10 Ohms	22	309
		24	194
		26	122
Doorphone (Loop between the Doorphone Adaptor and the Doorphone)	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	Even

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	6 dB
Digital station to analog station	6 dB
Analog station to digital station	6 dB
Analog station to analog station	6 dB

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/0.5 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-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/0.25 off/0.25 on
Splash	550 Hz	0.5 on
Error	400 Hz	0.5 on/0.5 off
Reminder call	550 Hz	4 on/1 off/4 on/1 off/4on 1 off/4 on/silence
Call waiting	550 Hz	0.25 on/0.25 off/0.25 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-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/0.5 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

Index

MCC/Panasonic
Business Telephone, Engineering Department

TO: All DBS Dealers

FROM: MCC/Panasonic
        Business Telephone, Engineering Department

DATE: July 30, 1993

SUBJECT: Documentation Update

This documentation update contains new versions of *Programming Guidance (Section 400)* and *Forms and Tables (Section 450).*

These manuals replace the existing versions of *Sections 400* and *450.*

In addition, *Feature Operation (Section 700)* has recently been updated and is now being shipped with new CPC cards.

The Business Telephone Engineering Department is striving to improve the quality of documentation provided to our dealers. To help in this endeavor, please inform us of any corrections you feel should be made. Simply mark up the pages in question and send them to the following address.

> MCC/Panasonic
> Business Telephone, Engineering Department
> Technical Publications
> 2001 Westside Parkway
> Bldg. 200, Suite 260
> Alpharetta, GA 30201

DBS
Digital Business System

Programming
Guidance

Section 400

Panasonic
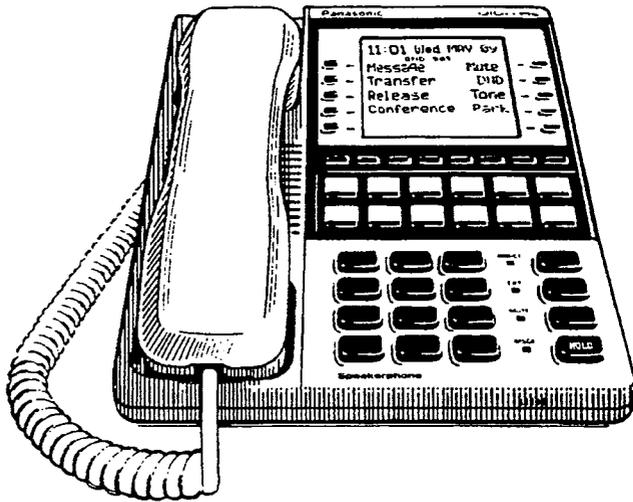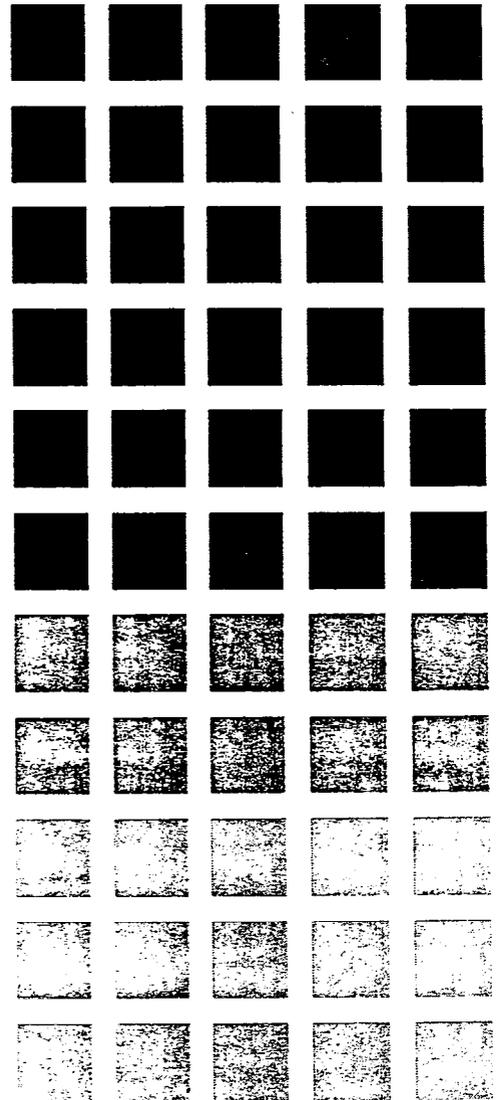
Chapter 1
General Program Outline

1-1 PREPARATIONS FOR PROGRAMMING

Prior to programming the system make certain you have completed the following steps.

Step 1:
Confirm the DBS system feature operations meet the end user requirements as outlined in Section 700.

Step 2:
Prepare section 450 with the end users requirements.

Step 3:
Confirm the hardware required for the end user.

Step 4:
Initialize the system to the default status. See next page for this.

Step 5:
Follow the completed section 450 to program the system.

1-2 PROGRAM STRUCTURE

The DBS program entries are divided into 10 primary groups stored under FF keys on the phone. The Flexible Function Keys listed to the right show the major programming groups. Each group contains sub groups which combine similar functions together.

PRIMARY PROGRAM GROUP KEYS

FF1 Key
System program settings

FF2 Key
Central Office line program settings

FF3 Key
Extension program settings

FF4 Key
Ring & Hunt group program settings

FF5 Key
Flexible key program settings for lines & features

FF6 Key
Name & Message program settings

FF7 Key
Toll restriction program settings

FF8 Key
Least cost routing program settings

FF9 Key
Copy program settings

FF10 Key
System and personal speed dial program settings

SYSTEM INITIALIZATION

Before beginning to program a newly installed DBS for the first time, set the system programs to the default values by following steps 1 through 5 below:

1. Turn off the power for the Main Cabinet. (Both cabinets if a dual cabinet configuration is being used.)

2. Slide the **CPC RAM** switch to the **CLEAR** position.

3. Turn on the power for the Main Cabinet(s), then **wait until the bottom LED on the CPC card stops flashing**.

Note: The CPC-B card will take about twice as much time to initialize the memory as a CPC-A card does.

4. Slide the **CPC RAM** switch to the **RAM HOLD position.**

5. Verify the software version in the system from any display telephone by pressing the [ON/OFF], [CONF], and entering 7777.

NOTE:

This procedure must always be performed prior to programming the DBS for the first time, or in cases where it is desired to return all changed programming parameters to the default initialized values. Failure to initialize the CPC card may cause operational problems.

SOFTWARE UPGRADES (CPC-B VERSION 4.0 OR NEWER)

Before upgrading from one software version to another, you must first enter the "New Function Reset" command (FF1 8# 1#).

For example, if you are upgrading from Version 3.0 to Version 4.0, you must enter this command. However, if you are upgrading to a point release (4.10 to 4.11), you do not need to enter the command.

NOTE:

The "New Function Reset" command erases T1 and DID programming.

Chapter 2
Requirements for programming

2-1 PREPARING PROGRAMMING DATA TABLE

Prior to programming the DBS, complete Section 450 (Programming Tables). Review the desired functionality with the end user, making any additional changes as required. If the end user has requested specific functionality you are unfamiliar with, refer to Section 700 to confirm the DBS operation prior to installation.

NOTE:

When Preparing Programming Data Table Section 450, observe the following:

Leave the default values for all programmable areas of central office lines, extensions and equipment not being connected.

Record all program modifications made in the programming tables of Section 450. Program address numbers that cannot be changed during normal system operation have notes to this effect. Program address numbers that are specially marked are available for the specified version(s) of software only.

2-2 HOW TO ACCESS PROGRAMMING MODE

FROM THE ATTENDANT PORT

Programming can be performed from the attendant display telephone. An attendant telephone is connected to extension port 1 and has an extension number of 100, for all software versions. Programming is also possible from other extensions. See the note in "From a Non Attendant Port", Section 2-2."

To enter the program mode from the Attendant position perform the following steps:

[ON/OFF], [PROG], ##, then proceed with the FF key program desired.

NOTE:

Name settings can only be programmed from the attendant telephone, or a DSS console connected to it.

When programming an active DBS system through the Attendant position in a DBS set for only one attendant, the DBS will automatically change to the "night" mode.

FROM THE TEST TERMINAL PORT

When programming from a telephone connected to the test terminal (CN3) of the main DBS cabinet, slide the switch on the cabinet to the test mode. This switch provides a direct connection to ports 7 and 8.

To enter the programming mode from the test terminal port, perform the following steps:

[ON/OFF], #98, 9999 (or presently used Authorization code), [PROG], ##, then proceed with the FF key program desired.

NOTE:

The #98 9999 designates this device as a programming port. Entering the authorization code a second time turns the authorization off for this port in software versions older than 3.17-CPC-A, or 2.05-CPC-B. In software versions newer than these, activating the access code at a second programming port automatically turns off the authorization at any previous port that has been activated.

FROM A NON ATTENDANT PORT

When programming from a display telephone other than the attendant's, press:

[ON/OFF], #98, 9999 (or presently used Authorization code), [PROG], ##, then proceed with the [FF] key program address desired.

NOTE:

The #98 9999 designates this device as a programming port. You only have to enter the authorization once. Entering the authorization code the second time turns the authorization off in software versions older than 3.17-CPC-A, or 2.05-CPC-B. In software versions newer than these, activating the access code at a second programming port automatically turns off the authorization at any previous port that has been activated.

FROM AN RS-232C TERMINAL

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 performing the following steps from the attendant port:

[ON/OFF], #93

3. Perform the following steps from the terminal :

#99, 9999

4. After the DBS responds, type:
P, then press the enter key.

NOTE:

When the communication parameters are in the default settings, they should be:

parity check set to yes, 9600 baud, data length 8, 1 start bit and 1 stop bit. See program addresses [FF1], 2, 2, (1-5) for changes to these options.

FROM A REMOTE LOCATION

When performing DBS programming changes from a remote location (using an ASCII terminal), perform the following step:

1. Access the DBS through a DISA line. Once the connection is made, press #6, 9999, P, then press enter, from the terminal.

NOTE:

A call can be transferred by any extension, if it is a digital phone, to remote programming, provided the call is placed on hold, and #6 9999 is dialed from the attendant position dial pad.

This function will only work if the attendant has no other active calls. Active calls can be determined by the appearance of flashing green LED's at the attendant position.

Remote access programming capability through DISA requires an MFR card and special DISA programming. (see [FF2] program addresses).

5

2-3 PROGRAMMING METHOD

Example of date/time program entries:

To set the date from extension port number 1:

Press [ON/OFF], [PROG] ("F" is displayed), # ("F#" is displayed), # ("Program Mode" is displayed on line 1, "MAIN MODE" is displayed on line 2).

Press [FF1], ("System Program" is displayed on line 1, "SELECT SUB-MODE" is displayed on line 2).

Press 1, #, ("Select Time Mode" is displayed on line 1, "1:DATE 2:TIME", is displayed on line 2).

Press 1, #, ("Date Set Mode" is displayed on line 1, "MONTH/DATE/YEAR" is displayed on line 2).

From the keypad, enter the new date in the following format:

    Enter month as MM
    Enter date as DD
    Enter year as YY

Press # to store the program change. After pressing the [ON/OFF] key, the new date is displayed on all phones with the LCD.

NOTE:

To continue with the next program address, press the "#" key instead of the [ON/OFF] key.
While programming, be sure to confirm the changes being made on the display of the phone being used.

Software **UPGRADES** *from CPC-B version 2.0X to 3.0X can be done by changing EPROMS, and manually reconfiguring the programs that are not available in the 2.0X version previously used. Defaulting the CPC-B card prior to the installation of the 3.0X version IS NOT required. 2.0X version users that have utilized DID programs need to carefully review the NOTES following [FF1], 8# program addresses. Complete manual reprogramming of all features is not required.* **Default values for each program address are denoted by an** underlined **example in each address section.**

2-4 DEFAULT VALUE TABLE

3-1 SYSTEM PROGRAM SETTINGS

DAY/DATE
[FF1], 1#, 1#, (MMDDYY)

To set the date to February 25, 1995, enter the Month, Day and Year as follows:

[FF1], 1#, 1#, 022595#

The correct day is automatically calculated from this information.

To reset the day/date to the default initialized value, press [FF1], 1#, 1#, [CONF], [ON/OFF].

NOTE:

The day and date are also printed on the Station Message Detail Recording (SMDR) printout. Proper LCR operation is dependent upon correct date settings. Peripheral equipment operation may depend on correct date settings.

TIME (24-HOUR FORMAT)
[FF1], 1#, 2#, (HHMM)#

To set the time to 3:28 pm, enter the hour and minutes as follows:

[FF1], 1#, 2#, 1528#

To reset the time to the default initialized value, press [FF1], 1#, 2#, [CONF], [ON/OFF].

CALL DURATION DISPLAY
[FF1], 2#, 1#, 1#, (0 or 1)#

Telephone conversation time with an outside line is normally displayed on telephones with an LCD. The DBS can be programmed so that the call duration time is not displayed.

To set the DBS so that the call duration time is not displayed, enter:

[FF1], 2#, 1#, 1#, 0#

To set the DBS so that the call duration time is displayed, enter:

[FF1], 2#, 1#, 1#, 1#

NOTE:

Proper LCR operation is dependent upon correct time settings. Peripheral equipment operation may depend on correct time settings.

```
SMDR/Display Start Timer
for Central Office Calls
[FF1], 2#, 1#, 2#, (0 or 1)#
```

Conversation time for central office calls will start to display 16 seconds after the completion of dialing the number, or 16 seconds after the initial ring tone of an inbound call. The start timer can be set to 16 seconds or 30 seconds.

All incoming calls will start timing 16 seconds after the initial ring tone, even if the call duration display is not activated. To set the SMDR/display timer for 16 seconds, enter:

[FF1], 2#, 1#, 2#, 0#

To set the SMDR / display timer for 30 seconds, enter:

[FF1], 2#, 1#, 2#, 1#

All incoming calls will start timing 5 seconds after the initial ring tone, even if the call duration display is not activated. To set the SMDR/display timer for 5 seconds, enter:

[FF1], 2#, 1#, 2#, 0#

To set the SMDR/display timer for 16 seconds, enter:

[FF1], 2#, 1#, 2#, 1#

To set the SMDR/display timer for 30 seconds, enter:

[FF1], 2#, 1#, 2#, 2#

```
SMDR/Display Start Timer
for Central Office Calls
[FF1], 2#, 1#, 2#, (0, 1, or 2)#
(CPC-B, ver. 3.00 or newer)
```

Conversation time for central office calls will start to display 5 seconds after the completion of dialing the number, or 16 seconds after the initial ring tone of an inbound call, or 30 seconds after the initial ring tone of an inbound call. The start timer can be set to 5 seconds, 16 seconds, or 30 seconds.

```
NOTE:
```

The central office call duration display is set by address [FF1], 2#, 1#, 1#. CPC-B software version 2.00 should be upgraded to version 2.03 to eliminate two intermittent potential SMDR deficiencies in recording field codes. See Technote 8 (March 1992), for complete information. CPC-B versions 3.00 or newer resolves this potential SMDR deficiency.

LEAST COST ROUTING (LCR) ACCESS
[FF1], 2#, 1#, 3#, (0 OR 1)#

Outbound calls can be automatically routed to special carriers when LCR is activated. To access a non LCR line for outbound calls, (when a "9" is dialed), enter:

[FF1], 2#, 1#, 3#, 0#

To automatically access a LCR line for outbound calls, (when a "9" is dialed), enter:

[FF1], 2#, 1#, 3#, 1#

NOTE:

All LCR options are set at address number [FF8].
The use of LCR requires cutting the jumper on the CPC card. See Section 300 for specific details on this hardware modification. Make certain to register the DBS with the FCC using the proper registration number when using LCR trunk access programming.

OVERRIDE TOLL RESTRICTION WITH SYSTEM
SPEED DIAL (SSD) NUMBERS
[FF1], 2#, 1#, 4#, (00-89)#

A group of SSD numbers or a single SSD number can be used, despite toll restriction (types 2-6) that may be in use for a specific area or office code. The speed dial number entry used in this program is the lowest entry number to be able to override toll restriction. All SSD numbers higher than the one entered will also override toll restriction that may be in use for a specific area or office code.

To set a group of system speed dial numbers from 56 to 89, (for example), to bypass toll restriction types 2-6, enter:

[FF1], 2#, 1#, 4#, 56#

To reset the overriding of toll restriction types 2-6 of a group of system speed dial numbers to the default initialized value, press [FF1], 2#, 1#, 4#, [CONF], [ON/OFF].

NOTE:

If a SLT uses this feature to override toll restriction, there is a 15 second delay before audio is passed to the receiver.

**SSD DISPLAY RESTRICTION
[FF1],2#,1#,5#,(0 OR 1)#**

You have the option of displaying, on any LCD phone, the telephone number associated with SSD codes (80-89). This option also effects **REDIAL** and will display or not display accordingly when redialing one of these SSD codes. Telephone numbers associated with SSD codes (00-79), and all names associated with all SSD codes will always display.

To display the telephone number associated with SSD codes 80-89, enter:

[FF1], 2#, 1#, 5#, 0#

To withhold display of the telephone number associated with SSD codes 80-89, enter:

[FF1], 2#, 1#, 5#, 1#

NOTE:

Toll restriction for blocks of System speed dial numbers is set at address [FF1], 2#, 1#, 4#.
Display of 5 or 10 System speed dial numbers on a large display telephone is set at address [FF1], 2#, 1#, 19#.
System speed dial names are set at address [FF6], 2#, (00-89)#.
System speed dial numbers are set at address [FF10], 1#, (00-89)#.

**AUTO FLASH REDIAL
[FF1], 2#, 1#, 6#, (0 OR 1)#**

Pressing the **REDIAL** key will redial the most recently dialed number.

To deactivate the use of the redial feature, enter:

[FF1], 2#, 1#, 6#, 0#

To enable the use of the redial feature, enter:

[FF1], 2#, 1#, 6#, 1#

NOTE:

If the DBS is installed behind a PBX, this feature must be disabled. The central office line flash and the redial flash features are controlled by the same timer.
The PBX flash timer is set at address [FF1], 3#, 18#.
Central office line type is set at address [FF2], (1-64)#, 10#.

```
ONE TOUCH CALL
[FF1], 2#, 1#, 7#, (0 OR 1)#
```

The one-touch call feature provides dialing to an extension by pressing a single programmable key, and is enabled by both settings. This feature cannot be deactivated.

```
ON HOOK (AUTOMATIC) TRANSFER
[FF1], 2#, 1#, 8#, (0 OR 1)#
```

An incoming call can be automatically transferred to another extension by placing the call on hold, dialing an extension number and hanging up.

To disable automatic transferring of a call, to an internal extension, enter:

[FF1], 2#, 1#, 8#, 0#

To enable automatic transferring of a call to an internal extension, enter:

[FF1], 2#, 1#, 8#, 1#

```
NOTE:
```

To transfer a call with this feature disabled the [PROG] key must be pressed after dialing an extension, but before hanging up the handset. When this option is enabled in a CPC-B equipped system, intercom calls and central office line calls can be transferred. In systems equipped with a CPC-A card, only central office line calls can be transferred to other extensions.

Transfer recall time for attendant(s), is set at address [FF1], 3#, 4#.

Transfer recall time for extensions other than the attendant(s), is set at address [FF1], 3#, 5#.

Transfer recall time for intercom calls from the attendant(s), is set at address [FF1], 3#, 24#. This feature is found on CPC-B ver. 2.00 or newer software.

Transfer recall time for intercom calls from extensions, is set at address [FF1], 3#, 25#. This feature is found on CPC-B ver. 2.00 or newer software.

Calls transferred by an extension, that recall to the extension, and then are not answered, will transfer to extension 100. In CPC-B ver. 2.00 and newer, up to 4 attendant positions can be designated. Addresses to be used to set these extensions are [FF1], 2#, 1#, 24-27#. The time for this transfer procedure is set at address [FF1], 3#, 9#.

If a Voice Announce Unit (VAU model VB-43708) is used, this address must be set to the default setting as follows: [FF1], 2#, 1#, 8#, 1#.

CENTRAL OFFICE LINE AUTOMATIC HOLD
[FF1], 2#, 1#, 9#, (0 OR 1)#

Automatically places a central office-line that is in use on system hold, when you press a ringing line key to answer a new inbound call.

To disable the automatic hold feature for a call on an existing central office line, when a new central office line call is ringing in, enter:

[FF1], 2#, 1#, 9#, 0#

To automatically place an existing central office line call on system hold, and to answer a new inbound ringing central office call, enter:

[FF1], 2#, 1#, 9#, 1#

NON APPEARING CENTRAL OFFICE LINE HOLD
[FF1], 2#, 1#, 10#, (0 OR 1)#

Central office line-calls to a telephone that does not have a dedicated key appearance, can be placed on either system hold or exclusive hold. Access to a second central office line while using this feature is not possible.

To enable the exclusive hold feature for central office lines that do not appear on a telephone, enter:

[FF1], 2#, 1#, 10#, 0#

To enable the system hold feature for central office lines that do not appear on a telephone, enter:

[FF1], 2#, 1#, 10#, 1#

NOTE:

This hold feature applies to Single-Line Telephones and/or digital telephones that do not have a dedicated keys for a central office line(s).

SINGLE LINE TELEPHONE FLASH CONTROL
[FF1], 2#, 1#, 11#, (0 OR 1)#

To provide differing capabilities for SLT hookflash operation, this feature can be set to retrieve DBS dial tone, or to retrieve a central office line caller that has been placed on hold from this telephone.

To activate the DBS intercom dial tone as a result of a SLT hookflash, enter:

[FF1], 2#, 1#, 11#, 0#

To retrieve a central office line caller that has been previously placed on hold at this telephone (via a hookswitch flash), enter:

[FF1], 2#, 1#, 11#, 1#

NOTE:

When this feature is set for DBS system dial tone, a call placed on hold at another telephone can be retrieved by dialing 79 and the extension number that originally placed the call on hold.

EXTENSION NUMBER DIGITS
[FF1], 2#, 1#, 12#, (0 OR 1)#

When installing more than 60 telephones, you must use a **3-digit** (100-699) extension number dialing plan. For sites using fewer than 60 telephones, **2-digit** (10-69), or 3-digit extension numbers can be used.

To set the DBS for 2 digit extension number lengths, enter:

[FF1], 2#, 1#, 12#, 0##

To set the DBS for 3 digit extension number lengths, enter:

[FF1], 2#, 1#, 12#, 1##

NOTE:

This setting can adversely affect any other DBS setting that is based on extension numbers. Examples of this are program entries for DSS/BLF keys and call forwarding.
This program option requires a confirming #, at the conclusion of the programming sequence.

> ### ALTERNATE ATTENDANT
> ### [FF1], 2#, 1#, 13#, (0 or 1)#

The alternate attendant extension will have attendant features and can receive overflow <u>intercom</u> calls if the primary attendant extension is busy.

To enable an alternate extension, enter:

[FF1], 2#, 1#, 13#, 0#

To have no provision for an alternate attendant, enter:

[FF1], 2#, 1#, 13#, 1#

> ### NOTE:

This feature is not available if the *"Attendant Feature Package"* is used with CPC-B 2.00 or later software.
Calls transferred by an extension, that recall to the extension, and then are not answered, will transfer to the extension set as the attendant at this address.
The time for this transfer procedure is set at address [FF1], 3#, 9#.

> ### ATTENDANT INTERCOM CALLING
> ### [FF1], 2#, 1#, 14#, (0 or 1)#

Intercom calls from an attendant telephone can be established with a ring tone, or directly by voice. After the connection is established, the attendant can change from one to the other by dialing "1".

To set attendant intercom calls to "tone" calling, enter:

[FF1], 2#, 1#, 14#, 0#

To set attendant intercom calls to "voice" calling, enter:

[FF1], 2#, 1#, 14#, 1#

> ### NOTE:

An alert tone for voice calling is set at address [FF1], 2#, 1#, 16#.
In CPC-B software versions earlier than 2.00, if a SLT transfers a central office line call to an extension set for call forward no answer, or call forward busy, no answer, the call will not transfer if addresses [FF1], 2#, 1#, 14 & 15# are set for tone calling (0#). If this setting is required, transferring a central office line call from a SLT to an extension set as such can be completed by dialing an "8" after the extension number to which the caller is to be transferred is dialed. CPC-B software versions newer than 2.05 do not require the "8" to be dialed after the extension number is dialed. See Technotes 9 & 12 (March 1992) for complete information.
If this address is set to [FF1], 2#, 1#, 14#, 1# ("voice" calling), as opposed to ring tone, and a Voice Announce Unit (model VB-43708) is connected to the DBS, the VAU will not answer an intercom call to it unless the caller dials a "1" after the VAU extension number. See Technote 14 (March 1992) for complete information.

EXTENSION INTERCOM CALLING
[FF1], 2#, 1#, 15#, (0 OR 1)#

Intercom calls from an extension (non attendant) telephone can be established with a ring tone or by voice. After the connection is established, the extension user can change from one to the other by dialing "1".

To set extension intercom calls to "tone" calling, enter:

[FF1], 2#, 1#, 15#, 0#

To set extension intercom calling to "voice" calling, enter:

[FF1], 2#, 1#, 15#, 1#

NOTE:

An alert tone for voice calling is set at address [FF1], 2#, 1#, 16#.
In CPC-B software versions earlier than 2.00, if a SLT transfers a central office line call to an extension set for call forward no answer, or call forward busy, no answer, the call will not transfer if addresses [FF1], 2#, 1#, 14 & 15# are set for tone calling (0#). If this setting is required, transferring a central office line call from a SLT to an extension set as such can be completed by dialing an "8" after the extension number to which the caller is to be transferred is dialed. CPC-B software versions newer than 2.05 do not require the "8" to be dialed after the extension number is dialed. See Technotes 9 & 12 (March 1992) for

If this address is set to [FF1], 2#, 1#, 15#, 1# ("voice" calling), as opposed to ring tone, and a Voice Announce Unit (model VB-43708) is connected to the DBS, the VAU will not answer an intercom call to it unless the caller dials a "1" after the VAU extension number. See Technote 14 (March 1992) for complete information.

ALERT TONE FOR VOICE CALLS
[FF1], 2#, 1#, 16#, (0 OR 1)#

An initial splash tone for "voice" intercom calls can be sounded for 0.5 second before the caller's audio path is connected.

Intercom calls can be set for no initial alert tone by entering:

[FF1], 2#, 1#, 16#, 0#

Intercom calls can be set for an initial alert tone by entering:

[FF1], 2#, 1#, 16#, 1#

```
╔═══════════════════════════════════╗
║  ALERT TONE FOR BUSY OVERRIDE      ║
║    & OFF HOOK VOICE ANNOUNCE       ║
║   [FF1], 2#, 1#, 17#, (0 or 1)#    ║
╚═══════════════════════════════════╝
```

If an active central office call is interrupted by another caller, on an extension set for busy override, an alert tone can precede the interruption.

To have no alert tone preceding an interruption of an active central office line call, enter:

[FF1], 2#, 1#, 17#, 0#

To provide an alert tone preceding an interruption of an active central office line call, enter:

[FF1], 2#, 1#, 17#, 1#

(NOTE:)

A conference call, or a conversation on a telephone which has off hook voice announce enabled, cannot be interrupted by the busy override feature.
Extensions to be interrupted, are set at address [FF3], (1-144)#, 10#.

```
╔═══════════════════════════════════╗
║  SYSTEM INSTALLATION AREA CODE     ║
║   [FF1], 2#, 1#, 18#, (0 or 1)#    ║
╚═══════════════════════════════════╝
```

When a "1" must be dialed preceding an area code to make a long distance call, this option must be set.

If long distance dialing requires the dialing of a "1" prior to the area code, enter:

[FF1], 2#, 1#, 18#, 0#

If long distance dialing does not require the dialing of a "1" prior to dialing an area code, enter:

[FF1], 2#, 1#, 18#, 1#

(NOTE:)

This setting must be enabled when toll restriction and/or LCR is used.
Toll restriction programming is set with [FF7] addresses.
Least cost routing programming is set with [FF8] addresses.

SSD NAME DISPLAY
[FF1], 2#, 1#, 19#, (0 OR 1)#

Five or ten names can be displayed on the LCD telephone directory at once. When 10 are chosen, the maximum length for each of the names is limited to 7 characters.

To set LCD directories for 5 name capability, enter:

[FF1], 2#, 1#, 19#, 0#

To set LCD directories for 10 name capability, enter:

[FF1], 2#, 1#, 19#, 1#

NOTE:

To restrict a certain block of system speed dial numbers, see address [FF1], 2#, 1#, 4#.

To enable or disable the display of System speed dial numbers see address [FF1], 2#, 1#, 5#.

To assign a name to a system speed dial number, see address [FF6], 2#, (00-89)#.

To assign a number to a system speed dial bin, see address [FF10], 1#, (00-89)#.

VOICE MAIL BUSY TONE
[FF1], 2#, 1#, 21#, (0 OR 1)#

The DBS can be set to send a busy tone or to send silence to a voice-mail port(s) at the conclusion of a call. To set the DBS to send silence at the conclusion of a voice mail call, enter:

[FF1], 2#, 1#, 21#, 0#

To set the DBS to send a busy tone at the conclusion of a voice mail call, enter:

[FF1], 2#, 1#, 21#, 1#

TRANSFER RING PATTERN
[FF1], 2#, 1#, 22#, (0 - 6)#
(CPC-A, VER. 3.21 OR NEWER)

To utilize variable ring patterns for a transferred call (specifically to a modem or SLT user requiring ID of a transferred call), this option must be used.

To set the transfer ring pattern to .4 sec. on / 3.6 sec. off, enter:

[FF1], 2#, 1#, 22#, 0#

To set the transfer ring pattern to three .8 sec. on .2 sec. off bursts / 1.0 sec. off, enter:

[FF1], 2#, 1#, 22#, 1#

To set the transfer ring pattern to .8 sec. on burst / .2 sec. off, .8 sec. on / 2.2 sec. off enter:

[FF1], 2#, 1#, 22#, 2#

To set the transfer ring pattern to .8 sec. on / 2.2 sec. off, enter::

[FF1], 2#, 1#, 22#, 3#

To set the transfer ring pattern to .8 sec. on / 3.2 sec. off, enter:

[FF1], 2#, 1#, 22#, 4#

To set the transfer ring pattern to .8 sec. on / 5.2 sec. off, enter:

[FF1], 2#, 1#, 22#, 5#

To set the transfer ring pattern to .8 sec. on / 3.2 sec. off / .8 sec. on / 7.2 sec. off, enter:

[FF1], 2#, 1#, 22#, 6#

> **ATTENDANT OVERFLOW FOR PRIMARY ATTENDANT**
> **[FF1], 2#, 1#, 22#, (1-15)#**
> **(CPC-B, VER. 1.0X ONLY)**

To place a limit on the number of incoming calls that can be stacked to the first attendant, a value must be placed in this program. Calls exceeding the set limit are automatically transferred to other extensions. The day and night delayed ring tables determine which extension(s) receive overflow calls.

To set the attendant overflow feature to 8 calls, for example, enter:

[FF1], 2#, 1#, 22#, 8#

> **NOTE:**

Hold recalls, transferred recalls, and reversion calls are included in this number. Hold recalls are dependent on attendant and extension hold timers found in addresses [FF1] 3#, 2# & 3#.
Transfer recalls are dependent on attendant and extension transfer timers found in addresses [FF1] 3#, 4# & 5#.
Hunt group recalls are dependent on attendant and extension hunt group timers found in addresses [FF1] 3#, 6# & 7#.

Reversion recalls are dependent on attendant reversion timers found in program address [FF1] 3#, 2# & 10#.

The attendant telephone is not included as an overflow position in the delayed ring table(s).

> **ATTENDANT FEATURE PACKAGE**
> **OPTIONS**
> **(CPC-B, VER. 2.09 OR NEWER)**

> **DELAYED RING**
> **[FF1], 2#, 1#, 23#, (0 OR 1)#**

> **SECOND ATTENDANT POSITION**
> **[FF1], 2#, 1#, 24#, (101-699) #**

An alternate central office line ring pattern is assigned in the delayed ringing tables.

To disallow the use of delayed ring assignments in the DBS, enter:

[FF1], 2#, 1#, 23#, 0#

To allow the use of delayed ring assignments in the DBS, enter:

[FF1], 2#, 1#, 23#, 1#

> **NOTE:**

Delayed day ring programming is set at address [FF4], 5#.
Delayed night ring programming is set at address [FF4], 6#.

To set any DBS extension number to be the second attendant position, this option must be used.

To set extension number 103 to be attendant position 2, for example, enter:

[FF1], 2#, 1#, 24#, 103#

To reset the second attendant position to the default initialized value, press [FF1], 2#, 1#, 24#, 101#, ON/OFF.

> **NOTE:**

To clear the second attendant position from extension number 101, set the program address [FF1], 2#, 1#, 24#, [CONF], [ON/OFF].

The only way the second attendant position can be cleared is to have a display phone installed on the port.

The extension number must be a number that is valid for the site.

Installation of Attendant feature package software involves the removal of EPROM chip 1 from the CPC-B card, and substitution of the chip with one specifically designed with the special Attendant features. Be sure the new EPROM is installed in the proper direction. See Technote 4 (September 1991), for complete information.

25

```
THIRD ATTENDANT POSITION
[FF1], 2#, 1#, 25#, (101-699)#
```

```
FOURTH ATTENDANT POSITION
[FF1], 2#, 1#, 26#, (101-699)
or (11-69)#
```

To set any DBS extension number to be the third attendant, this option must be used.

To set any DBS extension number to be the fourth attendant, this option must be used.

To set extension 104 to be attendant position 3, for example, enter:

To set extension 105 to be attendant position 4, for example, enter:

[FF1], 2#, 1#, 25#, 104#

[FF1], 2#, 1#, 26#, 105#

To reset the third attendant position to the default initialized value, press [FF1], 2#, 1#, 25#, [CONF], [ON/OFF].

To reset the fourth extension position to the default initialized value, press [FF1], 2#, 1#, 26#, [CONF], [ON/OFF].

(NOTE:)

(NOTE:)

Installation of Attendant feature package software involves the removal of EPROM chip 1 from the CPC-B card, and substitution of the chip with one specifically designed with the special Attendant features. Be sure the new EPROM is installed in the proper direction. See Technote 4 (September 1991), for complete information.

Installation of Attendant feature package software involves the removal of EPROM chip 1 from the CPC-B card, and substitution of the chip with one specifically designed with the special Attendant features. Be sure the new EPROM is installed in the proper direction. See Technote 4 (September 1991), for complete information.

ATTENDANT TRANSFER EXTENSION POSITION
[FF1], 2#, 1#, 27#, (101-699)#

To set any extension number to be the overflow position to which calls will flow when the attendant(s) are all busy, this option must be used.

To set extension 106, for example, to be the overflow extension for the attendant(s), enter:

[FF1], 2#, 1#, 27#, 106#

To reset the attendant overflow extension position to the default initialized value, press [FF1], 2#, 1#, 27#, [CONF], ON/OFF.

NOTE:

This extension cannot be a pilot number. Installation of Attendant feature package software involves the removal of EPROM chip 1 from the CPC-B card, and substitution of the chip with one specifically designed with the special Attendant features. Be sure the new EPROM is installed in the proper direction. See Technote 4 (September 1991), for complete information.

ATTENDANT OVERRIDE
[FF1], 2#, 1#, 28#, (0 or 1)#

To set any attendant to be able to override an existing conversation on a non attendant telephone, this option must be used.

To disable all designated attendant positions to override existing conversations on non attendant telephones, enter:

[FF1], 2#, 1#, 28#, 0#

To enable all designated attendant positions to override existing conversations on non attendant telephones, enter:

[FF1], 2#, 1#, 28#, 1#

NOTE:

Busy override splash tone is set with program address [FF1], 2#, 1#, 17#. Installation of Attendant feature package software involves the removal of EPROM chip 1 from the CPC-B card, and substitution of the chip with one specifically designed with the special Attendant features. Be sure the new EPROM is installed in the proper direction. See Technote 4 (September 1991), for complete information.

ATTENDANT LED ALARM INDICATION
[FF1], 2#, 1#, 29#, (0 OR 1)#

To set an FF key that has been designated as an alarm key on an attendant(s) telephone to light, this option must be used.

To disable the alarm key(s) on attendant telephones from lighting, enter:

[FF1], 2#, 1#, 29#, 0#

To enable the alarm key(s) on attendant telephones to light, enter:

[FF1], 2#, 1#, 29#, 1#

NOTE:

Installation of Attendant feature package software involves the removal of EPROM chip 1 from the CPC-B card, and substitution of the chip with one specifically designed with the special Attendant features. Be sure the new EPROM is installed in the proper direction. See Technote 4 (September 1991), for complete information.

End of Attendant Feature Package Options

EXTENSION (BLF) DELAYED RING
[FF1], 2#, 1#, 30#, (0 OR 1)#
(CPC-B, VER. 2.00 OR NEWER)

When a ringing extension is not answered, calls can be distributed to other extensions on the basis of extension delayed ring programming.

To disable the extension delayed ring option, enter:

[FF1], 2#, 1#, 30#, 0#

To enable the extension delayed ring option, enter:

[FF1], 2#, 1#, 30#, 1#

ANALOG TRANSFER RING PATTERN
[FF1], 2#, 1#, 31#, (0-6)#
(CPC-B, VER. 2.11 OR NEWER)

This feature is used to set the transfer ring signal pattern for devices connected to an analog extension port of the DBS. Any of seven different ring pattern can be chosen.

	Timer
0#	.5 Seconds ON / 3.5 Seconds OFF
1#	3.0 Seconds ON / 1.0 Second OFF
2#	2.0 Seconds ON / 2.0 Seconds OFF
3#	1.0 Second ON / 2.0 Seconds OFF
4#	1.0 Second ON / 3.0 Seconds OFF
5#	1.0 Second ON / 5.0 Seconds OFF
6#	1.0 Second ON / 7.0 Seconds OFF

```
     MULTIPLE DID
 [FF1], 2#, 1#, 32#, (0 or 1)#
   (CPC-B, VER. 3.00 OR NEWER)
```

Four digit Direct Inward Dial numbers can be set to ring at one extension port, or at multiple extension ports.

To set DID numbers to only ring at one extension, enter:

[FF1], 2#, 1#, 32#, 0#

To set DID numbers to ring at multiple extensions, enter:

[FF1], 2#, 1#, 32#, 1#

```
        NOTE:
```

When this feature is set to "1", all extension ports that have a DID number assigned will simultaneously ring on an inbound Central Office call. If the setting of this feature is "0", and a DID number has been assigned to multiple extension ports, only the lowest number extension port will ring.

Also, if this feature is set to "1", and multiple extension ports have a DID number assigned, but some or all of them are call forwarded, ONLY the lowest extension port number will call forward after the call forward timer expires. The remaining extension ports will ring from the DID assignment until the call forwarding has started.

If this feature is set to "1", and multiple extension ports have a DID number assigned, and one (not the lowest port number) is call forwarded, the remaining extension ports will ring from the DID assignment until the call forwarding has started.

```
     MULTIPLE DID/DNIS
  [FF1],2#,1#,32#,(0-1)#
   CPC-B, VER. 4.00 OR NEWER
```

This programming address controls two functions.

If only analog trunks are used, a 1 turns on multiple DID numbering. Multiple DID numbering allows the assignment of one DID number to multiple extensions. If one DID/DNIS number is assigned to multiple stations, the stations ring simultaneously when the DID or DNIS number is dialed.

If T1 trunks are used, a 1 also turns on DNIS (Dialed Number Identification Service). DNIS is available only with T1 trunks. More than one DNIS number can be assigned to a single extension.

```
        OPTIONS
```

0=Off
1=On

```
       PAGE DURATION
   [FF1] 2#, 1#, 33#, (0 or 1)#
    (CPC-B, VER. 3.00 OR NEWER)
```

The option to set the duration that the page circuit will be active can be set for a defined or unlimited time.

To set the page duration time to unlimited, enter:

[FF1], 2#, 1#, 33#, 0#

To limit the page duration time to 60 seconds, enter:

[FF1], 2#, 1#, 33#, 1#

29

```
SLT DISA RING PATTERN
[FF1], 2#, 1#, 34#, (0 OR 1)#
(CPC-B, VER. 3.00 OR NEWER)
```

The ring pattern to a device that is connected to a Panasonic ringer box, and receives an inbound DISA call can be set to differing patterns. The pattern can be set to a one second on, three second off ring burst, or it can follow any of the patterns found in the normal Central Office transfer ring patterns found in [FF1], 2#, 1#, 22#.

To set the SLT DISA ring pattern to 1.0 sec, on / 3.0 sec off, enter:

[FF1], 2#, 1#, 34#, 0#

To set the SLT DISA ring pattern to be the same as the Central Office transfer ring pattern setting, enter:

[FF1], 2#, 1#, 34#, 1#

```
PARITY CHECK
[FF1], 2#, 2#, 1#, (0 OR 1)#
```

This part of the communication parameters checks for errors in the transmission of data for SMDR, application products, and local/remote programming.

To disable the parity check for all transmission of data through the SMDR port, enter:

[FF1], 2#, 2#, 1#, 0#

To set the parity check for all transmission of data through the SMDR port, enter:

[FF1], 2#, 2#, 1#, 1#

(NOTE:)

Be sure to properly set all communication programming addresses when modifying any single address value. Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.

**ODD/EVEN PARITY
[FF1], 2#, 2#, 2#, (0 OR 1)#**

If the parity check has been set, this option determines whether the check is based on an even count or an odd count.

To set the parity check for an odd value, enter:

[FF1], 2#, 2#, 2#, 0#

To set the parity check for an even value, enter:

[FF1], 2#, 2#, 2#, 1#

NOTE:

Be sure to properly set all communication programming addresses when modifying any single address value.

Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.

**DATA TRANSMISSION SPEED (BAUD RATE)
[FF1], 2#, 2#, 3#, (1-4)#**

The data transmission speeds between the DBS SMDR port and peripheral equipment can be set in a range from 300 bits per second to 9600 bits per second.

To set the data transmission speed to 300 bps, enter:

[FF1], 2#, 2#, 3#, 1#

To set the data transmission speed to 1200 bps, enter:

[FF1], 2#, 2#, 3#, 2#

To set the data transmission speed to 4800 bps, enter:

[FF1], 2#, 2#, 3#, 3#

To set the data transmission speed to 9600 bps, enter:

[FF1], 2#, 2#, 3#, 4#

NOTE:

Be sure to properly set all communication programming addresses when modifying single address value.

Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.

| STOP BIT LENGTH |
| [FF1], 2#, 2#, 4#, (1-3)# |

This option sets the length of the stop-bit for transmitted data.

To set the length of the stop bit data to 1 bit, enter:

[FF1], 2#, 2#, 4#, 1#

To set the length of the stop bit data to 1.5 bits, enter:

[FF1], 2#, 2#, 4#, 2#

To set the length of the stop bit data to 2 bits, enter:

[FF1], 2#, 2#, 4#, 3#

NOTES:

Be sure to properly set all communication addresses when modifying any single address value.

Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.

| DATA LENGTH |
| [FF1], 2#, 2#, 5#, (1-4)# |

Sets the length of the transmitted data string at 5 to 8 bits.

To set the length of the data string at 5 bits, enter:

[FF1], 2#, 2#, 5#, 1#

To set the length of the data string at 6 bits, enter:

[FF1], 2#, 2#, 5#, 2#

To set the length of the data string at 7 bits, enter:

[FF1], 2#, 2#, 5#, 3#

To set the length of the data string at 8 bits, enter:

[FF1], 2#, 2#, 5#, 4#

NOTES:

Be sure to properly set all communication addresses when modifying any single address value.

Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.

```
SMDR PRINTING MODE 1
OUTBOUND & INBOUND
[FF1], 2#, 2#, 6#, (0 OR 1)#
```

```
SMDR PRINTING MODE 2
LONG-DISTANCE & LOCAL CALLS
[FF1], 2#, 2#, 7#, (0 OR 1)#
```

The SMDR printer can record data for outgoing calls only or both outbound and inbound calls.

The SMDR printer can record data on long-distance calls only or on all types of outbound calls.

To set the SMDR to record only outbound call information, enter:

To record call data only on long distance calls, enter:

[FF1], 2#, 2#, 6#, 0#

[FF1], 2#, 2#, 7#, 0#

To set the SMDR to record inbound and outbound call information, enter:

To record call data on all types of outbound calls, enter:

[FF1], 2#, 2#, 6#, 1#

[FF1], 2#, 2#, 7#, 1#

```
NOTES:
```

```
NOTES:
```

The system must be in the SMDR mode so that the printer can provide usable SMDR data. This is done by performing the following action from the attendant extension: [ON/OFF], #, 93, [ON/OFF]. All communication settings between the printer and the DBS must be matched. [FF1], 2#, 2#, 1 through 5# addresses encompass these options. Be sure to properly set all communication addresses when modifying any single address value. Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.
CPC-B software version 2.00 should be upgraded to version 2.05 to eliminate two intermittent potential SMDR deficiencies in recording field codes. See Technote 8 & 12 (March 1992), for complete information.

Be sure to properly set all communication programming addresses when modifying any single address value. Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.
CPC-B software version 2.00 should be upgraded to version 2.05 to eliminate two intermittent potential SMDR deficiencies in recording field codes. See Technotes 8 & 12 (March 1992), for complete information.

SMDR PRINTING MODE 3
HEADER TITLE
[FF1], 2#, 2#, 8#, (0 OR 1)#

Titles such as Time, Duration and CO# are printed every 60 lines if this feature is enabled.

To disable the printing of a title line on every 60th line of the SMDR report, enter:

[FF1], 2#, 2#, 8#, 0#

To set the printing of a title line on every 60th line of the SMDR report, enter:

[FF1], 2#, 2#, 8#, 1#

NOTES:

Be sure to properly set all communication addresses when modifying any single address value. Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#. CPC-B software version 2.00 should be upgraded to version 2.05 to eliminate two intermittent potential SMDR deficiencies in recording field codes. See Technotes 8 & 12 (March 1992), for complete information.

DATA DUMP MODE (X ON / X OFF)
[FF1], 2#, 2#, 9#, (0 OR 1)#

The X-On/X-Off feature of the DBS is a "software switch" to temporarily stop the DBS from sending data out the SMDR port if the printer buffer has received more data than it can print. The ability to send a control code to the DBS can be enabled on most commercially available printers.

To disable the X-On/X-Off feature of the DBS, so that SMDR data always flows from the SMDR port, enter:

[FF1], 2#, 2#, 9#, 0#

To enable the X-On/X-Off feature of the DBS, so that SMDR data will temporarily stop flowing when the printer buffer is full, enter:

[FF1], 2#, 2#, 9#, 1#

NOTES:

Be sure to properly set all communication addresses when modifying any single address value. Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#. CPC-B software version 2.00 should be upgraded to version 2.05 to eliminate two intermittent potential SMDR deficiencies in recording field codes. See Technotes 8 & 12 (March 1992), for complete information.

RAI Baud Rate
(CPC-B, newer than ver. 1.0X)
[FF1], 2#, 2#, 10#, (0 or 1)#

The baud rate that is used for remote programming capability can be set to 300 or 1200 baud.

To set the baud rate for remote programming capability to 300 baud, enter:

[FF1], 2#, 2#, 10#, 0#

To set the baud rate for remote programming capability to 1200 baud, enter:

[FF1], 2#, 2#, 10#, 1#

NOTES:

When a remote administration "B" card is used, either baud rate setting can be utilized. However when a remote administration "B" card is used with a dual DBS having a voice mail system connected to an analog extension port, the baud rate must be set to 300 bps. See Technote 3 (April 1991) for complete information.

When a remote administration "A" card is used, only the 300 baud rate setting can be used. Parity check, even or odd parity, and stop-bit length parameters are fixed on the CPC-B card. The use of peripheral equipment with this card necessitates that the equipment communication parameters must be able to be modified. Be sure to properly set all communication addresses when modifying any single address value. Communication parameters are set with addresses that are found at [FF1], 2#, 2#, 1 through 10#.

PBX Access Code(s)
[FF1], 2#, 3#, (1-8)#, (0-999 or 0*-99*)#

The DBS has the capability to dial 8 different PBX access codes. These codes can be one, two, or three digits in length. The purpose of this feature is so that when the DBS is installed behind a PBX or Centrex, and toll restriction has been set on the DBS, the DBS will disregard the PBX access code digit(s) as part of the dialed number.

To store "9" as the first PBX access code (for example), enter:

[FF1], 2#, 3#, 1#, 9#

To set the second PBX access code of "8" (for example), enter:

[FF1], 2#, 3#, 2#, 8#

To reset the PBX dial access code feature to the default initialized value, press [FF1], 2#, 3#, (1-8)#, [CONF]#, [ON/OFF].

NOTES:

Use [FF11] to store "*" as a wild card dialed digit. Central office line type is set with program address [FF2], (1-64)#, 10#.

The first parameter of the program code (1-8), identifies the number of the access code. The second parameter of the program code (0-999 or 0*-99*), identifies the actual code required to access the PBX or Centrex.

AUTOMATIC PAUSE POSITION FOR PBX ACCESS CODES 1 THROUGH 8 [FF1], 2#, 3#, (9-18)#, (1-3)#

To automatically insert a pause in the PBX access code dialing (and SSD, PSD codes), after the output of the first and/or second, and/or third code number, use this option. The purpose for the use of this pause is that it may take several seconds to connect with a central office telephone line.

To set a pause after automatic outpulse of the first dialed digit, (which is assumed to be "1" in this example), enter:

[FF1], 2#, 3#, 9#, 1#

To set a pause after automatic outpulse of the second dialed digit, (which is assumed to be "2" in this example), enter:

[FF1], 2#, 3#, 10#, 2#

To set a pause after automatic outpulse of the third dialed digit, (which is assumed to be "3" in this example), enter:

[FF1], 2#, 3#, 11#, 3#

To set a pause after automatic outpulse of the fourth dialed digit, (which is assumed to be "4" in this example), enter:

[FF1], 2#, 3#, 12#, 4#

To set a pause after automatic outpulse of the fifth dialed digit, (which is assumed to be "5" in this example), enter:

[FF1], 2#, 3#, 13#, 5#

To set a pause after automatic outpulse of the sixth dialed digit, (which is assumed to be "6" in this example), enter:

[FF1], 2#, 3#, 14#, 6#

To set a pause after automatic outpulse of the seventh dialed digit, (which is assumed to be "7" in this example), enter:

[FF1], 2#, 3#, 15#, 7#

To set a pause after automatic outpulse of the eighth dialed digit, (which is assumed to be "8" in this example), enter:

[FF1], 2#, 3#, 16#, 8#

To reset the automatic pause for PBX access code dialing to the default initialized value, press [FF1], 2#, 3#, [CONF]#, [ON/OFF].

NOTES:

The pause timer value is set with address [FF1], 3#, 12#.

Central office line flash timer options are set at address [FF2], (1-64)#, 13#.

```
RING PATTERNS FOR UNA TERMINALS
          (M, C, & B)
   [FF1], 2#, 4#, 1#, (0 OR 1)#
```

The ring pattern for the universal night answer (UNA) relay-terminals can be set for a continuous or intermittent ring burst.

To set the ring pattern for a 1 second on/3 second off pattern, enter:

[FF1], 2#, 4#, 1#, 0#

To set the ring pattern for a continuous ring burst, enter:

[FF1], 2#, 4#, 1#, 1#

NOTES:

When using a non central office sound source for the buzzer, select 1 second on/3 second off to simulate an incoming ring. See section 300, Installation Instructions, for more information on UNA.

To establish a central office line ring over external page speakers when the DBS is in the day mode, (and CPC-A software is being used) see address [FF4], 1#, 73#. To establish a central office line ring over external page speakers when the DBS is in the night mode, (and CPC-A software is being used) see address [FF4], 2#, 73#.
To establish a central office line ring over external page speakers when the DBS is in the day mode, (and CPC-B software is being used) see address [FF4], 1#, 145#.
To establish a central office line ring over external page speakers when the DBS is in the night mode, (and CPC-B software is being used) see address [FF4], 1#, 145#.

```
EXTERNAL PAGE INTERFACE (EPI) CONTROL
          FOR PAGING GROUPS
   [FF1], 2#, 4#, (2-9)#, (0 OR 1)#
```

To enable access to external paging groups 0 through 7, the relay(s) must be activated.

	Page Group		Page Group
2#	00	6#	04
3#	01	7#	05
4#	02	8#	06
5#	03	9#	07

To reset the external page interface to the default initialized value press, [FF1], 2#, 4#, [CONF], [ON/OFF].

```
EXTENSION CLASS OF SERVICE
[FF1], 2#, 5#, (1-8)#, (1-20)#, (0 OR 1)#
     (CPC-B, VER. 3.00 OR NEWER)
```

Extension class of service provides a method to set defined groups of extension features to a class of service. This class of service is then assigned to an extension or group of extensions, as desired. The 20 extension features can be assigned in any order and in any amount to any of the 8 classes of service.

The 20 allowable features that can be classified into any class of service grouping are:

	Feature
1	Dial Tone On/Off (#50)
2	Head/Handset Exchange (#51)
3	BGM On/Off (#53)
4	Absence Message Set/Reset (71)
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 Pick Up (79)
13	Group Pick Up (70)
14	Tone/Voice Mode (1)
15	Message Waiting Set (2)
16	Busy Override (4)
17	Call Waiting (3)
18	Off Hook Voice Announce (5)
19	Central Office Call Queuing (2)
20	Single Line Telephone Transfer (8)

To set the extension class of service to the default initialized value, press [FF1], 2#, 5#, (1-8)#, (1-20)#, 0#, [ON/OFF].

NOTE:

The default value of this feature sets full restriction on all classes of service. The extension programming for this feature, [FF3], (001-144)#, 35#, provides for all features to be available on all extension ports. When the DBS is in the default condition, the extension programming of this feature takes precedence.

**VERIFIED FORCED ACCOUNT CODES
[FF1], 2#, 6#, (1-100)#, (0001-9999)#
(CPC-B, VER. 3.00 OR NEWER)**

There are 100 verified forced account codes available for use. A four digit account code ranging from 0001 to 9999 is checked against a list of up to 100 preset values. If the value of the code matches one of the preset values, Central Office line access is granted.

For example, to set verified forced account code 1 to a value of 8888, enter:

[FF1], 2#, 6#, 1#, 8888#

For example, to set verified forced account code 56 to a value of 5656, enter:

[FF1], 2#, 6#, 56#, 5656#

To reset the verified forced account code parameter to the default initialized value, press [FF1], 2#, 6#, (1-100)#, [CONF], [ON/OFF].

NOTES:

Forced Account codes found in earlier versions of software have been replaced by this feature. The account code feature (non forced) remains.

A verified forced account code of 0000 is invalid.

When viewing an SMDR report, the verified forced account that was used to access a Central Office line will appear starting in position 70 of the call record line.

| TOLL RESTRICTION FOR VERIFIED FORCED ACCOUNT CODES
[FF1], 2#, 6#, (1-100)#, 2#, (0-7)#
(CPC-B, VER. 3.00 OR NEWER) |

Verified forced account codes can have a toll restriction class of service assigned to them. A caller that uses a particular account code with a toll restriction class of service assigned to it would then be allowed to dial any telephone number allowed under the toll restriction class of service for the verified forced account code. The extension toll restriction class of service in this case would be overridden.

To set verified account code number 5, for example, to have a toll restriction class of "type 0", enter:

[FF1], 2#, 6#, 5#, 2#, 0#

To set verified account code number 40, for example, to have a toll restriction class of "type 1", enter:

[FF1], 2#, 6#, 40#, 2#, 1#

To set verified account code number 22, for example, to have a toll restriction class of "type 2", enter:

[FF1], 2#, 6#, 22#, 2#, 2#

To set verified account code number 100, for example, to have a toll restriction class of "type 3", enter:

[FF1], 2#, 6#, 100#, 2#, 3#

To set verified account code number 63, for example, to have a toll restriction class of "type 4", enter:

[FF1], 2#, 6#, 63#, 2#, 4#

To set verified account code number 36, for example, to have a toll restriction class of "type 5", enter:

[FF1], 2#, 6#, 36#, 2#, 5#

To set verified account code number 44, for example, to have a toll restriction class of "type 6", enter:

[FF1], 2#, 6#, 44#, 2#, 6#

To set verified account code number 61, for example, to have a toll restriction class of "type 7", enter:

[FF1], 2#, 6#, 61#, 2#, 7#

AUTOMATIC NIGHT MODE START TIME (24 HOUR FORMAT) [FF1], 3#, 1#, (0000-2359)#

This option sets a time for the DBS to automatically switch from day to night mode.

To set a night mode start time of 8:02 pm, (for example) enter:

[FF1], 3#, 1#, 2002#

To set a night mode start time of midnight, (for example) enter:

[FF1], 3#, 1#, 0000#

To disable the automatic night mode start time, and reset it to the default initialized value press, [FF1], 3#, 1#, [CONF], [ON/OFF].

NOTE:

Automatic night start time is dependent on the accuracy of the DBS clock. See address [FF1], 1#, 2#, HHMM.

ATTENDANT HOLD RECALL TIMER [FF1], 3#, 2#, (0-12)#

A central office line that has been placed on hold at the attendant extension, will recall that attendant extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

EXTENSION HOLD RECALL TIMER
[FF1], 3#, 3#, (0-12)#

A central office line that has been placed on hold by a non-attendant extension, will recall that extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

NOTE:

When a central office line call is placed on hold at an extension, and the call is not answered, the call will recall the extension. If the call is not answered at the original holding extension, the call will transfer to the attendant extension(s).

ATTENDANT TRANSFER RECALL TIMER
[FF1], 3#, 4#, (0-12)#

A central office line call transferred to an extension by the attendant, that is left unanswered, will recall to the attendant extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

EXTENSION TRANSFER RECALL TIMER
[FF1], 3#, 5#, (0-12)#

A central office line call transferred to another extension that is left unanswered, will recall to the transferring extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

NOTE:

When a central office line call is transferred to an extension, and the call is not answered, the call will recall to the transferring extension. If the call is not answered at the original transferring extension, the call will transfer to the attendant extension(s).

ATTENDANT HUNT GROUP RECALL TIMER
[FF1], 3#, 6#, (0-12)#

A central office line call transferred to a hunt group by the attendant, that is left unanswered, will recall to the attendant extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

EXTENSION HUNT GROUP RECALL TIMER
[FF1], 3#, 7#, (0-12)#

A central office line call transferred to a hunt group by a non attendant extension that is left unanswered, will recall to the extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

ATTENDANT PARK HOLD RECALL TIMER
[FF1], 3#, 8#, (0-12)#

A central office line call that is parked by the attendant in any of the 10 park orbits, will recall to the attendant in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

EXTENSION PARK HOLD RECALL TIMER
[FF1], 3#, 9#, (0-12)#

A central office line call that is parked by a non attendant extension in any of the 10 park orbits, will recall to the extension in the amount of time set in this feature.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

ATTENDANT CALL REVERSION TIMER
[FF1], 3#, 10#, (0-12)#

This timer determines how long a recalling hold call will re-ring the attendant(s).

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

NOTES

Extension recalls will ring at the extension for the length of time set in this option before reverting to the attendant.

This feature is not available when the DBS is in the night setting.

UNSUPERVISED CONFERENCE TIMER [FF1], 3#, 11#, (0-15)#

The length of time a conference call can continue between 2 central office lines, after a DBS extension drops out is set with this program. At the conclusion of the timer, the conferenced central office lines will automatically disconnect. This timer also applies to outbound central office line calls made through the DISA line.

	Time		Time
0#	Delete	8#	40 Minutes
3#	5 Minutes	9#	45 Minutes
2#	10 Minutes	10#	50 Minutes
3#	15 Minutes	11#	55 Minutes
4#	20 Minutes	12#	60 Minutes
5#	25 Minutes	13#	65 Minutes
6#	30 Minutes	14#	70 Minutes
7#	35 Minutes	15#	75 Minutes

NOTES:

To allow specific central office lines to be used for unsupervised conference calls, set program address [FF2], (1-64)#, 16#. To allow specific extensions to be used for unsupervised conference calls, set address [FF3], (1-144)#, 13#.

AUTOMATIC PAUSE TIMER [FF1], 3#, 12#, (0-15)#

This feature is used to set the length of the pause that is automatically inserted during the dialing of the PBX access code. Each time the [REDIAL] key is pressed during the entry of PBX access code numbers, one pause time is stored. This timer also sets the pause time when a pause is inserted in a personal or system speed dial number.

	Time		Time
0#	No Pause	8#	4.0 Seconds
1#	.5 Seconds	9#	4.5 Seconds
2#	1.0 Seconds	10#	5.0 Seconds
3#	1.5 Seconds	11#	5.5 Seconds
4#	2.0 Seconds	12#	6.0 Seconds
5#	2.5 Seconds	13#	6.5 Seconds
6#	3.0 Seconds	14#	7.0 Seconds
7#	3.5 Seconds		

CENTRAL OFFICE LINE FLASH TIMER
[FF1], 3#, 13#, (0-10)#

This feature sets the time to release an active central office line when pressing the [FLASH] or [REDIAL] key.

	Time		Time
0#	No Flash	9#	.8 Seconds
1#	.2 Seconds	10#	.9 Seconds
2#	.3 Seconds	11#	1.5 Seconds (For future use.)
3#	.4 Seconds	12#	2.0 Seconds (For future use.)
4#	.5 Seconds	13#	2.5 Seconds (For future use.)
5#	.6 Seconds	14#	3.0 Seconds (For future use.)
8#	.7 Seconds	15#	3.5 Seconds (For future use.)

NOTE:

Single line telephones must press the hookswitch and dial "87 to activate this feature.

SLT ON HOOK FLASH TIMER
[FF1], 3#, 14#, (0-6)#

To set the central office line flash on a SLT to flash or disconnect when the hook switch is pressed, use this feature.

	No Detection	Valid Hook Flash	Disconnect
0#	<200 ms	200-500 ms	>500 ms
1#	<200 ms	200-750 ms	>750 ms
2#	<200 ms	200-1000 ms	>1000 ms
3#	<200 ms	200-1200 ms	>1200 ms
4#	≤200 ms	200-1500 ms	≥1500 ms
5#	<200 ms	NONE	>200 ms
6#	<200 ms	30-140 ms	>500 ms

NOTE:

After setting this timer, the DBS must be turned off to set the option.

CENTRAL OFFICE LINE RING CYCLE DETECTION TIMER [FF1], 3#, 15#, (0-3)#

For the DBS to detect the length of time it takes for the central office to complete a full ring cycle, this detection timer must be set. If the central office has a ring cycle of 1 on and 4 off, for example, the DBS setting should be placed at 6 to account for two rings and one silent period of four second duration.

	Timer		Timer
0#	4 Seconds	2#	8 Seconds
1#	6 Seconds	3#	10 Seconds

NOTE:

If this timer is set for to short of a time period, the system will not recognize valid central office ring signals.

INBOUND RING CYCLE EXPANSION TIMER [FF1], 3#, 16#, (0-15)#

This timer expands the ring cycle to compensate for the time the DBS initially requires to detect the ring source.

	Time		Time
0#	No expansion	8#	.40 Seconds
3#	.5 Seconds	9#	.45 Seconds
2#	.10 Seconds	10#	.50 Seconds
3#	.15 Seconds	11#	.55 Seconds
4#	.20 Seconds	12#	.60 Seconds
5#	.25 Seconds	13#	.65 Seconds
6#	.30 Seconds	14#	.70 Seconds
7#	.35 Seconds	15#	.75 Seconds

NOTE:

Setting this timer for longer or shorter periods of time will cause the first audible ring cycle to be different from the source ring cycle.

DIAL PAUSE TIMER AFTER OBTAINING A
CENTRAL OFFICE LINE
[FF1], 3#, 17#, (0-15)#

To set a pause before the outpulse of digits after access of a central office line, use this feature.

	Time		Time
0#	1.2 Seconds	8#	8.0 Seconds
1#	1.5 Seconds	9#	9.0 Seconds
2#	2.0 Seconds	10#	10.0 Seconds
3#	3.0 Seconds	11#	11.0 Seconds
4#	4.0 Seconds	12#	12.0 Seconds
5#	5.0 Seconds	13#	13.0 Seconds
6#	6.0 Seconds	14#	14.0 Seconds
7#	7.0 Seconds	15#	15.0 Seconds

PBX LINE FLASH TIMER
[FF1], 3#, 18#, (0-10)#

The PBX flash timer sets the amount of preprogrammed time that is assigned to the [FLASH] key, for the release of a PBX line.

	Time		Time
0#	No Flash	6#	.7 Seconds
1#	.2 Seconds	7#	.8 Seconds
2#	.3 Seconds	8#	.9 Seconds
3#	.4 Seconds	9#	1.0 Seconds
4#	.5 Seconds	10#	1.1 Seconds
5#	.6 Seconds		

NOTE:

When the DBS is behind a PBX, the flash feature can be used to place a call on hold.

CALL FORWARD/NO ANSWER
& DELAYED RING TIMER
[FF1], 3#, 19#, (0-15)#
(CPC-B, VER 3.00 OR NEWER)

If an extension that has been set with call forward/no answer, a call to that extension will ring for the period of time set in this feature. If the call is unanswered at the end of the timed period, the call will automatically transfer to an extension that has been designated in setting up the call forward option.

	Time		Time
0#	After 4 Seconds	8#	After 34 Seconds
1#	After 8 Seconds	9#	After 36 Seconds
2#	After 12 Seconds	10#	After 44 Seconds
3#	After 16 Seconds	11#	After 48 Seconds
4#	After 20 Seconds	12#	After 52 Seconds
5#	After 24 Seconds	13#	After 56 Seconds
6#	After 28 Seconds	14#	After 60 Seconds
7#	After 32 Seconds	15#	After 64 Seconds

GROUND START DETECTION TIMER
[FF1], 3#, 20#, (1-8)#
(CPC-B, NEWER THAN VER. 1.0X)

When ground start lines are used, the DBS sends a ground signal to the central office and waits for a return signal. When a return signal is detected, the DBS starts the line connection process. If a return signal is not detected within the specified time set in this feature, the system regards the trunk as not available and sends a busy tone to the caller.

	Time		Time
1#	1 Second	5#	5 Seconds
2#	2 Second	6#	6 Seconds
3#	3 Second	7#	7 Seconds
4#	4 Second	8#	8 Seconds

NOTES:

This feature is only available with the use of a CPC-B card.

A ground-start trunk card (VB-43531) is required for ground start trunk connections. Central office line ports on this card can be configured as loop or ground start ports.

INBOUND GROUND DETECTION TIMER
[FF1], 3#, 21#, (0-8)#
(CPC-B, NEWER THAN VER. 1.0X)

This timer determines how long a ground signal from the central office must be present in order to start the connection process. When the ground signal is detected, the line LED will turn red indicating that the trunk is in use, even though the call has not been processed.

	Time		Time
1#	1 Second	5#	5 Seconds
2#	2 Second	6#	6 Seconds
3#	3 Second	7#	7 Seconds
4#	4 Second	8#	8 Seconds

NOTES:

To activate the ground detection timer, set the parameters for the loop-start/ground-start type to ground-start in [FF2], 21# address.

Install ground-start trunk card (VB 43531) according to the instructions in section 300.

Setting this timer for less then 3 seconds can cause false incoming calls. This is due to the possibility of the ground not being removed quickly at the end of a call.

**ATTENDANT INTERCOM RECALL HOLD TIMER
[FF1], 3#, 22#, (0-12)#
(CPC-B, VER 2.00 OR NEWER)**

Calls made by an attendant(s) to another extension, that have subsequently been placed on hold by the attendant, will recall the attendant in the time designated by this timer.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

**EXTENSION INTERCOM HOLD RECALL TIMER
[FF1], 3#, 23#, (0-12)
(CPC-B, VER. 2.00 OR NEWER)**

Calls made by an extension to another extension, that have subsequently been placed on hold by the calling extension, will recall the calling extension in the time designated by this timer.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

**ATTENDANT INTERCOM TRANSFER RECALL TIMER
[FF1], 3#, 24#, (0-12)
(CPC-B, VER 2.00 OR NEWER)**

A call transferred to an extension by an attendant, that has not been answered by the extension will recall the attendant in the time designated by this timer.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

**EXTENSION INTERCOM TRANSFER RECALL TIMER
[FF1], 3#, 25#, (0-12)
(CPC-B, VER. 2.00 OR NEWER)**

A call transferred to an extension by another extension, that has not been answered will recall the calling extension in the time designated by this timer.

	Time		Time
0#	No Recall	7#	140 Seconds
1#	20 Seconds	8#	160 Seconds
2#	40 Seconds	9#	180 Seconds
3#	60 Seconds	10#	200 Seconds
4#	80 Seconds	11#	220 Seconds
5#	100 Seconds	12#	240 Seconds
6#	120 Seconds		

CENTRAL OFFICE DELAYED RING TIMER
[FF1], 3#, 26#, (0-15)#
(CPC-B, VER 3.00 OR NEWER)

If a Central Office line has been set to ring on an extension(s), and the call is not picked up, this timer determines the amount of time it will ring there until extensions that have been set for delayed ringing on a Central Office line will begin to ring.

	Time		Time
0#	After 4 Seconds	8#	After 34 Seconds
1#	After 8 Seconds	9#	After 36 Seconds
2#	After 12 Seconds	10#	After 44 Seconds
3#	After 16 Seconds	11#	After 48 Seconds
4#	After 20 Seconds	12#	After 52 Seconds
5#	After 24 Seconds	13#	After 56 Seconds
6#	After 28 Seconds	14#	After 60 Seconds
7#	After 32 Seconds	15#	After 64 Seconds

EXTENSION DELAYED RING TIMER
[FF1], 3#, 27#, (0-15)#
(CPC-B, VER 3.00 OR NEWER)

If an extension call is ringing at another extension, and the call is not picked up, this timer determines the amount of time it will ring there until extensions that have been set for delayed ringing for extension calls will begin to ring.

	Time		Time
0#	After 4 Seconds	8#	After 34 Seconds
1#	After 8 Seconds	9#	After 36 Seconds
2#	After 12 Seconds	10#	After 44 Seconds
3#	After 16 Seconds	11#	After 48 Seconds
4#	After 20 Seconds	12#	After 52 Seconds
5#	After 24 Seconds	13#	After 56 Seconds
6#	After 28 Seconds	14#	After 60 Seconds
7#	After 32 Seconds	15#	After 64 Seconds

HUNT GROUP NO ANSWER TIMER
[FF1], 3#, 28#, (0-15)#
(CPC-B, VER 3.00 OR NEWER)

If a call has entered a hunt group, and an idle extension in the group starts to ring, but the call is not picked up, this timer determines the time that the extension will ring before the next idle extension in the hunt group starts to ring.

	Time		Time
0#	After 4 Seconds	8#	After 34 Seconds
1#	After 8 Seconds	9#	After 36 Seconds
2#	After 12 Seconds	10#	After 44 Seconds
3#	After 16 Seconds	11#	After 48 Seconds
4#	After 20 Seconds	12#	After 52 Seconds
5#	After 24 Seconds	13#	After 56 Seconds
6#	After 28 Seconds	14#	After 60 Seconds
7#	After 32 Seconds	15#	After 64 Seconds

AUTOMATIC DAY MODE START TIME
[FF1], 3#, 29#, HHMM#
CPC-B, Ver. 4.00 or NEWER

Automatic Day Mode allows the DBS to go into day mode automatically.
Automatic Night Mode (FF1, 3#, 1#) allows the DBS to go into night mode automatically.

To turn automatic day mode off, enter:

FF1 3# 29# CONF key ON/OFF key#

(NOTE:)

1. 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.

2. If both auto day and auto night modes are turned on, the attendant NIGHT key cannot be used.

3. If both auto modes are set, the starting times must differ by at least one hour.

4. 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.)

```
REMOTE PROGRAMMING ID CODE
[FF1], 4#, (0000-9999)#
```

If a remote programming ID code is set, a dumb terminal or PC can be used to program the DBS from a remote site or on site, by connecting to the RS232C interface.

To set the remote programming ID code to 0001, for example, enter:

[FF1], 4#, 0001#

To reset the remote programming ID code to the default initialized value, press [FF1], 4#, [CONF], [ON/OFF].

NOTES:

Remote programming of the DBS requires the following:

1. A central office line that is set with DISA capability.

2. Knowledge of the 4-digit DISA ID code. (See [FF1], 1# through 5# program addresses).

3. After the DBS automatically answers your inbound call on the preset DISA line with the intercom dialing tone, remote programming can begin by dialing #6 and the 4-digit remote-programming ID code.

4. An attendant or extension user can manually transfer the remote programmer into programming by putting the remote programmer on hold, dialing #6, and the 4 digit remote programming ID code.

5. The following remote operations are possible:

a) Remote programming:

Remotely setting any DBS parameter, just as would be done with on site programming.

b) Bus monitor data:

Remotely view bus monitor data., which is commonly used to troubleshoot operational problems. This may be possible in real time, depending on the buffer of the device being used.

```
DIRECT INWARD SYSTEM ACCESS (DISA) ID
            CODE
        [FF1], 5#, (0000-9999)#
```

The DISA ID code provides direct access to a DBS intercom dial tone, on an inbound central office line that is preprogrammed as a DISA line.

To set the DISA ID code to 0001, for example, enter:

[FF1], 5#, 0001#

To reset the DISA ID code to the default initialized value, press [FF1], 5#, [CONF], [ON/OFF].

NOTES:

The default setting of the DBS supplies intercom dial tone to a line defined as a DISA line. If a DISA ID code is stored in place of the default setting (via remote programming) an intercom dial tone will not be heard, but rather a DISA dial tone (fast busy tone).

The DISA dial tone is a signal to proceed with your call until you enter the stored DISA ID code. After the DISA ID code is entered, the intercom dial tone is presented. This provides the opportunity to make a DBS extension call.

To make an outbound central office line call, enter #7, dial 9 or 81-86 (to access a central office line), then dial the 4-digit DISA ID code. See [FF1], 6#, 1# and 2# addresses.

```
DISA OUTBOUND CALL ID CODE 1
    [FF1], 6#, 1#, (0000-9999)#
```

To provide an inbound DBS caller with access to "fresh" outbound central office dial tone, a four digit access code is required.

To set the first DISA outgoing call ID code to 0001, for example, enter:

[FF1], 6#, 1#, 0001#

To reset the first DISA outgoing call ID code to the default initialized value, press [FF1], 6#, 1#, [CONF], [ON/OFF].

```
DISA OUTBOUND CALL ID CODE 2
    [FF1], 6#, 2#, (0000-9999)#
```

To provide an inbound DBS caller with access to "fresh" outbound central office dial tone, a four digit access code is required.

To set the second DISA outgoing call ID code to 0002, for example, enter:

[FF1], 6#, 2#, 0002#

To reset the second DISA outgoing call ID code to the default initialized value, press [FF1], 6#, 2#, [CONF], [ON/OFF].

( )

( )

```
ID Code For System Programming
[FF1], 7#, (0000-9999)#
```

To perform DBS programming from an extension other than the attendant position, this option must be set. The 4-digit ID code set in this option must be used as part of the access attempt to program the DBS, when a non attendant position is used in this manner.

To set the ID code for system programming to 0001, for example, enter:

[FF1], 7#, 0001#

To reset the ID code for system programming to the default initialized value, press [FF1], 7#, [CONF], [ON/OFF].

```
NOTES:
```

Only one non attendant extension can be a programming extension at a particular time. To set a different non attendant position as the programming extension, cancel the capability of the first extension by reentering the 4-digit ID code at the original non attendant extension, then enter the same ID code at the second extension.

On CPC-A software versions later than 3.21, and CPC-B versions later than 2.00, entering the ID code for system programming at a second extension, will automatically cancel the programming capability that may have been previously set but not canceled at a different extension.

```
DID Reset
[FF1], 8#, 1#, (0 or 1)#
(CPC-B, ver. 3.00)
```

Direct Inward Dial numbers that have been set up as a part of CPC-B ver. 2.11 or older software, need to be defaulted with the use of this program after upgrading a DBS to ver. 3.00 software. Also, at any time that a default of ALL assigned DID numbers is desired, this program must be used.

To choose not to reset existing DID number assignments, enter:

[FF1], 8#, 1#, 0#

At any time a reset of all assigned DID numbers to the default value (no DID numbers assigned) is desired, enter:

[FF1], 8#, 1#, 1#

```
NOTE:
```

DID settings have to be manually configured if the DBS has a software version older than 3.00, that is being upgraded to version 3.00 or newer. Before this manual reconfiguration can be done however, the DID reset program ([FF1], 8#, 1#), must be done.

The maximum amount of DID number assignments that a DBS can have is 500. Multiple DID number assignments can be assigned to any extension port, and/or the same DID number can be assigned to multiple extension ports. Each DID assignment uses one of the 500 that are available.

DID Reset Confirmation
[FF1], 8#, 2#, (0 or 1)#
(CPC-B, ver. 3.00)

This is a confirmation program for the resetting of DID number assignments that can be accomplished with the use of program number [FF1], 8#, 1#.

To not reset the DID number assignments, enter:

[FF1], 8#, 2#, 0#

To reset all of the DID number assignments, enter:

[FF1], 8#, 2#, 1#

NOTE:

DID settings have to be manually configured if the DBS has a software version older than 3.00, that is being upgraded to version 3.00 or newer. Before this manual reconfiguration can be done however, the DID reset program ([FF1], 8#, 1#), must be done.

The maximum amount of DID number assignments that a DBS can have is 500. Multiple DID number assignments can be assigned to any extension port, and/or the same DID number can be assigned to multiple extension ports. Each DID assignment uses one of the 500 that are available.

DID Reset (New Function Reset)
[FF1], 8#, 1#, (0 or 1)#
(CPC-B, ver. 4.00)

Resets program settings stored in SRAM (Static Random Access Memory). The reset must be performed before upgrading from one software version to another. For example, if you are upgrading from Version 3.00 to Version 4.00, you need to perform the reset. However, if you are upgrading to a point release (4.10 to 4.11), you do not need to perform the reset.

Options

0=No (retain settings)
1=Yes (clear settings)

**NEW FUNCTION RESET CONFIRMATION
[FF1], 8#, 2#, (0 OR 1)#
(CPC-B, VER. 4.00)**

The purpose of this display is to make sure you want to reset the data. Enter "0" or "1," depending on whether you want to complete or cancel the reset.

OPTIONS

0=Do not reset
1=Reset

NOTE:

1. If you enter a "1," the following display appears:
CONFIRM
0: NO 1: YES

2. This command erases all T1 and DID programming.

**INBOUND DID DIAL NUMBERS
[FF1], 8#, 3#, (0000-9999)#, (100-699)
(CPC-B, VER. 3.00 OR NEWER)**

Direct inward dialed numbers that have been dialed by a caller need to be assigned to extension ports, so that the number dialed will ring on all extensions they are supposed to appear on. A DID number can be set to ring on multiple extensions, or only one extension.

To set DID number 4444 to ring on extension number 120, for example, enter:

[FF1], 8#, 3#, 4444#, 120#

To set DID number 6358 to ring on extension number 500, for example, enter:

[FF1], 8#, 3#, 6358#, 500#

To reset DID numbers that have been assigned to extensions to the default initialized value, press [FF1], 8#, 3#, didXXXX#, [CONF]#, [ON/OFF].

T1 PROGRAMMING OPTIONS

CLOCK SETTINGS

All parameters in this section refer to CPC-B, Verson 4.00 or newer.

The following information describes programming parameters for the T1 Interface. The descriptions of each parameter include a list of available options and the associated programming address.

NOTE:

Default options are shown underlined.

T1 System Settings

System Config.
FF1]8#,4#,1#,1#,(0-8)#

Identifies the system size.

Options					
	0=DBS 40				
	1=DBS 72				
	2=DBS 96				
	3=DBS 40	+	DBS	40	(T1 must be in the slave cabinet.)
	4=DBS 72	+	DBS	40	(T1 is not supported.)
	5=DBS 72	+	DBS	72	(T1 must be in the slave cabinet.)
	6=DBS 96	+	DBS	40	
	7=DBS 96	+	DBS	72	
	8=DBS 96	+	DBS	96	

NOTE:

To apply changes to this parameter, power the system down, then back up.

The Sync Card (installed on the CPC-B) provides a method of synchronizing the DBS with the public network. This parameter determines the first clocking source for network synchronization. If the first source fails, the system will switch to the second source. The system will attempt to go back to the first source based on the value entered under the Network Re-sync Timer.

The system considers a clock source to have failed when the slip rate error counter is exceeded within a 24-hour period.

In most cases, the 1st sync source is set to "1."

1st Sync
FF1]8#,4#,1#,2#,(1-3)#

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up again.

Options	
	1=T1 of the master cabinet
	2=T1 of the slave cabinet
	3=Free run (internal clocking)

2ND SYNC
[FF1]8#,4#,1#,3#,(0-3)#

3RD SYNC
[FF1] 8#, 4#, 1#, 4#, (0-3)#

Determines the source of clocking for the second sync source. The system will attempt to switch from the second source back to the first source based on the value entered under "Network Re-sync Timer."

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 2nd sync source set to "3." Systems with two T1s normally have the 2nd sync source set to "2."

One of the three sync sources should be set to "3" (free run). A free-run setting is needed, so the DBS T1 can provide its own clocking if the network clock fails.

Options	0=None
	1=T1 of the master cabinet
	2=T1 of the slave cabinet
	3=Free run (internal clocking)

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up again.

Determines the source of clocking for the third sync source. The third sync source is used if both the first and second source fail. The system will attempt to switch from the third source back to the first source based on the value entered under "Network Re-sync Timer."

In most cases, a system with one T1 has the 3rd sync source set to "0." Systems with two T1s normally have the 3rd sync source set to "3."

One of the three sync sources should be set to "3" (free run). A free-run setting is needed, so the DBS T1 can provide its own clocking if the network clock fails.

Options	0=None
	1=T1 of the master cabinet
	2=T1 of the slave cabinet
	3=Free run (internal clocking)

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

SYSTEM-WIDE TIMERS

NETWORK RE-SYNC TIMER
[FF1]8#,4#,2#,1#,(0-25)#

DISCON TIMER
[FF1] 8#, 4#, 2#, 2#, (0-12)#

If one clock source fails, the system will switch to another clock source. The re-sync timer determines how often the system attempts to return to the original clock source. For example, if the first clock source (1st sync) fails, the system switches to the second source. However, the system will try to return to the first source based on the re-sync timer.

If the second source fails and the first source continues to be out-of-service, the system switches to the third source. Again, the re-sync timer determines how often the system will attempt to return to the first source.

Options	0-25
	0=immediate (DBS returns to the first clock immediately.)
	1-24=hours (Determines how often the DBS attempts to return to the first clock.)
	25=no retries (DBS does not attempt to go back to the first clock.)

NOTE:

When the system attempts to go back to the first clock source, existing calls will be disconnected.

Determines how long the DBS waits before sending a disconnect signal from the T1 to the CO. (The CO Disconnect Timer [FF2 (1-64)# 18# (0-15#)] determines how long the system waits to receive a disconnect signal from the CO.)

Options	0-15 (1)
Values	0=150ms
	1=200ms
	2=250ms
	3=300ms
	4=400ms
	5=500ms
	6=1000ms
	7=1500ms
	8=2000ms
	9=2500ms
	10=3000ms
	11=3500ms
	12=Off (DBS does not automatically send a disconnect signal.)

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

GUARD TIMER
[FF1], 8#, 4#, 2#, 3#, (0-15)#

RLS ACK Timer
[FF1] 8# 4# 2# 4# (0-15)#

Determines how long the system guards a T1 circuit. Guarding holds a circuit after it has been released in order to ensure that the previous call has been properly disconnected. In other words, once a call over a T1 channel has ended, the guard timer determines how much time must pass before the channel can be used for another call.

Determines how long the DBS waits for the CO to acknowledge a disconnect signal.

Options	0-15 (3)
Values	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

Options	0-15
Values	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=1080 seconds
	13=1420 seconds
	14=1920 seconds
	15=an infinite number of seconds.

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

OUTPULSE DELAY
[FF1], 8#, 4#, 2#, 5#, (0-15)#

WINK TIMEOUT TIMER
FF1, 8#, 4#, 2#, 6# (0-15)#

Determines how long the system waits before outpulsing dialed digits to the network.

When wink-start signaling is used, the DBS waits for a wink-start signal from the CO when a user goes offhook. Once the DBS receives a wink start, the DBS sends a CO dial tone to the extension.

This timer determines how long the DBS waits for a wink signal once an extension goes offhook.

Options	0-15
Values	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

Options	0-15
Values	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
[FF1]8#,4#,2#,7#,(0-15)#

ANSWER SUPERV
[FF1]8#,4#,2#,8#,(0-8)#

Once an incoming call seizes a T1 trunk, this timer determines how long the DBS waits before recognizing the seizure as an incoming call.

This parameter only applies when E&M signaling is used.

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.

Options	0-15
Values	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
	14=160 ms
	15=170 ms

Options	0-8
Values	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

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

61

IMM-GLARE TIMER
[FF1] 8#, 4#, 2#, 9#, (0-15)#

A glare is a conflict between an incoming call and an outgoing call.

When immediate-start signaling is used, this timer determines how long the system searches for an incoming call before connecting a station user to a trunk channel.

The timer begins when the station goes offhook.

If this parameter is set to "0" (non glare), the DBS does not check for glare. Therefore, if a trunk call is coming into a station that is going offhook, the station does not ring but is connected to the incoming call automatically.

WK-GLARE TIMER
[FF1] 8#, 4#, 2#, 10#, (0-15)#

A glare is a conflict between an incoming call and an outgoing call.

When wink-start signaling is used, the timer determines how long the system searches for an incoming call before connecting a station user to a trunk channel.

The timer begins when the a wink is received.

If this parameter is set to 0 (non glare) and a trunk call is coming into a station that is going offhook, the station does not ring but is connected to the incoming call automatically.

Options	0-15
Values	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

Options	0-15
Values	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

DIGITAL PAD SET (LOSS/GAIN SETTINGS)
FF1],8#,4#,3#,(1-12)#
(1-12)#(0-30)#

Adjusts the volume of connections made via the T1. In this parameter, the first "(1-12)" represents the receiving circuit type. The second "1-12" represents the sending circuit type. "0-30" represents the pad number. 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 the command, then adjust the volume by assigning a new pad number.

Figure 1 shows the numbers used to identify each circuit type.

Figure 2 shows the default values for the most common T1 connections.

Figure 2. Default pad values (T1 #1 = master, T1 #2 = slave)			
From	To	Setting	Value
T1 #1	K-TEL	16	-2 dB
T1 #2	K-TEL	16	-2 dB
T1 #1	SLT	16	-2 dB
T1 #2	SLT	16	-2 dB
K-TEL	T1 #1	16	-2 dB
K-TEL	T1 #2	16	-2 dB
SLT	T1 #1	16	-2 dB
SLT	T1 #2	16	-2 dB

Figure 1. Circuit-type Numbers	
Circuit Types	No.
K-TEL	1
SLT	2
DATA#	3
Analog CO Trk	4
T1 Master	5
T1 Slave	6
OPTION 1*	7
OPTION 2*	8
DTMF#	9
CONF (SCC)#	10
TONE1 (MFR1)#	11
TONE2 (MFR2)#	12

NOTES:

#Circuit Types 3 and 9-12 are reserved for future use.

*Options 1 and 2 can be used to assign unique PAD levels to circuits that require special volume levels. For example, if an OPX station needs a higher volume level than other SLTs, the OPX station could be defined as an Option 1 circuit type.

The following table lists the adjustments provided by each pad number.

Figure 3. Pad Nos.	
Pad No.	**Level**
0	0 dB
1	+2 dB
. . .	. . .
1 4	+28 dB
1 5	+30 dB
1 6	-2 dB
1 7	-4 dB
. . .	. . .
2 9	-28 dB
3 0	-30 dB

from the master T1 to all SLTs is 16. You can also tell by Figure 2 that the default pad value for setting 16 is -2 dB.
To raise the volume by 2 dB, you can change the pad value to 0. (As you can see from Figure 3, the dB level for value 0 is 0 dB.)
The following example shows the programming required to change the value to 0 dB:

FF1 8# 4# 3# 2# 5# 0#

2=Circuit type number for SLTs (Figure 1).
5=Circuit type number for the T1 in the master cabinet (Figure 1).
0=Pad number for 0 dB loss/gain (Figure 3).

Example

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 referring to Figure 2, you can see that the default pad setting for connections

T1 MASTER AND SLAVE SETTINGS
TRUNK CONFIGURATION

TRUNK CONFIGURATION
MASTER CABINET:
[FF1] 8#, 4#, 4#, 1#, 1# (0-1)#

SLAVE CABINET:
[FF1] 8#, 4#, 5#, 1#, 1# (0-1)#

Specifies the trunk combinations used in the DBS.

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

Options

0=Analog only
1=T1 and analog trunks

No. of T1 CHANNELS
MASTER CABINET:
[FF1] 8#, 4#, 4#, 1#, 2# (0-24)#

SLAVE CABINET:
[FF1]8#,4#,5#,1#,2#(0-24)#

Determines how many T1 channels are used.

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. Fur-

thermore, the number of analog trunks that can be used is always decremented in quantities of 8.

For instance, if you're 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).

However, because 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.)

See *Installation (Section 300)* for a list of possible T1 and analog trunk channel combinations.

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

Options

0-24 (0)

> **TRUNK SIGNALING**

> **FRAME FORMAT**
> **MASTER CABINET:**
> **[FF1] 8#, 4#, 4#, 1#, 3# (0-1)#**

> **SLAVE CABINET:**
> **[FF1] 8#, 4#, 5#, 1#, 3# (0-1)#**

Selects the framing format used by the T1. The framing format must match what is offered by the CO.

> **Options**

0=SF (Superframe, which is also known as D4. The superframe consists of 12 frames, with each frame including 193 bits. Each frame is separated by a framing bit.)
1=ESF (Extended Super Frame. An extended super frame consists of 24 frames, thereby doubling the length of the super frame (SF) format. ESF also supports monitoring and maintenance capabilities that are not available with the SF format.)

> **NOTE:**

For changes to this parameter to take effect, the system must be powered down, then back up.

> **Clear Channel**
> **Master cabinet:**
> **[FF1], 8#, 4#, 4#, 1#, 4# (0-1)#**

> **SLAVE CABINET:**
> **[FF1], 8#, 4#, 5#, 1#, 4# (0-1)#**

Selects the clear channel format used by the T1. The clear channel format must match what is offered by the CO.

> **Options**

0=AMI (AMI stands for alternate mark inversion.)
1=B8ZS (B8ZS stands for Binary 8-Zeroes Suppression.

> **NOTE:**

For changes to this parameter to take effect, the system must be powered down, then back up again.

```
FAILURE MODE
MASTER CABINET:
[FF1], 8#, 4#, 4#, 1#, 5# (0-1)#
```

```
R-LOOPBACK
MASTER CABINET:
[FF1], 8#, 4#, 4#, 1#, 6# (0-1)#
```

```
SLAVE CABINET:
[FF1], 8#, 4#, 5#, 1#, 5# (0-1)#
```

```
SLAVE CABINET:
[FF1], 8#, 4#, 5#, 1#, 6# (0-1)#
```

Determines the way the system responds to alarms.

OPTIONS

0=Mode 1 (T1 stays in operation even if errors are detected.)
1=Mode 2 (T1 shuts down if errors are detected.)

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

This parameter only applies to a DBS within a private network.

If the remote loopback parameter is turned on, the DBS can receive a loopback command from another DBS.

For example, for DBS "A" to receive a loopback command from DBS "B," this parameter must be turned on at DBS "A." DBS "B" would initiate the loopback by entering the "Remote Loopback" command.

OPTIONS

0=No (The system does not respond to loopback signals.)
1=Yes (The system does respond to loopback signals.)

AIS TRANSMISSION OPTIONS

FLASH KEY OPERATION
MASTER CABINET:
[FF1 8# 4# 4# 1# 8# (0-1)#

SLAVE CABINET:
[FF1] 8# 4# 5# 1# 8# (0-1)#

In the current version of DBS T1, a "switchhook flash" releases and resizes the T1 line.

OPTIONS

0=Release and reseize

YELL ALARM SEND
MASTER CABINET:
[FF1], 8#, 4#, 4#, 1#, 7# (0-1)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 1#, 7# (0-1)#

Determines whether the DBS sends a yellow alarm signal to the CO.

OPTIONS

0=No
1=Yes

68

TIMERS FOR T1 LEDS

RED ALARM DETECTION
MASTER CABINET:
[FF1], 8#, 4#, 4#, 2#, 1# (0-15)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 2#, 1# (0-15)#

YELLOW ALARM DETECTION
MASTER CABINET:
[FF1], 8#, 4#, 4#, 2#, 2# (0-15)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 2#, 2# (0-15)#

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 Alm Relay" parameter is turned on, the alarm relay on the T1 MDF card closes.

Options	0-5
Values	0=4
	1=6
	2=8
	3=10
	4=12
	5=14

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 "Yel Alm Relay" parameter is turned on, the alarm relay on the T1 MDF card closes.

Options	0-15	
Values	0=0 ms (immediate)	8=400 ms
	1=50 ms	9=450 ms
	2=100 ms	10=500 ms
	3=150 ms	11=550 ms
	4=200 ms	12=600 ms
	5=250 ms	13=650 ms
	6=300 ms	14=700 ms
	7=350 ms	15=750 ms

NOTE:

For changes to this parameter to take effect, the system must be powered down, then

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

YELL ALARM RECOVERY
MASTER CABINET:
[FF1], 8#, 4#, 4#, 2#, 3# (0-15)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 2#, 3# (0-15)#

OTHER ALARMS DETECTION
MASTER CABINET:
[FF1], 8#, 4#, 4#, 2#, 4# (0-15)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 2#, 4# (0-15)#

Determines how long the DBS tries to recover from a yellow alarm before it re-syncs the T1 trunk.

Options	0-15	
Values	0=0 ms (immediate)	8=80 ms
	1=10 ms	9=90 ms
	2=20 ms	10=110 ms
	3=30 ms	11=120 ms
	4=40 ms	12=130 ms
	5=50 ms	13=140 ms
	6=60 ms	14=150 ms
	7=70 ms	15=160 ms

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

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 turned on.

Options	0-15	
Values	0=0 ms	8=2000 ms
	1=250 ms	9=2500 ms
	2=500 ms	10=3000 ms
	3=750 ms	11=3500 ms
	4=1000 ms	12=4000 ms
	5=1250 ms	13=4500 ms
	6=1500 ms	14=5000 ms
	7=1750 ms	15=5500 ms

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

| OTHER ALARMS RECOVERY |
| MASTER CABINET: |
| [FF1], 8#, 4#, 4#, 2#, 5# (0-15)# |

| SLAVE CABINET: |
| [FF1], 8#, 4#, 5#, 2#, 5# (0-15)# |

Determines how long the DBS tries to recover from an out-of-frame (OOF), Loss of Signal, Sync Loss, or AIS alarm before it resyncs the T1 trunk.

Options	0-15	
Values	0=0 ms	8=3000 ms
	1=250 ms	9=4000 ms
	2=500 ms	10=5000 ms
	3=750 ms	11=6000 ms
	4=1000 ms	12=7000 ms
	5=1500 ms	13=8000 ms
	6=2000 ms	14=9000 ms
	7=2500 ms	15=10000 ms

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

ERROR COUNTERS FOR T1 ALARM KEYS

The following counters determine when FF alarm keys light. FF alarm keys light when an error counter exceeds the specified number within 24 hours. FF alarm keys can indicate the following types of alarms:

Red alarms
Loss of signal alarms
Sync loss alarms
Yellow alarms
Slip alarms
Frame loss alarms

The alarm keys can be assigned to any key telephone. However, the keys only work on a non-attendant phone that has the programming authorization code (#98 9999) activated. With attendant phones, the keys work whether or not the programming authorization code is activated.

| FRAMING LOSS COUNTER |
| MASTER CABINET: |
| [FF1], 8#, 4#, 4#, 3#, 1# (0-9000)# |

| SLAVE CABINET: |
| [FF1], 8#, 4#, 5#, 3#, 1# (0-9000)# |

Determines how many frame losses occur before a Frame Loss Alarm key is lit.
The key lights when the counter exceeds the specified number within a 24-hour period.

OPTIONS

0-9000/24 hours (9000)

```
        SLIP COUNTER
     MASTER CABINET:
[FF1], 8#, 4#, 4#, 3#, 2# (0-9000)#
```

```
        RED ALARM COUNTER
        MASTER CABINET:
[FF1], 8#, 4#, 4#, 3#, 3# (0-9000)#
```

```
        SLAVE CABINET:
[FF1], 8#, 4#, 5#, 3#, 2# (0-9000)#
```

```
        SLAVE CABINET:
[FF1], 8#, 4#, 5#, 3#, 3# (0-9000)#
```

Determines how many slips occur before a Slip Loss Alarm key is lit.

The 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. When the system switches to the next clock source, the slip error counter for the first clock source is reset.

Slips are losses of data bits due to framing errors.

OPTIONS

0-9000/24 hours (9000)

Determines how many red alarms occur before a Red Alarm key is lit.

The key lights when the counter exceeds the specified number within a 24-hour period.

OPTIONS

0-9000/24 hours (9000)

ALARM RELAY CONTROLS

YEL ALARM COUNTER
MASTER CABINET:
[FF1], 8#, 4#, 4#, 3#, 6# (0-9000)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 3#, 6# (0-9000)#

YELLOW ALARM RELAY
MASTER CABINET:
[FF1], 8#, 4#, 4#, 4#, 1# (0-1)#

SLAVE CABINET:
[FF1], 8#, 4#, 5#, 4#, 1# (0-1)#

Determines how many yellow alarm indica-
tions occur before a Yellow Alarm key is lit.
The key lights when the counter exceeds the
specified number within a 24-hour period.
(See instructions on programming T1 alarm
keys.)

Options

0-9000/24 hours (9000)

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. The
external alarm device must be purchased
separately; it is not provided with the DBS
T1.

Options

0=Off (The alarm relay does not close.)

```
RED ALARM RELAY
MASTER CABINET:
[FF1], 8#, 4#, 4#, 4#, 2# (0-1)#
```

```
SLAVE CABINET:
[FF1], 8#, 4#, 5#, 4#, 2#, (0-1)#
```

```
SYNC LOSS RELAY
MASTER CABINET:
[FF1], 8#, 4#, 4#, 4#, 3# (0-1)#
```

```
SLAVE CABINET:
[FF1], 8#, 4#, 5#, 4#, 3# (0-1)#
```

Determines whether the system closes the alarm relay on the T1 MDF card in the event of red alarms.

The alarm relay can be connected to an external alarm device such as a buzzer. The external alarm device must be purchased separately; it is not provided with the DBS T1.

A red alarm indicates a loss of frame (OOF) or loss of signal has continued for over 2.5 seconds.

Options

0=Off (The alarm relay does not close; the alarm is not reported.)
1=On (The alarm relay closes, so the alarm is reported.)

Determines whether the system closes the alarm relay on the T MDF card in the event of sync loss alarms.

The alarm relay can be connected to an external alarm device such as a buzzer. The external alarm device must be purchased separately; it is not provided with the DBS T1.

Options

0=Off (the alarm relay does not close; the alarm is not reported.)
1=On (The alarm relay closes, so the alarm is reported.)

NOTE:

Sync-loss alarms result from clocking errors.

```
FRAME LOSS RELAY
MASTER CABINET:
[FF1], 8#, 4#, 4#, 4#, 4# (0-1)#
```

```
AIS RELAY
MASTER CABINET:
[FF1], 8#, 4#, 4#, 4#, 5# (0-1)#
```

```
SLAVE CABINET:
[FF1], 8#, 4#, 5#, 4#, 4# (0-1)#
```

```
SLAVE CABINET:
[FF1], 8#, 4#, 5#, 4#, 5# (0-1)#
```

Determines whether the system closes the alarm relay on the T1 MDF card in the event of frame loss alarms.

The alarm relay can be connected to an external alarm device such as a buzzer. The external alarm device must be purchased separately; it is not provided with the DBS T1.

Options

0=Off (The alarm relay does not close; the alarm is not reported.)
1=On (The alarm relay closes, so the alarms is reported.)

Determines whether the system closes the alarm relay on the T1 MDF card in the event of alarm indication signals.

An alarm indication signal is comprised of all 1's and is unframed.

The alarm relay can be connected to an external alarm device such as a buzzer. The external alarm device must be purchased separately; it is not provided with the DBS T1.

Options

0=Off (The alarm relay does not close; the alarm is not reported.)
1=On (The alarm relay closes, so the alarm is reported.)

> **RELAY RESET**
> **MASTER CABINET:**
> [FF1], 8#, 4#, 4#, 4#, 6# (0-1)#

> **SLAVE CABINET:**
> [FF1], 8#, 4#, 5#, 4#, 6# (0-1)#

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.

To enter the Alarm Relay Clear code, first enter the programming authorization code (#98 9999).

> **OPTIONS**

0=Auto
1=Manual

> **TRUNK SETTINGS**

> **T1 TRUNK TYPE**
> [FF1], 8#, 4#, 6#, (1-64)#, 1#, (0-3_#)
> CPC-B, VER. 4.00 OR NEWER

Determines what trunk type each T1 channel emulates.

> **OPTIONS**

0=Loop start
1=Ground start 1
2=Ground start 2
3=E&M

> **NOTE:**

For changes to this parameter to take effect, the system must be powered down, then back up.

T1 TRUNK TYPE
[FF1], 8#, 4#, 6#, (1-64)#, 1#, (0-3)#

Determines the type of trunk signaling that each T1 channel emulates.

OPTIONS

0=Loop start
1=Ground start 1
2=Ground start 2
3=E&M

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

DID/DNIS
[FF1], 8#, 4#, 6#, (1-64)#, 2#, (0-1)#

Determines if DID and/or DNIS is provided for a trunk. DNIS is available only with T1. If DID is selected, the system uses a DID Numbers Table, which supplies 500 DID numbers. If DNIS is selected, the system uses a DNIS Numbers Table, which supplies 500 DNIS numbers.

The DID Numbers Table can be used for DID or DNIS. Therefore, if all the numbers in the DNIS Numbers Table are used, a T1 channel can be set to DID, and DNIS service can still be used.

OPTIONS

0=Not provided
1=DID
2=DNIS

NOTE:

1. The DBS only supports 4-digit DID/DNIS numbers.
2. For changes to this parameter to take effect, the system must be powered down, then back up.
3. When the central office 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 central office should wait at least 200 ms before sending the digits. It is the installer's responsibility to request the delay from the central office.

OUTGOING TYPE

[FF1], 8#, 4#, 6#, (1-64)#, 3#, (0-2)#

Determines the signaling class used by T1 channels on outgoing calls.

OPTIONS

<u>0=Immediate start</u>
1=Wink start
2=Dial-tone start

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

INCOMING TYPE

[FF1], 8#, 4#, 6#, (1-64)#, 4#, (0-1)#

Determines the signaling class used by T1 channels on incoming calls.

OPTIONS

<u>0=Immediate start</u>
1=Wink start

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

TRUNK MODE
[FF1], 8#, 4#, 6#, (1-64)#, 5#, (0-1)#

ROBBED BIT SET
[FF1], 8#, 4#, 6#, (1-64)#, 6#, (0-1)#

Determines whether T1 channels are used as outgoing only, or bothway.

OPTIONS

0=Bothway
1=Outgoing only

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

The robbed bit setting determines if ABCD signaling is used. ABCD signaling robs bits from the T1 channels and uses those bits to transmit signaling information.

OPTIONS

0=Off (ABCD signaling is not used.)
1=On (ABCD signaling is used.)

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

Incoming Dial
[FF1], 8#, 4#, 6#, (1-64)#, 7#, (0-1)#

DT Send
[FF1], 8#, 4#, 6#, (1-64)#, 8#, (0-1)#

Determines whether the system expects DP or DTMF digits for incoming DID or DNIS calls.

Transmits dial tone from the T1 channel to another DBS within a private network.

OPTIONS

0=Dial Pulse (10PPS)
1=DTMF

OPTIONS

0=Off
1=On

NOTE:

If "DTMF" is selected, the DBS must be equipped with an MFR card.

BT Send
[FF1], 8#, 4#, 6#, (1-64)#, 9#, (0-1)#

Transmits busy tone from the T1 channel to another DBS within a private network.

OPTIONS

0=Off
1=On

DT Receive
[FF1], 8#, 4#, 6#, (1-64)#, 10#, (0-1)#

Transmits dial tone from the T1 channel to DBS stations.

OPTIONS

0=Off
1=On

```
       RBT Send
[FF1], 8#, 4#, 6#, (1-64)#, 11#, (0-1)#
```

```
      DNIS Number Set
[FF1], 8#, 4#, 7#, (0000-9999)#
    (10-69 or 100-699)#
```

Transmits ringback tone from the T1 channel to the central office or another DBS within a private network.

Associates a dialed number with a station.

OPTIONS

0=Off
1=On

OPTIONS

Associates a four-digit dialed number with a station number. DNIS is available only with the T1 Interface.

NOTE:

Stations are numbered using one of two patterns: 10-69 or 100-699.

3-2 CENTRAL OFFICE LINE PROGRAM SETTINGS

CENTRAL OFFICE LINE PORT OPERATION
[FF2], (1-64)#, 1#, (0 or 1)#

To set a central office line in service, or to remove it from service, this option must be used.

To set any central office line in service, enter:

[FF2], (DBS line port number)#, 1#, 0#

To remove any central office line from service, enter:

[FF2], (DBS line port number)#, 1#, 1#

NOTES:

A steady, red LED on any FF key programmed as a line key, indicates an out-of-service line.

If a central office line is removed from service, a new caller to that line will hear a ring, but the DBS user will never be aware of the caller because ring assignments for the line will not function.

TOUCH-TONE/PULSE DIALING FOR CENTRAL OFFICE LINES
[FF2], (1-64)#, 2#, (0 or 1)#

To set a central office line for touch-tone or pulse dialing, (10 pulses per second), this option must be used.

To set any central office line for touch tone dialing, enter:

[FF2], (DBS line port number)#, 2#, 0#

To set any central office line for pulse dialing, enter:

[FF2], (DBS line port number)#, 2#, 1#

NOTES:

If a central office line port is used for a door-box adapter sensor, set the port for pulse dialing.

If the central office line port is designated as a ground start line ([FF2]-(1-64)-21), it is imperative that the 48 volt external power supply be properly connected to the terminals on the DBS backplane. *Misconnection of this power supply can result in serious damage to the DBS main cabinet.* See DBS Installation Instructions manual (section 300), and Technote 1 (March 1991), for further information.

The *flash* and *redial* features will not operate if a line has been designated as "ground start". See technote 13 (March 1992) for further information.

```
┌─────────────────────────────────────┐
│     POOLED CENTRAL OFFICE LINE       │
│       ACCESS FOR GROUP "9"           │
│     [FF2], (1-64)#, 3#, (0 OR 1)#    │
└─────────────────────────────────────┘
```

To place a central office line in a group so that it can be one of many that can be automatically chosen for outbound dialing, this option must be used. When dialing a "9" from an SLT or digital extension, or pressing an FF key that is set as a pooled trunk key, any available line in the group will be accessed.

To not include a central office line to be a member of the "9" access group, enter:

[FF2], (DBS line port number)#, 3#, 0#

To set any central office line to be a member of the "9" access group, enter:

[FF2], (DBS line port number)#, 3#, 1#

```
┌─────────┐
│  NOTES  │
└─────────┘
```

Set FF1 option "LCR Access" for "Pooled Trunk Access" call. If this option is set for "LCR Access", central office line selection will default to pooled central office line access group 9, if all lines that could be used for "LCR Access" are busy.
The line selection is made from the highest line number in the group, to the lowest line number in the group.

```
┌─────────────────────────────────────┐
│   POOLED CENTRAL OFFICE LINE ACCESS  │
│       FOR GROUPS "81-86"             │
│     [FF2], (1-64)#, (4-9)#, (0 OR 1)#│
└─────────────────────────────────────┘
```

To place a central office line in a group so that it can be one of many that can be automatically chosen for outbound dialing, this option must be used. When dialing an "81, 82, 83, 84, 85 or 86" from an SLT or digital extension, or pressing an FF key that is set as a multiple central office (MCO) line key, any available line in the group will be accessed.

To set any central office line to be a member of the "81" access group, enter:

[FF2], (DBS line port number)#, 4#, 1#

To set any central office line to be a member of the "82" access group, enter:

[FF2], (DBS line port number)#, 5#, 1#

To set any central office line to be a member of the "83" access group, enter:

[FF2], (DBS line port number)#, 6#, 1#

To set any central office line to be a member of the "84" access group, enter:

[FF2], (DBS line port number)#, 7#, 1#

To set any central office line to be a member of the "85" access group, enter:

[FF2], (DBS line port number)#, 8#, 1#

CENTRAL OFFICE LINE TYPE
[FF2], (1-64)#, 10#, (1 or 2)#

To set any central office line to be a member of the "86" access group, enter:

[FF2], (DBS line port number)#, 9#, 1#

To remove any central office line from any access group (81 through 86), enter:

[FF2], (DBS line port number)#, (4-9)#, 0#

NOTES:

The same trunks may appear in more than one line access group and include access group 9.

The line selection in a particular group is made from the highest available line number to the lowest available line number.

Each central office line port must be identified as a regular central office line, or PBX line.

To set the central office line type to central office, enter:

[FF2], (DBS line port number)#, 10#, 1#

To set the central office line type to PBX, enter:

[FF2], (DBS line port number)#, 10#, 2#

NOTES:

Toll restriction settings can be affected by this setting.

If a central office line port is used for a door-box adapter sensor, set the port for pulse dialing.

If the central office line port is designated as a ground start line [FF2]-21#, it is imperative that the 48 volt external power supply be properly connected to the terminals on the DBS backplane.

Misconnection of this power supply can result in serious damage to the DBS main cabinet.

See DBS Installation Instructions manual (section 300), and Technote 1 (March 1991), for further information.

```
┌─────────────────────────────────┐
│       DISA AUTO ANSWER          │
│   [FF2], (1-64)#, 11#, (0 OR 1)# │
└─────────────────────────────────┘
```

To set a central office line(s) to automatically provide DISA tone upon connection with an inbound caller, this option must be set.

To set any central office line to provide a DISA tone when connected to a new inbound caller, enter:

[FF2], (DBS line port number)#, 11#, 1#

To set any central office line so that it does not provide a DISA tone when connected to a new inbound caller, enter:

[FF2], (DBS line port number)#, 11#, 0#

```
( NOTES: )
```

To set automatic DISA start and end times, see [FF2] 19#, and 20# program addresses, and the DISA code program address at [FF1], 6#.

```
┌─────────────────────────────────┐
│    PRIVATE CENTRAL OFFICE LINE   │
│   [FF2], (1-64)#, 12#, (001-144)# │
└─────────────────────────────────┘
```

Any extension can be set with a private central office line(s). A number of private lines can belong to one extension, but the same private line cannot be set on multiple extensions.

To set extension port 15 for central office line 12 to be a private central office line(s), enter:

[FF2], 15#, 12#, 12#

To reset any extension to the default initialized private line value, press [FF2], (DBS line port number)#, 12#, [CONF], [ON/OFF].

```
( NOTES: )
```

An incoming call on a private line will only ring on one extension.
Once the private line option is set, other extensions cannot make outbound calls or receive inbound calls on that line.
If the private line setting is disabled, calls cannot be made or received on that line(s) without manually reprogramming the toll restriction options of an extension(s) to which the line should now appear.
In DBS installations using the CPC-A card, the highest extension port number that can be used is 72.

**AUTOMATIC PAUSE FOR PBX LINE
[FF2], (1-64)#, 13#, (0 OR 1)#**

To set an automatic pause during dialing on a central office line defined as PBX, this option must be used.

To set the automatic pause on line 15 for example, (once line 15 is defined as a PBX), enter:

[FF2], 15#, 13#, 1#

To disable the automatic pause on line 12 for example, (once line 12 is defined as a PBX), enter:

[FF2], 12#, 13#, 0#

NOTE:

See [FF1], 3,# 12# program option, for the timer used for this pause.

**DIAL TONE DETECTION
[FF2], (1-64)#, 14#, (0 OR 1)#**

To define whether dialed digits will be outpulsed after dial tone has been detected, or not, this option is used.

To outpulse dialed digits only after dial tone is detected, enter:

[FF2], (DBS line port number)#, 14#, 0#

To outpulse dialed digits according to the system dial pause timer, enter:

[FF2], (DBS line port number)#, 14#, 1#

NOTE:

If this option is not set, the dialed number is outpulsed according to the system dial pause time.

**OUTBOUND DTMF SIGNAL DURATION
[FF2], (1-64)#, 15#, (1-3)#**

To increase the duration of the DTMF signal when making an outbound call, use this feature.

To set the on/off duration of an outbound DTMF signal to 75 ms. on and 50 ms. off, enter:

[FF2], (DBS line port number)#, 15#, 1#

To set the on/off duration of an outbound DTMF signal to 125 ms. on and 125 ms. off, enter:

[FF2], (DBS line port number)#, 15#, 2#

To set the on/off duration of an outbound DTMF signal to 250 ms. on and 250 ms. off, enter:

[FF2], (DBS line port number)#, 15#, 3#

Unsupervised Central Office Line Conference
[FF2], (1-64)#, 16#, (0 or 1)#

To allow a central office line(s) to be able to be used in an unsupervised conference call, this feature is used.

To disable line 22, for example, so that it cannot be used in a line to line conference, enter:

[FF2], 22#, 16#, 0#

To set line 22 to be able to be used as one of the lines in a line to line conference, enter:

[FF2], 22#, 16#, 1#

NOTE:

See [FF3], 13# program address to start a conference call.

A conferenced call will be disconnected if the call goes beyond the time set in unsupervised conference timer.

Inbound Ring Signal Pattern
[FF2], (1-64)#, 17#, (0-9)#

The ring pattern of each central office line can be set in one of nine patterns to provide easy recognition of different lines.

	Time		Time
0#	Synchronize	5#	1 on / 3 off
1#	3 on / 1 off	6#	.5 on / .5 off
2#	2 on / 2 off	7#	.5 on / .5 off / .5 on / 2.5 off
3#	1 on / 1 on	8#	.5 on / 3.5 off
4#	1 on / 2 off	9#	1 on / 7 off

NOTE:

There is no change in the ring pattern for transferred calls.

CENTRAL OFFICE LINE SIGNAL DISCONNECT DETECTION TIMER
[FF2], (1-64)#, 18#, (0-15)#

When a central office line call is disconnected, the central office sends a disconnect signal. The DBS needs to interpret all valid signals, so that the central office line can be disconnected from it. This feature provides this function.

	Time		Time
0#	Ignore disconnect	8#	>400 ms.
1#	> 50 ms.	9#	>450 ms.
2#	>100 ms.	10#	>500 ms.
3#	>150 ms.	11#	>550 ms.
4#	>200 ms.	12#	>600 ms.
5#	>250 ms.	13#	>650 ms.
6#	>300 ms.	14#	>700 ms.
7#	>350 ms.	15#	>750 ms.

DISA START TIME
[FF2], (1-64)#, 19#, (HHMM)#

Any central office line that is set as a DISA line, can be set to start DISA operation at a specified time.

To set a central office line that has DISA capability to start DISA operation at a certain time, enter:

[FF2], (DBS line port number)#, 19#, HHMM#.

To reset DISA start time capability to the default initialized value, press [FF2], (DBS line port number)#, 19#, [CONF], [ON/ OFF].

NOTE:

The start time is set in a 24-hour format without punctuation or a space between the hour and minute.

DISA End Time
[FF2], (1-64)#, 20#, (HHMM)#

Any central office line that is set as a DISA line, can be set to stop DISA operation at a specified time.

To set a central office line that has DISA capability to stop DISA operation at a certain time, enter:

[FF2], (DBS line port number)#, 20#, HHMM#.

To reset DISA stop time capability to the default initialized value, press [FF2], (DBS line port number)#, 20#, [CONF], [ON/OFF].

NOTE:

The stop time is set in a 24-hour format without a space between the hour and minute.

Trunk Type
[FF2], (1-64)#, 21# (0-3)#

Determines whether the trunk circuit is an analog loop start, analog ground start, analog DID, or T1.

OPTIONS

0=Loop start
1=Ground start
2=DID
3=T1

NOTE:

For changes to this parameter to take effect, the system must be powered down, then back up.

```
╔══════════════════════════════════╗
║   LOOP START / GROUND START LINE  ║
║      [FF2], (1-64)#, 21#, (0 OR 1) ║
║       (CPC-B VER 1.11 OR OLDER)   ║
╚══════════════════════════════════╝
```

Any central office line position in the DBS can be set as either a loop-start or ground-start circuit.

To set central office line position 3, for example, as a loop start line, enter:

[FF2], 3#, 21#, 0#

To set central office line position 7, for example, as a ground start line, enter:

[FF2], 7#, 21#, 1#

```
( NOTES: )
```

Ground start line capability is available only with CPC-B configurations.
If a ground-start trunk(s) is enabled, [FF1], 3#, 20# and 21# program addresses must be set.
Trunk card VB 43531 is also required.
The DBS must be turned off, then turned on to set any change that is made in this program option.
If a central office line port is used for a door-box adapter sensor, set the port for pulse dialing.
If the central office line port is designated as a ground start line in this program address, it is imperative that the 48 volt external power supply be properly connected to the terminals on the DBS backplane.

Misconnection of this power supply can result in serious damage to the DBS main cabinet.

See DBS Installation Instructions manual (section 300), and Technote 1 (March 1991), for further information.
The *flash* and *redial* features will not operate if a line has been designated as "ground start". See technote 13 (March 1992) for further information.

```
Loop Start / Ground Start / DID Line
[FF2], (1-64)#, 21#, (0 - 2)
[CPC-B ver 2.00 or newer]
```

Any central office line position in the DBS can be set as either a loop-start, ground-start or DID circuit.. Loop start lines are the most common type of central office line. Ground start lines perform similarly, except they provide the most reliable connection between the Central office and DBS, in terms of positive disconnect signals and no possibility of line crashes or "glare". Direct Inward Dialing lines are beneficial in that the central office can place multiple inbound calls, with different numbers, over the same circuit. Also, these numbers can be programmed to appear on multiple DBS extensions. DID circuts can only be used for inbound calls.

To set central office line position 3, for example, as a loop start line, enter:

[FF2], 3#, 21#, 0#

To set central office line position 7, for example, as a ground start line, enter:

[FF2], 7#, 21#, 1#

To set central office line position 14, for example, as a Direct Inward Dial line, enter:

[FF2], 14#, 21#, 2#

NOTES:

Ground start line capability is available only with CPC-B configurations.

If a ground start line(s) is enabled, [FF1] 3#, 20# & 21# adresses must be set.

When a ground start card is in use, the ports on that card can be configured as either ground or loop start lines.

Trunk card VB 43531 is also required.

The DBS must be turned off, then turned on to set any change that is made in this program option.

If a central office line port is used for a door-box adapter sensor, set the port for pulse dialing.

If the central office line port is designated as a ground start line in this program address, it is imperative that the 48 volt external power supply be properly connected to the terminals on the DBS backplane.

If DID is chosen, check the [FF2] 22#, 23#, 24# & 25# adresses.

DID circuits involve the use of a dedicated DID card.

Misconnection of this power supply can result in serious damage to the DBS main cabinet.

See DBS Installation Instructions manual (section 300), and Technote 1 (March 1991), for further information.

The *flash* and *redial* features will not operate if a line has been designated as "ground start". See technote 13 (March 1992) for further information.

```
DID IMMEDIATE OR WINK START
[FF2], (1-64)#, 22#, (0 OR 1)
(CPC-B, VER. 2.00 OR NEWER)
```

After connecting with a Central office, the DBS will wait 65 milliseconds before accepting the digits of a dialed number, or can be set to wait for a "wink" signal from a central office before accepting the digits of a dialed number.

To set the DID line to immediately accept the dialed number from the central office, enter:

[FF2], (DBS DID line port number)#, 22#, 0#

To set the DID line to wait for the central office wink signal before accepting the dialed number from the central office, enter:

[FF2], (DBS DID line port number)#, 22#, 1#

```
WINK START TIMER
[FF2], (1-64)#, 23#, (0-15)#
(CPC-B, VER. 2.00 OR NEWER)
```

If "wink" signalling is used for the operation of Direct Inward Dialing line, a timer is required to be set. This timer sets the maximum time the DBS will wait before accepting the dialed digits from the central office.

	Time		Time
0#	140 ms.	8#	300 ms.
1#	160 ms.	9#	320 ms.
2#	180 ms.	10#	340 ms.
3#	200 ms.	11#	360 ms.
4#	220 ms.	12#	380 ms.
5#	240 ms.	13#	400 ms.
6#	260 ms.	14#	420 ms.
7#	280 ms.	15#	440 ms.

Time Out for Dialed DID Digits
[FF2], (1-64)#, 24#, (0-15)#
(CPC-B, ver 2.00 or newer)

Once the central office starts to send the dialed digits to the DBS over a DID line, it is necessary to be able to disconnect the line in the case of a transmission disruption. The maximum amount of time that is allowed for the transmission of the digits is set with this feature.

	Time		Time
0#	No Time Out	8#	22 Seconds
1#	15 Seconds	9#	23 Seconds
2#	16 Seconds	10#	24 Seconds
3#	17 Seconds	11#	25 Seconds
4#	18 Seconds	12#	26 Seconds
5#	19 Seconds	13#	27 Seconds
6#	20 Seconds	14#	28 Seconds
7#	21 Seconds	15#	29 Seconds

DID Interdigit Timeout
[FF2], (1-64)#, 25#, (0-15)#
(CPC-B, ver 2.00 or newer)

Once the digits begin to be outpulsed from the central office on a DID line, it is necessary to define the maximum allowable time between digits. This feature sets the maximum allowable time between the outpulsing of digits from the central office, before a central office time out is assumed.

	Time		Time
0#	30 ms.	8#	110 ms.
1#	40 ms.	9#	120 ms.
2#	50 ms.	10#	130 ms
3#	60 ms.	11#	140 ms
4#	70 ms.	12#	140 ms.
5#	80 ms.	13#	160 ms.
6#	90 ms.	14#	170 ms.
7#	100 ms.	15#	180 ms.

T1 PORT CLASS—TRUNK
[FF2] (1-64)#, 26# (4-6)#

Assigns a port class to each trunk port that will access the T1. Port classes are used to assign pad levels to connections made via the T1. (Pad levels control volume.)

NOTE:

Figure 1 shows circuit-type numbers. Circuit Types 4-6 are used to assign port classes to trunks.

Figure 1. Circuit-type Numbers

Circuit Types	No.
K-TEL	1
SLT	2
DATA#	3
Analog CO Trk	4
T1 Master	5
T1 Slave	6
OPTION 1*	7
OPTION 2*	8
DTMF#	9
CONF (SCC)#	10
TONE1 (MFR1)#	11
TONE2 (MFR2)#	12

T1 PORT CLASS - TRUNK (SELECT 1-12)
[FF2] (1-64)#, 26# (4-6)#
(CPC-B, VER. 4.00 OR NEWER)

DBS trunks are assigned a default circuit type, based on whether they are analog or T1. The circuit type is used with digital pad settings to determine the loss/gain settings for connections to the T1 (See "Digital Pad Setting."). The T1 Port Class parameter is provided in case a specific trunk or group of trunks needs a unique pad level. For example, a T1 in a slave cabinet may be assigned as a "circuit type 6." However, the circuit type for the T1 trunk port could be changed to 8 (Option 2). Once the port number is changed to circuit type 8, the pad levels for circuit type 8 could be changed to provide the correct volume setting.

NOTE:

Circuit types are also provided for station ports. See Figure 1 for a definition of circuit types.

Options

This programming parameter allows you to assign circuit types 1-12 to a trunk port. However, the default circuit type for a trunk port should only be changed to circuit type 7 or 8 (Options 1 or 2).

3-3 EXTENSION PROGRAM SETTINGS

EXTENSION NUMBERS
[FF3], (1-144)#, 1#, (100-699 or 10-69)#

The choice of 2-digit or 3-digit extension numbers are assigned in this feature.

To set extension port 3 to extension number 333, for example, enter:

[FF3], 3#, 1#, 333#

To set extension port 4 to extension number 222, for example, enter:

[FF3], 4#, 1#, 222#

To clear a DBS extension port number, press [FF3], (DBS extension port number)#, 1#, [CONF].

NOTES:

3-digit extension numbers must be used with 60 or more extensions.

See the [FF1], 12# program address to check the digit length that has been set in the DBS .

If an alternate attendant position is set, the extension numbers are as follows:

Attendant telephone 1: Extension 100 or 10.

Attendant telephone 2: Extension 101 or 11.

The default DBS extension numbers are 100 at port 1, 101 at port 2, 102 at port 3, etc.

Extension 100 cannot be assigned to a different port.

If extension 101 or 11 is deleted, the alternate attendant is canceled.

Clearing the extension port number DOES NOT retrun it to its default value. Once an extension port number is cleared, the port is inoperative until an extension number is reassigned to it.

TERMINAL TYPE
[FF3], (1-144)#, 2#, (1-38)#

Some DBS extension ports are automatically configured as to the type of equipment, when the hardware is physically installed on the port. Terminal type designations are assigned to extension hardware as follows:

1#: Single-line telephone devices will automatically configure the extension port

2#: 16 key telephone devices will automatically configure the extension port

3#: 22 key telephone devices will automatically configure the extension port

4#: 34 key telephone devices will automatically configure the extension port

5#: Future option

6#: Future option

7#: EM/24 device will automatically configure on the extension port

8#: OPX pulse device needs to be manually configured on the extension port

9#: OPX touch tone device needs to be manually configured on the extension port

10#: Voice mail (non proprietary) devices that are conected to an analog extension port need to be manually configured on the extension port

11#: DSS1 (for extension 100 or 10) needs to be manually configured on the extension port

12#: DSS2 (for extension 100 or 10) needs to be manually configured on the extension port

13#: DSS3 (for extension 101 or 11) needs to be manually configured on the extension port

14#: DSS4 (for extension 101 or 11) needs to be manually configured on the extension port

15#: Voice mail (non proprietary with OPX) needs to be manually configured on the extension port

16# to 19#: DSS consoles 1-4 need to be manually configured on the extension port.. The Attendant feature package is available with the use of CPC-B, ver. 2.00 or newer, as a special EPROM set.

20#: Future option

21# to 28#: Proprietary ACD channels will automatically configure the extension ports

29#: Future option

30#: Future option

31# to 38#: Proprietary Automated Attendant channels will automatically configure the extension ports

39# to 46#: Proprietary Voice Mail channels will automatically configure the extension ports

If DSS 1 is to be installed on extension port 2, for example, enter:

[FF3], 2#, 2#, 11#

The default initialized value of a particular extension port is based on the type of extension card that is installed in the DBS cabinet.

NOTE:

After manually setting types 11-14, or 16-19, disconnect the modular jacks from the devices and then reconnect them.

```
          TERMINAL TYPE
  [FF3], (1-144)#, 2#, (0 OR 1-19)#
      (CPC-B, VER. 3.00 OR NEWER)
```

Some DBS extension ports are automatically configured as to the type of equipment, when the hardware is physically installed on the port. Terminal type designations are assigned to extension hardware as follows:

0#: No assignment

1#: Single-line telephone devices will automatically configure the extension port

2#: 16 key telephone devices will automatically configure the extension port

3#: 22 key telephone devices will automatically configure the extension port

4#: 34 key telephone devices will automatically configure the extension port

5#: Future option

6#: Digital SLT telephone

7#: EM/24 device will automatically configure the extension port

8#: OPX pulse device needs to be manually configured on the extension port

9#: OPX touch tone device needs to be manually configured on the extension port

10#: Voice mail (non proprietary) devices that are connected to an analog extension port need to be manually configured on the extension port

11#: DSS1 (for extension 100 or 10) needs to be manually configured on the extension port

12#: DSS2 (for extension 100 or 10) needs to be manually configured on the extension port

13#: DSS3 (for extension 101 or 11) needs to be manually configured on the extension port

14#: DSS4 (for extension 101 or 11) needs to be manually configured on the extension port

15#: Voice mail (non proprietary with OPX) needs to be manually configured on the extension port

16# to 19#: DSS consoles 1-4 need to be manually configured on the extension port. The Attendant feature package is available with the use of CPC-B, ver. 2.00 or newer, as a special EPROM set.

If DSS 1 is to be installed on extension port 2, for example, enter:

[FF3], 2#, 2#, 11#

The default initialized value of a particular extension port is based on the type of extension card that is installed in the DBS cabinet.

(NOTE:)

After manually setting types 11-14, or 16-19, disconnect the modular jacks from the devices and then reconnect them.

EM/24 PORT ASSIGNMENT
[FF3], (1-144)#, 3#, (1-144)#

Define the EM/24 extension module hardware port number, then assign an extension port number that will be used with it. The first program entry relates to the EM/24 port number, the second program entry refers to the extension port that the EM/24 works with.

To set a port for the EM/24 to work with extension port 30, for example, enter: **[FF3], 55#, 3#, 30#**

To reset the use of an EM/24 on any extension port to the default initialized value, press [FF3], (DBS extension port number), 3#, [CONF], [ON/OFF]

NOTES:

When a change to the default key assignments is required on an EM/24, and CPC-B 2.0X series software prior to version 2.05 is being used, the program procedure must be done in the following order:

a. set the port that the EM/24 is on [FF3], (1-144)#, 2#.

b. Reset the EM/24 by unplugging it and reconnecting it.

c. Proceed with key programming via [FF5], (1-144)#, (1-24)#.

When programming an EM/24 with CPC-B software versions newer than 2.11, this programming order is not required. See Technote 15 (August 1992) for complete information.

After manually reprogramming an EM/24 when any version of CPC software is used, disconnect the modular jack from the device and then reconnect it.

FORCED LEAST COST ROUTING
[FF3], (1-144)#, 4#, (0 OR 1)#

FORCED ACCOUNT CODE
[FF3], (1-144)#, 5#, (0 OR 1)#

If an extension is set for Least Cost Routing, the user must dial "9", or press an FF key that is set for the LCR function, in order to gain access to a central office line.

To set an extension port so that the dialing of a "9", or the necessity to press an LCR key is not needed, enter:

[FF3], (DBS extension port number)#, 4#, 0#

To set an extension port so that the dialing of a "9", or the necessity to press an LCR key is needed, enter:

[FF3], (DBS extension port number)#, 4#, 1#

DBS extensions can be set so that central office-line calls can only be made after entering an account code.

To set an extension so that an account code is not needed to make a central office line call, enter:

[FF3], (DBS extension port number)#, 5#, 0#

To set an extension so that an account code is needed to make a central office line call, enter:

[FF3], (DBS extension port number)#, 5#, 1#

**VERIFIED FORCED ACCOUNT CODES
[FF3], (1-144)#, 5#, (0 OR 1)#
(CPC-B, VER. 3.00 OR NEWER)**

DBS extensions can be set so that central office-line calls can only be made after entering a forced account code that is verified. Verification is enabled or disabled on an extension basis.

To set an extension so that a verified forced account code is not needed to make a central office line call, enter:

[FF3], (DBS extension port number)#, 5#, 0#

To set an extension so that a verified forced account code is needed to make a central office line call, enter:

[FF3], (DBS extension port number)#, 5#, 1#

NOTE:

CPC-B versions 3.00 and newer, do not have the forced account code capability of earlier versions. All forced account codes have to be verified. The use of non forced, non verified account codes is still an option if stringent access to Central Office lines is not required.

**EXTENSION LOCKOUT CODE
[FF3], (1-144)#, 6#, (0000-9999)#**

A 4-digit lockout code can be set on an extension to prevent unauthorized people from making central office line calls from the extension.

To set extension 100, with lockout code 4521, for example, enter:

[FF3], 1#, 6#, 4521#

To reset a previously locked out extension to the default initialized value, press [FF3] (DBS extension port number)#, 6#, [CONF], [ON/OFF].

Off Hook Signal
[FF3], (1-144)#, 7#, (0 or 1)#

To be notified by a tone, when a new central office line call has arrived at an extension that is currently engaged in a conversation, this option must be set.

To disable extension 100, for example, for off hook signaling, enter:

[FF3], 1#, 7#, 0#

To enable extension 100, for example, for off hook signaling, enter:

[FF3], 1#, 7#, 1#

To reset any extension ports to the default initialized value, press [FF3], port#, 7#, conf#, [ON/OFF].

NOTES:

This tone will not be sent during a conference call, while the called extension is on hold, or during a call on an central office line for which there is no line key on the telephone.

The off-hook signal volume and the off-hook signal pattern are separate settings. See program addresses [FF3], 15#, & 16#. When an off-hook tone is enabled on an extension, the extension will be excluded from any hunt group setting that may be enabled for it.

If a Voice Announce Unit (model VB-43708) is connected to the DBS off hook signalling ([FF3], (1-144)#, 7#, 1#) must be enabled on all extensions. See Technote 14 (March 1992) for complete information.

Call Waiting Notification Tone/Off Hook Voice Announce
[FF3], (1-144)#, 8#, (0 or 1)#

To send a tone from a calling extension to an extension that is in use, this option must be set. A tone is not sent however, when off hook voice announce is enabled. In the case of OHVA being used, the calling party to an extension in use can verbally override the existing conversation.

To disable the call waiting notification tone or the OHVA capability on extension 100, for example, enter:

[FF3], 1#, 8#, 0#

To enable the call waiting notification tone or the OHVA capability on extension 100, for example, enter:

[FF3], 1#, 8#, 1#

NOTE:

The call waiting notification tone cannot be sent to an extension set with an absence message, or that is on hold, or that is receiving another call or that is involved in a conference call.

BUSY OVERRIDE SEND
[FF3], (0-144)#, 9#, (0 OR 1)#

To be able to "barge into" an extension that is currently in use from another extension, this option must be enabled on the *barging* extension.

To disable the use of the busy override option from extension 100, for example, enter:

[FF3], 1#, 9#, 0#

To enable the use of the busy override option from extension 100, for example, enter:

[FF3], 1#, 9#, 1#

NOTES:

The busy override option cannot be disabled on the attendant telephones in all CPC-A software versions, and CPC-B software versions earlier than version 2.00.

The busy override option can be disabled on the attendant telephones in CPC-B software, newer than ver. 2.00 Busy override is not possible to an extension: that is not set to accept it, or is involved in a conference call.

To be able to override a busy extension, the calling extension must be in the same page group. Page group 00 is not included in this exception.

BUSY OVERRIDE RECEIVE
[FF3], (1-144)#, 10#, (0 OR 1)#

To allow an extension to be able to be "barged into" from another extension, this option must be enabled on the *barged* extension.

To disable extension 101, for example, from being barged into by another extension enter:

[FF3], 2#,10#, 0#

To enable extension 101, for example, to be able to be barged into by another extension enter:

[FF3], 2#,10#, 1#

NOTE:

The override tone can be set to sound during an ongoing central office call, to indicate a new call arrival.

PRIME LINE PICKUP
[FF3], (1-144)#, 11#, (0 OR 1)#

Access to an available central office line assigned to the FF1 key can be automatic by picking up the receiver.

If the FF1 key is a pooled trunk key, an available central office line is accessed in numerical order from the highest line number assigned to the key, to the lowest.

To disable prime line pickup on extension 100, for example, enter:

[FF3], 1#, 11#, 0#

To enable prime line pickup on extension 100, for example, enter:

[FF3], 1#, 11#, 1#

NOTE:

Intercom calls cannot be made with this option enabled, unless an intercom call key is assigned to another FF key.

AUTO PICKUP (RINGING LINE PICKUP)
[FF3], (1-144)#, 12#, (0 OR 1)#

Picking up the receiver at a ringing extension connects the incoming central office line call, hold recall, or transferred call, if this option is enabled.

To disable auto pickup at extension 100, for example, enter:

[FF3], 1#, 12#, 0#

To enable auto pickup at extension 100, for example, enter:

[FF3], 1#, 12#, 1#

UNSUPERVISED CONFERENCE
[FF3], (1-144)#, 13#, (0 OR 1)#

To enable a DBS user to initiate a three party conference between 2 central office lines and his extension, this option must be set. Once the conference is initialized, the DBS extension user can drop out of the call by pressing either of the central office line keys used to call the other parties.

To disable extension 100, for example, to not be able to initiate a three party conference, enter:

[FF3], 1#, 13#, 0#

To enable extension 100, for example to be able to initiate a three party conference, enter:

[FF3], 1#, 13#, 1#

NOTES:

The DBS user can re-enter the conference by pressing either of the two central office line keys used to initiate the conference. The conference will automatically expire after the period of time set in the Unsupervised Conference Timer, set by the [FF1], 3#, 11# address.

See auto pause for PBX line address [FF2], 13#. Auto pause cannot be used if the conference feature is desired when the DBS is used behind a PBX.

The Central Office line program for conferencing, [FF2], 16# must also be set when conferences are allowed.

STATION MESSAGE DETAIL RECORDER (SMDR) REPORT
[FF3], (1-144)#, 14#, (0 OR 1)#

Any extension can be removed from the SMDR report, so that call activity from that port will not be recorded.

To not include extension 100, for example, in the SMDR report, enter:

[FF3], 1#, 14#, 0#

To include extension 100, for example, in the SMDR report, enter:

[FF3], 1#, 14#, 1#

NOTES:

Check the SMDR start timer feature found at program address [FF1], 2#, 1#, 2#. Communication program options that need to be checked when this option is set include all options found under [FF1], 2#, 2#, 1-10#.

CPC-B software version 2.00 should be upgraded to version 2.05 to eliminate two intermittent potential SMDR deficiencies in recording field codes. See Technotes 8 & 12 (March 1992), for complete information.

Off Hook Signal Volume
[FF3], (1-144)#, 15#, (1-4)#

Off-hook signaling volume can be set to either of four different levels.

To set the off hook signal volume to the minimum level on extension 100, for example, enter:

[FF3], 1#, 15#, 1#

To set the off hook signal volume to the next level on extension 100, for example, enter:

[FF3], 1#, 15#, 2#

To set the off hook signal volume to the third level on extension 100, for example, enter:

[FF3], 1#, 15#, 3#

To set the off hook signal volume to the maximum level on extension 100, for example, enter:

[FF3], 1#, 15#, 4#

NOTES:

See alert tone for busy override at address [FF1], 2 #, 1#, 17#.

See off hook signal address [FF3], 7#.
See off hook signal pattern address [FF3], 16#.

Off Hook Signal Pattern
[FF3], (1-144)#, 16#, (0 or 1)#

When off hook signaling is set on an extension, the tone pattern can be sent continuously or only once.

To send a continuous tone pattern for an off hook signal to extension 100, for example, enter:

[FF3], 1#, 16#, 0#

To send a single tone pattern for an off hook signal to extension 100, for example, enter:

[FF3], 1#, 16#, 1#

NOTES:

See alert tone for busy override at address [FF1], 2 #, 1#, 17#.

See off hook signal address [FF3], 7#.
See off hook signal volume address [FF3], 15#.

PSD Name Display
[FF3], (1-144)#, 17#, (0 or 1)#

The large screen telephone can show either 5 or 10 personal speed dial names when this feature is chosen.

To choose to display 5 names on a large display telephone that is at extension 100, for example, enter:

[FF3], 1#, 17#, 0#

To choose to display 10 names on a large display telephone that is at extension 100, for example, enter:

[FF3], 1#, 17#, 1#

NOTE:

When the 10 name option is used, the maximum length of a name is 7 characters.

See address [FF6], 3#, to assign personal speed dial names to personal speed dial numbers.

See address [FF10], 2#, 1-14# to assign personal speed dial numbers to an extension.

Extension Page Group
[FF3], (1-144)#, (18-25)#, (0 or 1)#

If an extension is to be included in one or more of the eight hunt groups, this option needs to be set.

To exclude extension 100 from page group 0, for example, enter:

[FF3], 1#, 18#, 0#

To include extension 100 in page group 1, for example, enter:

[FF3], 1#, 19#, 1#

To exclude extension 100 from page group 2, for example, enter:

[FF3], 1#, 20#, 0#

To include extension 100 in page group 3, for example, enter:

[FF3], 1#, 21#, 1#

To exclude extension 100 from page group 4, for example, enter:

[FF3], 1#, 22#, 0#

To include extension 100 in page group 5, for example, enter:

[FF3], 1#, 23#, 1#

To exclude extension 100 from page group 6, for example, enter:

[FF3], 1#, 24#, 0#

The following program options apply to large-screen display telephones only.

```
DISPLAY WHEN IDLE
[FF3], (1-144)#, 26#, (0-24)#
```

To include extension 100 in page group 7, for example, enter:

[FF3], 1#, 25#, 1#

<u>To reset page group inclusion to the default initialized value, press [FF3], (DBS extension port number)#, (18-25)#, 0#, [ON/OFF].</u>

To display soft key options on the large display telephone (VB-43225), when the phone is in the idle mode, this option must be set.

NOTE

To review the screen prompts associated with the options of this program, see the appendix following this section.

DISPLAY DURING DBS DIAL TONE
[FF3], (1-144)#, 27#, (0-24)#

DISPLAY WHEN CALLING AN EXTENSION
[FF3], (1-144)#, 28#, (0-24)#

To display soft key options on the large display telephone (VB-43225), during the time DBS dial tone is heard, this option must be set.

To display soft key options on the large display telephone (VB-43225), when calling another extension, this option must be set.

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

NOTE:

NOTE:

To review the screen prompts associated with the options of this program, see the appendix following this section.

To review the screen prompts associated with the options of this program, see the appendix following this section.

DISPLAY WHEN ACCESSING CO DIAL TONE
[FF3], (1-144)#, 29#, (0-24)#

To display soft key options on the large display telephone (VB-43225), when accessing a central office line, this option must be set.

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

NOTE

To review the screen prompts associated with the options of this program, see the appendix following this section.

DISPLAY WHEN CONVERSING ON A CO LINE
[FF3], (1-144)#, 30#, (0-24)#

To display soft key options on the large display telephone (VB-43225), when in conversation on central office line, this option must be set.

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

NOTE

To review the screen prompts associated with the options of this program, see the appendix following this section.

DISPLAY WHEN RECEIVING A PAGE
[FF3], (1-144)#, 31#, (0-24)#

DISPLAY AFTER RECEIVING A CALL WAITING TONE
[FF3], (1-144)#, 32#, (0-24)#

To display soft key options on the large display telephone (VB-43225), when receiving a page, this option must be set.

To display soft key options on the large display telephone (VB-43225), when a receiving a call waiting tone, this option must be set.

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

NOTE:

NOTE:

To review the screen prompts associated with the options of this program, see the appendix following this section.

To review the screen prompts associated with the options of this program, see the appendix following this section.

DISPLAY WHEN DIALING AN EXTENSION
[FF3], (1-144)#, 33#, (0-24)#

To display soft key options on the large display telephone (VB-43225), when dialing an extension, this option must be set.

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

NOTE:

To review the screen prompts associated with the options of this program, see the appendix following this section.

EXTENSION DIRECTORY DISPLAY
[FF3], (1-144)#, 34#, (0 OR 1)
(CPC-B, VER. 2.00 OR NEWER)

The large display telephone (VB-43225) can be set to display 5 or 10 extension names after the extension menu has been displayed.

	LCD Menu		LCD Menu
0#	No Change	12#	Function Screen 2
1#	Main Menu	13#	Function Screen 3
2#	Personal Speed Dial	14#	Function Screen 4
3#	System Speed Dial	15#	Function Screen 5
4#	Extension Index	16#	Function Screen 6
5#	Guidance Menu 1	17#	Function Screen 7
6#	Guidance Menu 2	18#	Function Screen 8
7#	Guidance Menu 3	19#	Function Screen 9
8#	Attendant Menu 1	20#	Function Screen 10
9#	Attendant Menu 2	21#	Function Screen 11
10#	Attendant Menu 3	22#	Function Screen 12
11#	Function Screen 1	23#	Function Screen 13
		24#	Function Screen 14

To set an extension port to display 5 extension names, enter

[FF3], (DBS extension port number)#, 34#, 0#

To set extension port 22 for example, to display 10 extension names, enter:

FF3], 22#, 34#, 1#

INBOUND DID DIAL NUMBERS
[FF3], (1-144)#, 35#, (0000-9999)#
(CPC-B, VER. 2.00 TO 3.00)

Direct inward dialed numbers that have been dialed by a caller need to be assigned to extension ports, so that the number dialed will ring on all extensions they are supposed to appear on. A DID number can be set to ring on one extension port only.

To set DID number 0000 to ring on a DBS extension port number, enter:

[FF3], (DBS extension port number)#, 35#, 0000#.

To set DID number 4444 to ring on extension port 50, for example, enter:

[FF3], 50#, 35#, 4444#

NOTE:

This feature has been moved to address [FF1], 8#, 3# in CPC-B software versions 3.00 and newer. This changes provides greater flexibility in the assignment of DID numbers.

EXTENSION CLASS OF SERVICE
[FF3], (1-144)#, 35#, (0-8)#
(CPC-B, VER. 3.00 OR NEWER)

Once extension features have been put into one of 8 possible classes of service in address [FF1], 2#, 5#, a particular class of service has to be assigned to an extension.

To assign all extension features to a DBS extension for example, enter:

[FF3], (DBS extension port number)#, 35#, 0#

To assign class of service 4 to extension port 54, for example, enter:

[FF3], 54#, 35#, 4#

NOTE:

See programming at the [FF1], 2#, 5# address for the list of features that can be applied to a class of service.

```
RINGBACK TONE FROM BUSY SIGNAL
[FF3], (1-144)#, 36#, (0-2)#
(CPC-B, VER 2.00 OR NEWER)
```

The ringback tone a caller hears when arriving at an extension that is busy because the same multi line key is in use by the called party, can be set in this address.

To give the calling party a ringback and busy tone, enter:

[FF3], (DBS extension port number)#, 36#, 0#

To give the calling party a busy signal, enter:

[FF3], (DBS extension port number)#, 36#, 1#

To give the calling party a ringback tone, enter:

[FF3], (DBS extension port number)#, 36#, 2#

```
T1 PORT CLASS—STATION
[FF3], (1-144)#, 37# (1-2 OR 7-8)#
(CPC-B, VER. 4.00 OR NEWER)
```

Assigns a port class to each station port that will access the T1. Port classes are used to assign pad levels to connections made via the T1. (Pad levels control volume.)

By default, DBS phones are assigned a circuit type, based on whether they are KTELs or SLTs.

The circuit type is used with digital pad settings to determine the loss/gain settings for connections to the T1. (See "Digital Pad Setting."

The T1 Port Class parameter is provided in case a specific phone or group of phones needs a unique pad level.

For example, an SLT is assigned by default as "circuit type 2." However, if an SLT in a remote warehouse has inadequate volume levels, the circuit type for the SLT could be changed to 7 (Option 1). Once the SLT is changed to circuit type 7, the pad levels for circuit type 7 could be changed to provide the correct volume setting.

```
NOTE:
```

Circuit types are also provided for trunk ports. See Figure 1 for a definition of circuit types.

This programming parameter will allow you to assign circuit types 1-12 to a station port. However, it should only be changed to circuit type 7 or 8 (Option 1 or 2).

Figure 1 shows circuit-type numbers. Circuit Types 1, 2, 7, and 8 are used to assign port classes to stations.

Figure 1. Circuit-type Numbers	
Circuit Types	**No.**
K-TEL	1
SLT	2
DATA#	3
Analog CO Trk	4
T1 Master	5
T1 Slave	6
OPTION 1*	7
OPTION 2*	8
DTMF#	9
CONF (SCC)#	10
TONE1 (MFR1)#	11
TONE2 (MFR2)#	12

SINGLE LINE TELEPHONE HOOK FLASH
[FF3], (1-144)#, 38#, (0 or 1)#
(CPC-B, ver. 3.00 or newer)

To determine what type of action will occur when an SLT user hook flashes while in conversation with a caller with another caller already on hold, this feature must be set. The two possible types of action are alternately toggling between the party on hold and the party being talked to, or, conferencing the two parties together with the SLT user.

To toggle between the two parties connected to an SLT user, enter:

[FF3], (DBS extension port number)#, 38#, 0#

To conference two parties with the SLT user, enter:

[FF3], (DBS extension port number)#, 38#, 1#

EXTENSION RING PATTERN
[FF3], (1-144)#, 39#, (0-9)#
(CPC-B, VER 3.00 OR NEWER)

To set a distinctive extension ring pattern for central office calls that are set to ring at an extension, this feature must be set. The ring patterns for proprietary DBS phones are different than those of SLT or OPX phones. Either of ten different patterns can be set for an extension.

DIGITAL SLT RECEIVING VOLUME
[FF3], (1-144)#, 40#, (0 OR 1)#
(CPC-B, VER 3.00 OR NEWER)

The handset receive volume of the digital single line telephone can be set to a normal or louder than normal volume. The louder than normal setting gives a +6dB gain over the normal setting, which results in a volume level approximately twice that of the normal setting.

To set the digitial SLT handset receiving volume to the normal level, enter:

[FF3], (DBS extension port number)#, 40#, 0#

To set the digitial SLT handset receiving volume to louder than normal, enter:

[FF3], (DBS extension port number)#, 40#, 1#

	Digital Ring Pattern		Digital Ring Pattern
0#	Depends On CO Setting	5#	1 Second On/ 3 Sceonds OFF
1#	3 Seconds ON/ 1 Second OFF	6#	.5 Second ON/ .5 Second OFF
2#	2 Seconds ON/ 2Seconds OFF	7#	.5 Second ON/ .5 Second OFF, .5 Second ON/ .5 Seconds OFF, .5 Second ON /3.5 Seconds OFF
3#	1 Second ON/ 1 Second OFF	8#	.5 Second ON/ 3.5 Seconds OFF
4#	1 Second ON/ 2 Seconds OFF	9#	1 Second ON/ 7 Seconds OFF

	SLT/OPX Ring Pattern		SLT/OPX Ring Pattern
0#	Depends On SLT Transfer Ring Setting	5#	1 Second On/ 5 Sceonds OFF
1#	3 Seconds ON/ 1 Second OFF	6#	1 Second ON/ 7 Second OFF
2#	2 Seconds ON/ 2Seconds OFF	7#	.5 Second ON/3 .5 Second OFF,
3#	1 Second ON/ 2 Second OFF	8#	.5 Second ON/ 3.5 Seconds OFF
4#	1 Second ON/ 3 Seconds OFF	9#	.5 Second ON/ 3.5 Seconds OFF

AUTO SET RELOCATION CODE
[FF3], (1-144)#, 41#, [0001-9999]#
(CPC-B, VER 3.00 OR NEWER)

This feature enables an extension to be physically moved from one position to another, and to take all features that have been applied to the extension in it's original position, to the new position without doing manual program changes. By applying an auto set relocation code to a phone, and using this code when an extension is moved, extension moving is efficient and quick.

To apply no auto set relocation code to an extension port, enter:

[FF3], (DBS extension port number)#, 41#, [CONF]

To apply an auto set relocation code of 7777 to extension port 45, for example, enter:

[FF3], 45#, 41#, 7777#

NOTES:

The auto set relocation code is applied to the original extension being moved. After the extension is plugged into the new port position, press ON/OFF, #10, (original DBS port number)#, then the (4 digit auto set relocation code number). After the process is complete, reset the phone on the new port by disconnecting the modular plug, and reconnecting it. The original port position converts to a "0" type. The transfer of phones between digital and analog ports cannot be done. The transfer of phones between analog ports, or between digital ports can be done.

> ## PERMANENT CALL FORWARD TYPE
> [FF3], (1-144)#, 42#, (0-3)#
> CPC-B, VER. 3.00 OR NEWER)

An extension can be set in a permanent call forward setting. This feature is mainly for use with peripheral equipment (specifically voice mail applications), where it is desired to have an extension ring for a period of time, and then always forward to the same extension port.

To not have an extension permanently call forwarded for all calls, enter:

[FF3], (DBS extension port number)#, 42#, 0#

To turn permanent call forwarding off, enter:

[FF3], (DBS extension port number)#, 42#, 1#

To have an extension permanently call forwarded when an extension user is busy, enter:

[FF3], (DBS extension port number)#, 42#, 2#

To have an extension permanently call forwarded when an extension user does not answer, enter:

[FF3], (DBS extension port number)#, 42#, 3#

> ### NOTE:

Permanent call forwarding can be overridden by call forwarding set at the extension level.

> ## PERMANENT CALL FORWARD EXTENSION
> [FF3], (1-144)#, 43#, (100-699)#
> (CPC-B, VER. 3.00 OR NEWER)

If permanent call forwarding is applied, an extension number must be set as the target of forwarded calls. This address sets the call forward target.

If permanent call forwarding is not enabled, no call forwarding extension is required. The default initialized value of this adddress would then be:

[FF3], (DBS extension port number)#, 43#, [CONF].

To set extension number 333 as the target extension of calls from source extension number 105, enter:

[FF3], 105#, 43#, 333#

ML/MCO SEPARATION
[FF3], (001-144)# , 44#, (0 OR 1)#
(CPC-B, VER. 4.00 OR NEWER)

As of CPC-B Version 4, extensions can have MCO or ML keys. In previous versions, the keys were available on a system-wide basis. The type of key available differed with the software release. In this parameter, "(001-144)" represents the extension port number. In "0 or 1," "0" represents the MCO keys and "1" represents the ML keys. The following table shows MCL/ML availability.

Note:

1. The initial setting for all extensions (except the first attendant phone) is MCO.
2. The initial setting for the first attendant phone (port 1) is ML.

CPC Version	Type of Key
CPC-A	MCO only
CPC-B 1.0	MCO only
CPC-B 2.0 - 3.1	ML only
CPC-B 4.0 and above	MCO or ML

Large display screen APPENDIX

The following are the possible screen appearances of the large display telephone (VB-43225), when any of the 25 screen selections are chosen for a particular telephone condition. Some screens can not be set to display during certain telephone conditions if the prompts are not relevant to the conditions of the phone.

"No Change"
[FF3], (DBS ext. port number)#, (26-33)#, 0#

"Main Menu"
[FF3], (DBS ext. port number)#, (26-33)#, 1#

```
09:51  Thu  APR  02
     RICH            604
  > PERSONAL  DIAL         <
  > SYSTEM  DIAL           <
  > EXTENSION              <
  > FUNCTION               <
  > GUIDANCE               <
```

"Personal Speed Dial"
[FF3], (DBS ext. port number)#, (26-33)#, 2#

```
09:51  Thu  APR  02
     RICH            604
  > - PSD90    - PSD95   <
  > - PSD91    - PSD96   <
  > - PSD92    - PSD97   <
  > - PSD93    - PSD98   <
  > - PSD94    - PSD99   <
```

"System Speed Dial"
[FF3], (DBS ext. port number)#, (26-33)#, 3#

```
09:51  Thu  APR  02
     RICH            604
  > SSD  DIRECTORY         <
  > ABC              MNO   <
  > DEF              PQRS  <
  > GHI              TUV   <
  > JKL              WXYZ  <
```

"Extension Index"
[FF3], (DBS ext. port number)#, (26-33)#, 4#

```
09:51  Thu  APR  02
     RICH            604
  > EXT.  DIRECTORY        <
  > ABC              MNO   <
  > DEF              PQRS  <
  > GHI              TUV   <
  > JKL              WXYZ  <
```

"Guidance Menu 1"
[FF3], (DBS ext. port number)#, (26-33)#, 5#

```
09:51  Thu  APR  02
     RICH            604
  > Absence    Message    <
  > ACCT  Code  Entry      <
  > Station  Lockout       <
  > Time  Reminder         <
  > FF-Key  Setting        <
```

"Guidance Menu 2"

[FF3], (DBS ext. port number)#, (26-33)#, 6#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H                6 0 4
>   P S D   N a m e / N o .   S e t   <
>   C F W D   A l l _ C a l l         <
>   C F W D   N o _ A n s w e r       <
>   C F W D   O n _ B u s y           <
>   C F W D   O U T S I D E           <
```

"Guidance Menu 3"

[FF3], (DBS ext. port number)#, (26-33)#, 7#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H                6 0 4
>   P r o g r a m m i n g   M o d e   <
>   P a r k   H o l d i n g           <
>   D o n ' t   D i s t u r b         <
>   S a v e   D i a l i n g           <
>   B G M   S e t t i n g             <
```

"Attendant Menu 1"

[FF3], (DBS ext. port number)#, (26-33)#, 8#
Attendant only

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H                6 0 4
>   * * A t t . F e a t u r e s * *   <
>   T i m e r   S e t t i n g         <
>   T i m e r   A d j u s t m e n t   <
>   A t t e n d a n t   C a n c e l   <
>   D a y / N i g h t   M o d e       <
```

"Attendant Menu 2"

[FF3], (DBS ext. port number)#, (26-33)#, 9#
Attendant only

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H                6 0 4
>   S S D   N a m e / N o .   S e t   <
>   E X T   N a m e   S e t t i n g   <
>   M A I N T E .   C o d e   S e t   <
>   K e y   C o d e   S e t t i n g   <
>   D I S A   C o d e S e t t i n g   <
```

"Attendant Menu 3"

[FF3], (DBS ext. port number)#, (26-33)#, 10#
Attendant only

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H                6 0 4
>   P r o g r a m m i n g   M o d e   <
>   O u t g o i n g   A m o u n t     <
>   I n c o m m i n g   A m o u n t   <
>   U s e   S S D   A m o u n t       <
>                                     <
```

"Function Screen 1"

[FF3], (DBS ext. port number)#, (26-33)#, 11#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H                6 0 4
>   B G M   O f f           M u t e   <
>   D N D             L o c k o u t   <
>   R e m i n d e r           M a i l <
>   A b s e n c e           B r o a d <
>   C A L L F W D   C a n c e l       <
```

"Function Screen 2"

[FF3], (DBS ext. port number)#, (26-33)#, 12#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H              6 0 4
> D i a l   T o n e   O F F        <
> H e a d s e t                    <
> M e s s a g e   C a l l b a c k  <
> M e s s a g e   C a n c e l      <
> C o n f i r m a t i o n          <
```

"Function Screen 3"

[FF3], (DBS ext. port number)#, (26-33)#, 13#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H              6 0 4
> P a g e   A n s w e r            <
> Z o n e   1        Z o n e   5   <
> Z o n e   2        Z o n e   6   <
> Z o n e   3        Z o n e   7   <
> Z o n e   4    A l l   Z o n e   <
```

"Function Screen 4"

[FF3], (DBS ext. port number)#, (26-33)#, 14#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H              6 0 4
> C o n f e r e n c e   M u t e    <
> T o n e                          <
> S e t   M e s s a g e            <
> T r a n s f e r                  <
> R e l e a s e                    <
```

"Function Screen 5"

[FF3], (DBS ext. port number)#, (26-33)#, 15#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H              6 0 4
> S a v e            M u t e       <
> R e p e a t                      <
> D T M F   C o n v                <
> R e l e a s e                    <
> A C C T   C o d e   E n t r y    <
```

"Function Screen 6"

[FF3], (DBS ext. port number)#, (26-33)#, 16#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H              6 0 4
> S e t   C a l l   W a i t i n g  <
> S e t   M e s s a g e            <
> S e t   C o _ Q u e u i n g      <
> B u s y   O v e r r i d e        <
> R e l e a s e                    <
```

"Function Screen 7"

[FF3], (DBS ext. port number)#, (26-33)#, 17#

```
0 9 : 5 1   T h u   A P R   0 2
    R I C H              6 0 4
> A C C T   C o d e   e n t r y    <
> L C R   C a l l   D i r e c t    <
> T R K - G 8 1    T R K - G 8 4   <
> T R K - G 8 2    T R K - G 8 5   <
> T R K - G 8 3    T R K - G 8 6   <
```

123

"Function Screen 8"
[FF3], (DBS ext. port number)#, (26-33)#, 18#

```
09:51  Thu  APR  02
  RICH            604
> UNA-Pick-Up         <
> Group Pick-Up       <
> Direct Pick-Up      <
> Page   Pick-Up      <
>                     <
```

"Function Screen 9"
[FF3], (DBS ext. port number)#, (26-33)#, 19#

```
09:51  Thu  APR  02
  RICH            604
> MCO-CALL      MUTE  <
> LCR-CALL      PAGE  <
> PSD-DIR       TONE  <
> SSD-DIR             <
> EXT-DIR             <
```

"Function Screen 10"
[FF3], (DBS ext. port number)#, (26-33)#, 20#

```
09:51  Thu  APR  02
  RICH            604
> Message      Mute   <
> Transfer     DND    <
> Release      Tone   <
> Conference   Park   <
>                     <
```

"Function Screen 11"
[FF3], (DBS ext. port number)#, (26-33)#, 21#

```
09:51  Thu  APR  02
  RICH            604
> Repeat       Release <
> DTMF-Conv.    Mute   <
> ACCT Code Entry      <
> SSD-DIR   EXT-DIR    <
> PSD-DIR              <
```

Function Screen 12"
[FF3], (DBS ext. port number)#, (26-33)#, 22#

```
09:51  Thu  APR  02
  RICH            604
> Save          Mute   <
> PSD-DIR   Release    <
> SSD-DIR   Transfer   <
> Conf.     Reminder   <
> ACCT Code Entry      <
```

"Function Screen 13"
[FF3], (DBS ext. port number)#, (26-33)#, 23#

```
09:51  Thu  APR  02
  RICH            604
> Page-Answer  Mute   <
> Headset       UNA   <
> Tone      EXT-DIR   <
>           PSD-DIR   <
>           SSD-DIR   <
```

"Function Screen 14"

[FF3], (DBS ext. port number)#, (26-33)#, 24#

```
┌─────────────────────────────┐
│ 0 9 : 5 1   T h u   A P R   0 2 │
│     R I C H             6 0 4    │
│ T a l k b a c k         D N D   │
│ R e l e a s e           P a r k │
│ C o n f e r e n c e             │
│ T r a n s f e r                 │
│                                 │
└─────────────────────────────┘
```

"Function Screen 15"

[FF3], (DBS ext. port number)#, (26-33)#, 25#

```
┌─────────────────────────────┐
│ 0 9 : 5 1   T h u   A P R   0 2 │
│     R I C H             6 0 4    │
│ H O L D I N G   N O T H I N G   │
│                                 │
│ T R F - T O                     │
│                                 │
│ W A I T : 0 0                   │
└─────────────────────────────┘
```

125

3-4 RING & HUNT GROUP PROGRAMMING

CENTRAL OFFICE DAY RING ASSIGNMENTS
[FF4], 1#, (1-145)#, (1-64)#, (0 or 1)#

Central office line "day mode" ring assignments for all extensions are set with this option.

To set extension 120 not to ring on central office line 19 when the DBS is in the "day mode", for example, enter:

[FF4], 1#, 1#, 19#, 0#

To set extension 120 to ring on central office line 50 when the DBS is in the "day mode", for example, enter:

[FF4], 1#, 1#, 50#, 1#

Default initialized values for DBS extension port 1 is: [FF4], 1#, 1#, (1-64)#, 1#, [ON/OFF], and for extension port 2 is: [FF4], 1#, 2#, (1-64)#, 1#, [ON/OFF].

NOTES:

If an outbound central office call is made from an extension that is not set to ring on for any inbound central office line calls, the automatic answer option will not function. To answer inbound central office line calls, press the flashing green line key. To pick up a central office line call that is ringing at another telephone, use the Directed call pickup or Group call pickup options. Port number 145 is used to assign ringing to the external page / UNA interface. All unassigned ringing trunks will be directed to the attendant.

CENTRAL OFFICE DAY RING ASSIGNMENTS FOR HUNT GROUP PILOT NUMBERS (CPC-B, ver. 2.00 or newer)
[FF4], 1#, (151-158)#, (1-64)#, (0 or 1)#

Central office line "day mode" ring assignments for all hunt group pilot numbers are set with this option.

To set pilot number 600 (which has been assigned as the pilot number for hunt group 3, in this example) not to ring on central office line 14 when the DBS is in the "day mode", for example, enter:

[FF4], 1#, 153#, 14#, 0#

To set pilot number 500 (which has been assigned as the pilot number for hunt group 1, in this example) to ring on central office line 10 when the DBS is in the "day mode", for example, enter:

[FF4], 1#, 151#, 10#, 1#

**CENTRAL OFFICE NIGHT RING ASSIGNMENTS
[FF4], 2#, (1-145)#, (1-64)#, (0 OR 1)**

Central office line "night mode" ring assignments for all extensions are set with this option.

To set extension 120 not to ring on central office line 19 when the DBS is in the "night mode", for example, enter:

[FF4], 2#, 21#, 19#, 0#

To set extension 120 to ring on central office line 50 when the DBS is in "night mode", for example, enter:

[FF4], 2#, 21#, 50#, 1#

Default initialized values for DBS extension port 1 is: [FF4], 2#, 1#, (1-64)#, 1#, [ON/OFF], and for extension port 2 is: [FF4], 2#, 2#, (1-64)#, 1#, [ON/OFF].

NOTES:

If an outbound central office call is made from an extension that is not set to ring on for any inbound central office line calls, the automatic answer option will not function. To answer inbound central office line calls, press the flashing green line key. To pick up a central office line call that is ringing at another telephone, use the Directed call pickup or Group call pickup options.
Port number 145 is used to assign ringing to the external page / UNA interface.

**CENTRAL OFFICE NIGHT RING ASSIGNMENTS
FOR HUNT GROUP PILOT NUMBERS
(CPC-B, VER. 2.00 OR NEWER)
[FF4], 2#, (151-158)#, (1-64)#, (0 OR 1)#**

Central office line "night mode" ring assignments for all hunt group pilot numbers are set with this option. The address numbers 151-158 refer to hunt group numbers 1-8.

To set pilot number 300 (which has been assigned as the pilot number for hunt group 2, in this example) to ring on central office line 13 when the DBS is in the "night mode", for example, enter:

[FF4], 2#, 152#, 13#, 1#

To set pilot number 350 (which has been assigned as the pilot number for hunt group 4, in this example) not to ring on central office line 17 when the DBS is in the "night mode", for example, enter:

[FF4], 2#, 154#, 17#, 0#

To reset central office night ring assignments for pilot numbers to the default initialized value, press [FF4], 2#, 151-158#, (central office port number)#, 0#, [ON/OFF].

> ## TERMINAL / CIRCULAR HUNT GROUPS
> ## [FF4], 3#, (1-8)#, 1#, (0 OR 1)#
> ## (CPC-B, VER. 1.07 OR OLDER)

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 central office line set to ring at the first extension in the group in order for the terminal hunt feature to work.

If the first extension of 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 will hear a busy tone, a non transferred central office line 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 the tip and ring. This will busy the port, and allow it to be used as a "pilot number" for the remaining extensions in the group. Direct calls to members of the hunt group will not hunt to other members of the group if the called extension is busy.

Circular Hunt Group Operation

Circular Hunting is performed when any extension in the group is ringing and left unanswered. The ringing can originate from tranferred, or extensions assigned to ring for outside lines. No pilot number is provided for this type of hunting.

The hunting will follow the next member in the hunt group until the end of the hunt group is reached. When the end of the hunt group is reached the call will then be directed back to the first member until one full circle has been completed. At this point of time the call will overflow to the next hunt group assigned.

If all the extensions in the group are busy, an internal caller will hear a busy tone, a non transferred central office line caller will hear ring tone. If additional feature options are chosen, the search will continue with an additional hunt group(s).

To set hunt group 5, for example, to terminal type, enter:

[FF4], 3#, 5#, 1#, 0#

To set hunt group 4, for example to circular type, enter:

[FF4], 3#, 4#, 1#, 1#

NOTES:

If all extensions are busy, an incoming call will wait for an available extension. If an extension within either type of hunt group is set with an absence message, with a call forward feature, or to DND, the hunt feature will skip that extension, and procede to the next extension within the group. If the first extension within either type of hunt group is set with an absence message, with a call forward feature, or to DND, the hunt feature will not work.

If a SLT hunt group member takes a central office line call, puts it on hold, and replaces the handset, additional central office line calls will not hunt to idle extensions.

Previously searched hunt groups cannot be searched again. If all members of all searched groups are busy, the call will be parked for the first group searched *only.*

Central office lines that are set to ring at extensions set to call forward to a hunt group will *not* call forward to extension types 10 and 15.

An extension that is a member of a hunt group cannot be a member of another hunt group, nor a member of a call coverage group. The off hook signaling [FF3]-16 address should be removed from members in a hunt group.

PILOT EXTENSION NUMBER
[FF4],3#,(1-8)#,1#,(101-699)#
[CPC-B, VER. 2.00 OR NEWER]

A maximum of 8 extension numbers can be assigned to work as one of a maximum of 8 pilot numbers. One pilot number can be used as the lead number for each of the 8 hunt groups.

To assign extension number 255, for example, as a pilot number for the first hunt group, enter:

[FF4], 3#, 1#, 1#, 255#

To assign no extension number (and therefore no pilot number), for example, for the first hunt group, enter:

[FF4], 3#, 1#, 1#, conf,#

To assign extension number 110, for example, as a pilot number for the second hunt group, enter:

[FF4], 3#, 2#, 1#, 110#

To assign extension number 300, for example, as a pilot number for the third hunt group, enter:

[FF4], 3#, 3#, 1#, 300#

To assign extension number 699, for example, as a pilot number for the fourth hunt group, enter:

[FF4], 3#, 4#, 1#, 699#

To assign extension number 600, for example, as a pilot number for the fifth hunt group, enter:

**CALL NEXT HUNT GROUP
[FF4], 3#, (1-8)#, 2#, (1-8)#**

FF4], 3#, 5#, 1#, 600#

To assign extension number 199, for example, as a pilot number for the sixth hunt group, enter:

[FF4], 3#, 6#, 1#, 199#

To assign extension number 400, for example, as a pilot number for the seventh hunt group, enter:

[FF4], 3#, 7#, 1#, 400#

To assign extension number 255, for example, as a pilot number for the eighth hunt group, enter:

[FF4], 3#, 8#, 1#, 255#

To reset the pilot extension number assignment for any hunt group, press [FF4] 3#, (hunt group number 1-8)#, 1#, [CONF], [ON/OFF].

If all the extensions in a particular hunt group are busy, the call can be automatically transferred to another hunt group. A call to hunt group 3 could be made to overflow to hunt group 5, if all the extensions in group 3 are busy. If all extensions in the overflow group are also busy, the call will revert back to group 3, and continue to search extensions until one becomes available.

To set hunt group 3 to overflow to hunt group 5, for example, enter:

[FF4], 3#, 3#, 2#, 5#

To set hunt group 4 not to overflow to any other hunt group, for example, enter:

[FF4], 3#, 4#, 2#, [CONF]

To reset hunt group overflow for a particular hunt group to the default initialized value, press [FF4], 3#, (hunt group number)#, 2#, [CONF], [ON/OFF].

HUNT GROUP MEMBER TABLE
[FF4], 3#, (1-8)#, (3-10)#, (100-699)#

Use this option to insert an extension in a specific position of one of the eight hunt groups. A maximum of 8 extensions can be put into a hunt group.

To place extension number 500 in the first hunt group's first position, enter:

[FF4], 3#, 1#, 3#, 500#

	Ext #
[FF4], 3#, (1-8)#, (3)#, (100-699)# 1st member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (4)#, (100-699)# 2nd member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (5)#, (100-699)# 3rd member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (6)#, (100-699)# 4th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (7)#, (100-699)# 5th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (8)#, (100-699)# 6th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (9)#, (100-699)# 7th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (10)#, (100-699)# 8th member for hunt groups (1-8)	xx or xxx , #

To reset an extension to it's default initial-ized hunt group value, press: [FF4], 3# (DBS hunt group number)#, (DBS hunt group position)#, [CONF]#, [ON/OFF].

NOTES

An extension that is a member of a hunt group cannot be a member of another hunt group, nor a member of a call coverage group. The off hook signaling [FF3]-16 address should be removed from members in a hunt group.

HUNT GROUP SEARCH METHOD
[FF4], 3#, (1-8)#, 2#, (0-2)#
(CPC-B, ver. 2.00 or newer)

The type of extension search that is used once the call is connected to a hunt group can be set to terminal, distributed, or longest idle.

Terminal Hunt Group Operation

The call must be transferred or a central office line must be set to ring at the pilot number of the hunt group in order for the terminal hunt feature to work.

The hunt begins with the pilot number, and sequentially moves through the eight extensions. If all the extensions in the group are busy, the hunt for a free extension will terminate.

If the pilot number of another hunt group, or same hunt group, is specified, the search will continue with an additional hunt group(s). If not, the caller will receive a busy tone.

Distributed Hunt Group Operation

The call must be transferred or a central office line must be set to ring at the pilot number of the hunt group in order for the distributed hunt feature to work. The hunt begins at the extension after the last one to pick up the previous caller, and continues in a circular manner for successive calls.

If the pilot number of another hunt group is specified, the search will continue with an additional hunt group(s). If not, the caller will receive a busy tone.

131

TRANSFER EXTENSION NUMBER
[FF4], 3#, (1-8)#, 3#, (100-699)#
(CPC-B, vers. 2.00 or newer)

Longest Idle Hunt Group Operation

The call can be transferred or a central office line must be set to ring at the pilot number of the hunt group in order for the longest idle hunt group feature to work.
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. If the pilot number of another hunt group is specified, the search will continue with an additional hunt group(s). If not, the caller will receive a busy tone.

To set hunt group 1, to the terminal search method, for example, enter:

[FF4], 3#, 1#, 2#, 0#

To set hunt group 2, to the distributed search method, enter:

[FF4], 3#, 2#, 2#, 1#

To set hunt group 3, to the longest idle search method, enter:

[FF4], 3#, 3#, 2#, 2#

Once all extensions in a hunt group have been searched, the caller can be transferred to the pilot number of a different hunt group, an individual extension, the attendant, or an SLT device. This option sets the extension number that the call will be transferred to, in the event of an overflow from the hunt group.

To set extension number 600 as the overflow extension after a call has overflowed hunt group 3, for example, enter:

[FF4], 3#, 3#, 3#, 600#

To set the overflow extension from any hunt group to the default initialized value, press [FF4], 3#, (DBS hunt group number)#, 3#, 0#, [ON/OFF].

TRANSFER TIMER
[FF4], 3#, (1-8)#, 4#, (0-32)#
(CPC-B, VER. 2.00 OR NEWER)

To set the maximum amount of time before the caller overflows to an extension or additional hunt group, this option must be set.

	Time		Time
0#	Disabled	17#	17 Seconds
1#	1 Second	18#	18 Seconds
2#	2 Seconds	19#	19 Seconds
3#	3 Seconds	13#	13 Seconds
4	4 Seconds	20#	20 Seconds
5#	5 Seconds	21#	21 Seconds
6#	6 Seconds	22#	22 Seconds
7#	7 Seconds	23#	23 Seconds
8#	8 Seconds	24#	24 Seconds
9#	9 Seconds	25#	25 Seconds
10#	10 Seconds	26#	26 Seconds
11#	11 Seconds	27#	27 Seconds
12#	12 Seconds	28#	28 Seconds
13#	13 Seconds	29#	29 Seconds
14#	14 Seconds	30#	30 Seconds
15#	15 Seconds	31 #	31 Seconds
16#	16 Seconds	32 #	32 Seconds

To set the transfer timer for hunt group 1 to 10 seconds, for example, enter:

[FF4], 3#,1#, 4#, 10#

NOTE:

Versions older than 2.11 do not have program settings 0 or 1.

HUNT GROUP EXTENSION NUMBER
[FF4], 3#, (1-8)#, (5-12)#, (100-699)#
(CPC-B, VER. 2.00 OR NEWER)

To assign an extension to an exact position within a hunt group, this option must be used.

To place extension 300 in hunt group 1, in the first position, for example, enter:

[FF4], 3#, 1#, 5#, 300#

To reset an extension to the default initialized DBS hunt group setting, press [FF4], 3#, (DBS hunt group number)#, (Position within hunt group)#, [CONF]#, [ON/OFF].

	Ext #
[FF4], 3#, (1-8)#, (5)#, (100-699)# 1st member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (6)#, (100-699)# 2nd member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (7)#, (100-699)# 3rd member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (8)#, (100-699)# 4th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (9)#, (100-699)# 5th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (10)#, (100-699)# 6th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (11)#, (100-699)# 7th member for hunt groups (1-8)	xx or xxx , #
[FF4], 3#, (1-8)#, (12)#, (100-699)# 8th member for hunt groups (1-8)	xx or xxx , #

An extension can be assigned to any position within any one of the 16 call coverage groups in the system. Each group has a maximum of 8 extensions, comprising 6 member extensions and 2 secretarial covering extensions.

To set extension 100 as the first secretary call coverage member of call coverage group 1, for example, enter:

[FF4], 4#, 1#, 1#, 100#

	Ext-#
[FF4], 4#, (1-16)#, (1)#, Coverage group # Secretary #1	xx or xxx , #
[FF4], 4#, (1-16)#, (2)#, Coverage group # Secretary #2	xx or xxx , #
[FF4], 4#, (1-16)#, (3)#, Coverage group # Member #1	xx or xxx , #
[FF4], 4#, (1-16)#, (4)#, Coverage group # Member #2	xx or xxx , #
[FF4], 4#, (1-16)#, (5)#, Coverage group # Member #3	xx or xxx , #
[FF4], 4#, (1-16)#, (6)#, Coverage group # Member #4	xx or xxx , #
[FF4], 4#, (1-16)#, (7)#, Coverage group # Member #5	xx or xxx , #
[FF4], 4#, (1-16)#, (8)#, Coverage group # Member #6	xx or xxx , #

To reset call coverage groups to the default initialized settings, press [FF4], 4#, (call coverage group)#, (position within coverage group)#, [CONF].

NOTES:

An extension can not be a member of a hunt group, as well as a member of any other call coverage group. The second covering extension becomes active only when the first covering extension is set for Do-Not-Disturb.

Central office line "day mode" delayed ring assignments for all extensions are set with this option. When inbound central office line calls are not answered in the time set in the Call-Forward/No-Answer/Delayed-Ring timer, the delayed ring assignments are utilized.

To set port 115 for no delayed ring in the day mode on line 6, for example, enter:

[FF4], 5#, 115#, 6#, 0#

To set extension 110 to delayed ring in the day mode on line 22, for example, enter:

[FF4], 5#, 110#, 22#, 1#

NOTE:

Inclusion of the first-attendant position in the delayed-ring tables, will disable the attendant-overflow feature.

If the delayed ring function is enabled and no extensions are assigned, or capable of ringing (DND, unpluged, etc...), the ringing line will automatically ring the attendant.

> **Central Office Delayed Day Ring Assignments for Hunt Group Pilot Numbers**
> **[FF4], 5#, (151-158)#, (1-64)#, (0 or 1)**
> **[CPC-B ver. 2.00 or newer]**

Central office line "day mode" delayed ring assignments for pilot numbers of hunt groups are set with this option. When inbound central office line calls are not answered in the time set in the Call-Forward/No-Answer/Delayed-Ring timer, the delayed ring assignments are utilized.

To set the pilot number for hunt group 1 for no delayed ring in the day mode on line 22, for example, enter:

[FF4], 5#, 151#, 22#, 0#

To set the pilot number for hunt group 2 for delayed ring in the day mode on line 15, for example, enter:

[FF4], 5#, 152#, 15#, 1#

> **Central Office Delayed Night Ring Assignments**
> **[FF4], 6#, (1-145)#, (1-64)#, (0 or 1)**
> **[CPC-B, ver. 2.00 or newer]**

Central office line "night mode" delayed ring assignments for all extensions are set with this option. When inbound central office line calls are not answered in the time set in the Call-Forward/No-Answer/Delayed-Ring timer, the delayed ring assignments are utilized.

To set extension 120 for no delayed ring in the night mode on line 3, for example, enter:

[FF4], 6#, 120#, 3#, 0#

To set extension 400 to delayed ring in the night mode on line 20, for example, enter:

[FF4], 6#, 120#, 3#, 1#

NOTE:

Inclusion of the first-attendant position in the delayed-ring tables, will disable the attendant-overflow feature.

If the delayed ring function is enabled and no extensions are assigned, or capable of ringing (DND, unpluged. etc...), the ringing line will automatically ring the attendant.

CENTRAL OFFICE DELAYED NIGHT RING ASSIGNMENTS FOR HUNT GROUP PILOT NUMBERS [FF4], 6#, (151-158)#, (1-64)#, (0 or 1)# (CPC-B, VER. 2.00 OR NEWER)

Central office line "night mode" delayed ring assignments for pilot numbers of hunt groups are set with this option. When inbound central office line calls are not answered in the time set in the Call-Forward/No-Answer/Delayed-Ring timer, the delayed ring assignments are utilized.

To set the pilot number for hunt group 4 for delayed ring in the night mode on line 28, for example, enter:

[FF4], 6#, 154#, 28#, 0#

To set the pilot number for hunt group 1 for no delayed ring in the night mode on line 10, for example, enter:

[FF4], 6#, 151#, 10#, 1#

EXTENSION RING TABLE [FF4], 7#, (001-144)#, (001-144)#, (0 or 1)# (CPC-B, VER. 2.00 OR NEWER)

Extensions th at have a DSS/BLF key assignment for other DBS extensions can be set to ring on those keys for any type of call that is directed to the other extensions. This feature allows a second extension user to answer a ringing call to an absent extension position(s) by accessing the DSS/BLF key on their phone that represents the other extension position(s). The first extension enumerated in the address is the target extension, and the second is the source extension.

To set extension port 15 not to ring for calls directed to extension port 44, enter:

[FF4], 7#, 44#, 15#, 0#

To set extension port 1 to ring for calls directed to extension port 60, enter:

[FF4], 7#, 60#, 1# 1#

> **EXTENSION DELAYED RING TABLE**
> [FF4],8#,(001-144)#,(001-144)#,(0or1)
> (CPC-B, ver. 2.00 or newer)

Extensions that have a DSS/BLF key assignment for other DBS extensions can be set to delayed ring on those keys for any type of call that is directed to the other extensions. This feature allows a second extension user to answer a ringing call on a delayed basis to an absent extension position(s) by accessing the DSS/BLF key on their phone that represents the other extension position(s).The first extension enumerated in the address is the target extension, and the second is the source extension.

To set extension port 13 not to delay ring for calls directed to extension port 44, enter:

<u>[FF4], 8#, 44#, 13#, 0#</u>

To set extension port 5 to delay ring calls directed to extension port 40, enter:

[FF4], 8#, 40#, 5# 1#

3-5 FLEXIBLE KEY PROGRAMMING FOR LINES & FEATURES

FF Key Assignments for Extensions [FF5], (1-144)#, (1-24)#, (Code)#

Each flexible feature key on the telephones and EM24 consoles can be programmed with a code so that pressing it will perform the function associated with the code assigned to the key.

To set extension port 120, FF key number 5, to be an Alarm key, for example, enter:

[FF5], 120#, 5#, [FF12], 4#

To set extension port 55, FF key number 10, to be a call forward/all calls key, for example, enter:

[FF5], 55#, 10#, 720#

<u>To reset the FF extension keys to an unassigned value, (which must be done before a feature can be applied to a defaulted CO line key), press [FF5], (1-144)#, (1-24)#, [CONF], [ON/OFF].</u>
<u>To reset FF Extension keys to the default initialized value, press [FF5], (1-144)#, (1-24)#, (DBS CO line number that is the same as the key number on the phone)#.</u>
<u>When using CPC-B software later than ver. 2.00, the default values for all keys on the attendant positions default to Pooled Trunk 89 keys.</u>

Key Code Assignments

71#	Absence Msg
[FF12], 7#	Accountant Code
[FF12], 4#	Alarm
[FF11], 1#	Answer Key
[FF12], 53#	BGM
720#	C-F/All Calls
721#	C-F/Busy,NA
722#	C-F/Busy
723#	C-F/CO Line
724#	C-F/NA (CPC-B ver 2.00 or newer)
79#	Direct Call Pickup
70#	Group Call Pickup
01-64#	CO Lines
73#	DND
[PROG], 10-69#	2 digit Extensions
[PROG], 100-699#	3 digit Extensions
[FF12], 51#	Headset
[FF12], 8#	Intercom Key
[FF12], 50#	Internal Dial Tone
89#	Stop LCR
77#	Meet Me Answer
[FF11],[FF12]#	Mute
[FF12], 52#	Night Mode
[FF12], 00-07#	Page
75#	Park Hold
81-86,89#	MCO Access
[FF11], 2#	Release
74#	Extension Lockout
[AUTO], 00-89#	SSD Key
[AUTO], 90-99#	PSD Key
[FF11], 3#	Talk Back
78#	UNA Pickup
[PROG], [PROG], xxxxxx	Any Key
[AUTO], [REDIAL]	Auto Redial to Ext.
81-86, 89	Multiple Loop (limited to 3 per extension, 12 per attendant) (CPC-B ver 2.00 or newer)

FF Key Assignments for DSS Consoles
[FF5], (145-148)#, (1-72)#, (Code)# CPC-B
[FF5], (73-76)#, (1-72)#, (Code)# CPC-A

NOTES:

The default numbering scheme on extension FF keys is layed out starting from bottom left and ending at top right. All FF keys default to LCR/MCO keys.

Only the first 24 FF keys will light for CO lines that are assigned to them, the remaining keys on any extension having that many FF keys will not light if CO line assignments have been given to them.

Since the ✳ and # keys on the dial pad are used for entering data, when the use of these symbols are required for feature codes, [FF11] provides the ✳ and [FF12] provides the #. When entering these symbols by using the FF keys, the display will not indicate that any data was entered.

To program several telephones with the same key layout, see [FF9] programming.

Each flexible feature key on the DSS console can be programmed with a code so that pressing it will perform the function associated with the code assigned to the key.

To set DSS console 1, FF key number 25, to be a BGM key, for example, enter:

[FF5], 145#, 25#, [FF12], 53#

To set DSS console 2, FF key number 44, to be a call forwarded all call key, for example, enter:

[FF5], 146#, 44#, 720#

To reset DSS Console 1 & 2 keys to the default initialized value, press [FF5], (145-148)#, (1-72)#, (DBS extension number)#. DSS Consoles 3 & 4 have no default values set.
To reset the DSS Console keys to an unassigned value, press [FF5], (145-148)#, (1-144)#, [CONF], [ON/OFF].

KEY CODE ASSIGNMENTS

71#	Absence Msg
[FF12], 7#	Accountant Code
[FF12], 4#	Alarm
[FF11], 1#	Answer Key
[FF12], 53#	BGM
720#	C-F/All Calls
721#	C-F/Busy.NA
722#	C-F/Busy
723#	C-F/CO Line
724#	C-F/NA (CPC-B ver 2.00 or newer)
79#	Direct Call Pickup
70#	Group Call Pickup
01-64#	CO Lines
73#	DND
[PROG], 10-69#	2 digit Extensions
[PROG], 100-699#	3 digit Extensions
[FF12], 51#	Headset
[FF12], 8#	Intercom Key
[FF12], 50#	Internal Dial Tone
89#	Stop LCR
77#	Meet Me Answer
[FF11],[FF12]#	Mute
[FF12], 52#	Night Mode
[FF12], 00-07#	Page
75#	Park Hold
81-86,89#	MCO Access
[FF11], 2#	Release
74#	Extension Lockout
[AUTO], 00-89#	SSD Key
[AUTO], 90-99#	PSD Key
[FF11], 3#	Talk Back
78#	UNA Pickup
[PROG], [PROG], xxxxxx	Any Key
[AUTO], [REDIAL]	Auto Redial to Ext.
81-86, 89	Multiple Loop (limited to 3 per extension, 12 per attendant) (CPC-B ver 2.00 or newer)

NOTES:

The default numbering scheme on extension FF keys is layed out starting from bottom left and ending at top right. All FF keys default to LCR/MCO keys.

Only the first 24 FF keys will light for CO lines that are assigned to them, the remaining keys on any extension having that many FF keys will not light if CO line assignments have been given to them.

Since the * and # keys on the dial pad are used for entering data, when the use of these symbols are required for feature codes, [FF11] provides the * and [FF12] provides the #. When entering these symbols by using the FF keys, the display will not indicate that any data was entered.

To program several telephones with the same key layout, see [FF9] programming.

( )

```
ATTENDANT FEATURE PACKAGE KEY
ASSIGNMENTS
[FF5], (149-152)#, (1-72)#, [Code]#
```

Each flexible feature key on the Attendant console can be programmed with a code so that pressing it will perform the function associated with the code assigned to the key.

To set attendant console 1, FF key number 25, to be a BGM key, for example, enter:

[FF5], 145#, 25#, [FF12], 53#

( )

When using Attendant Feature Package software the DSS Console keys default as indicated in the appendix following this section
To reset the Attendant Console keys to an unassigned value, press [FF5], (149-152)#, (1-144)#, [CONF], [ON/OFF].

Key Code Assignments

71#	Absence Msg
[FF12], 7#	Accountant Code
[FF12], 4#	Alarm
[FF11], 1#	Answer Key
[FF12], 53#	BGM
720#	C-F/All Calls
721#	C-F/Busy,NA
722#	C-F/Busy
723#	C-F/CO Line
724#	C-F/NA
	(CPC-B ver 2.00 or newer)
79#	Direct Call Pickup
70#	Group Call Pickup
01-64#	CO Lines
73#	DND
[PROG], 10-69#	2 digit Extensions
[PROG], 100-699#	3 digit Extensions
[FF12], 51#	Headset
[FF12], 8#	Intercom Key
[FF12], 50#	Internal Dial Tone
89#	Stop LCR
77#	Meet Me Answer
[FF11],[FF12]#	Mute
[FF12], 52#	Night Mode
[FF12], 00-07#	Page
75#	Park Hold
81-86,89#	MCO Access
[FF11], 2#	Release
74#	Extension Lockout
[AUTO], 00-89#	SSD Key
[AUTO], 90-99#	PSD Key
[FF11], 3#	Talk Back
78#	UNA Pickup
[PROG], [PROG], xxxxxx	Any Key
[AUTO], [REDIAL]	Auto Redial to Ext.
81-86, 89	Multiple Loop (limited to 3 per extension, 12 per attendant)(CPC_B ver 2.00 or newer)

NOTES:

The default numbering scheme on attendant console FF keys is layed out starting from bottom left and ending at top right. All FF keys default to LCR/MCO keys.

Only the first 24 FF keys will light for CO lines that are assigned to them, the remaining keys on any attendant console having that many FF keys will not light if CO line assignments have been given to them.

Since the * and # keys on the dial pad are used for entering data, when the use of these symbols are required for feature codes, [FF11] provides the * and [FF12] provides the #. When entering these symbols by using the FF keys, the display will not indicate that any data was entered.

To program several telephones with the same key layout, see [FF9] programming.

Panasonic DIGITAL

08:24 Tue MAY 09
Operator   100
PERSONAL DIAL
SYSTEM DIAL
EXTENSION
FUNCTION
GUIDANCE

PROG CONF AUTO MENU PREV NEXT VOL▼ VOL▲

FF7 FF8 FF9 FF10 * #
FF1 FF2 FF3 FF4 FF5 FF6

1   2 ABC 3 DEF   DND/CF   REDIAL
4 GHI 5 JKL 6 MNO   EXT   FLASH
7 PRS 8 TUV 9 WXY   MUTE   ON/OFF
       0 OPER   MSG   HOLD

Speakerphone

Panasonic

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 -
. p q r   s t u _

v w x y   z - space %
: . , ←   → Back Space $?

ANSWER   RELEASE
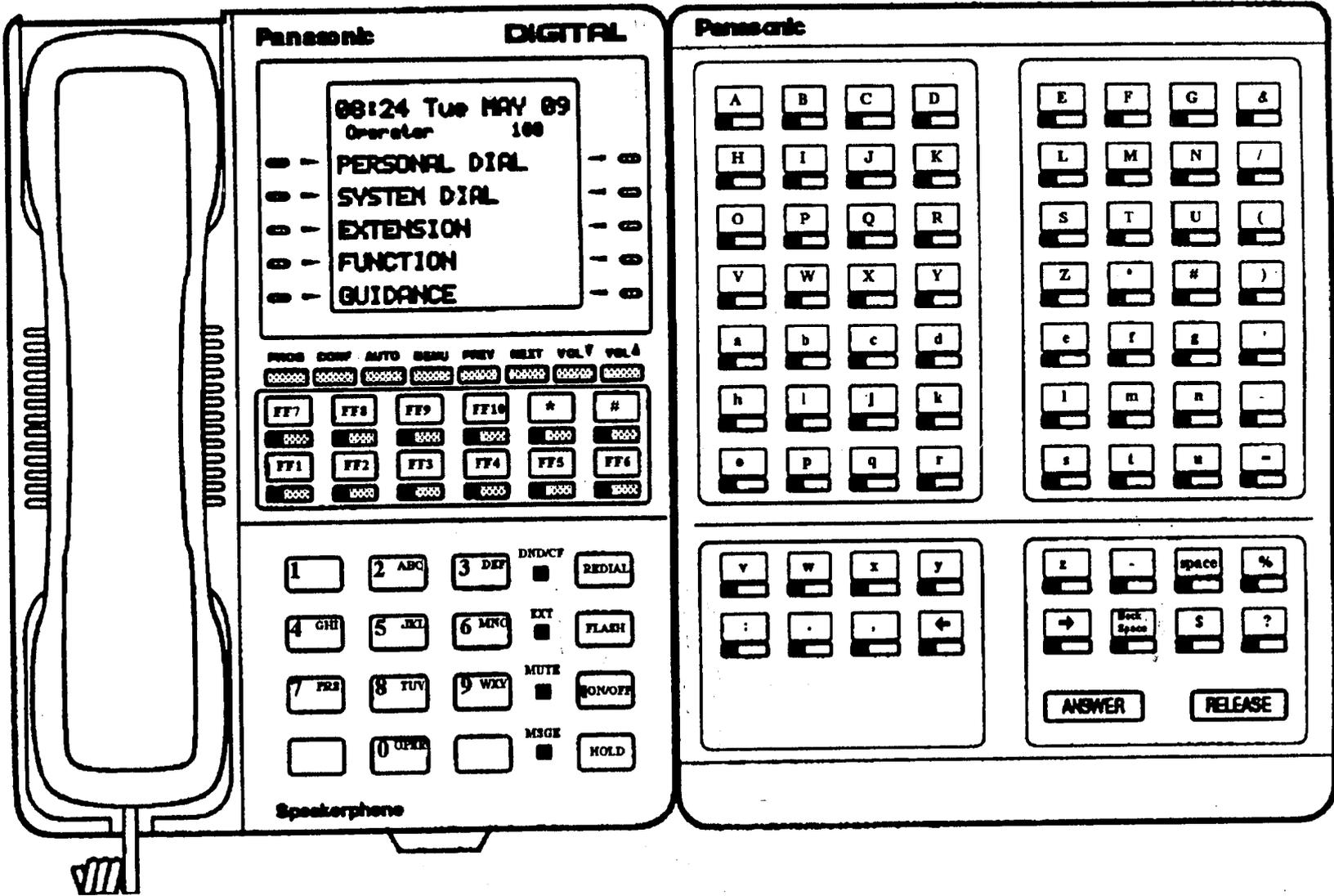
3-6 NAME AND MESSAGE PROGRAM SETTINGS

Extension Name
[FF6], 1#, (1-144)#, [CONF]#, [Name]#

Names of up to 10 characters can be assigned to each extension number. This name appears on the second line of a telephone with a display, and on the top line of a display extension that is calling.

To assign a name to extension port 40, with the characters RICH M., for example, enter:

[FF6], 1#, 40#, [CONF]#, (see appendix following this section)#

To assign a name to extension port 1, with the characters Operator, for example, enter:

[FF6], 1#, 1#, [CONF]#, (see appendix following this section)#

To reset extension names to the default initialized value, press [FF6], 1#, (1-144), [CONF]#, [ON/OFF].

NOTE:

If the "Attendant Feature Package" software is being used, the DSS Console must be initially set as type 11 in [FF3], 2# to enable the keys for programming capabilities. See the appendix following this section for key designations on the DSS Console which is used to store characters for extension names. If a DSS is not available, see section 700, in the Operating Instructions Manual, under "Attendant Telephone Features" for alternate instructions on how to store characters.

System Speed Dial Names
[FF6], 2#, (00-89)#, [Name]#

Names of up to 16 characters can be assigned to System Speed Dial numbers 00-89. The names are displayed alphabetically on large screen LCD telephones to provide confirmation of the name of the person being called when using a SSD code.

To assign the name "Panasonic" to system speed dial number 05, for example, enter:

[FF6], 2#, 05#, (see appendix following this section)#

To reset the names of system speed dial numbers to the default initialized values, press [FF2], 2#, (00-89)#, [CONF], [ON/OFF].

NOTE:

If the "Attendant Feature Package" software is being used, the DSS Console must be initially set as type 11 in [FF3] 2#, to enable the keys for programming capabilities. See the appendix following this section for key designations on the DSS Console which is used to store characters for system speed dial numbers. If a DSS is not available, see section 700, in the Operating Instructions Manual, under "Attendant Telephone Features" for alternate instructions on how to store characters.

**PERSONAL SPEED DIAL NAMES
[FF6], 3#, (1-144)#, (90-99)#,
[CONF]#, (Name)#**

**ABSENCE MESSAGES
[FF6], 4#, (5-9)#, [CONF]#, (Message)#**

Names of up to 16 characters can be assigned to Personal Speed Dial numbers 90-99. The names are displayed alphabetically on large screen LCD telephones to provide confirmation of the name of the person being called when using a PSD code.

To assign the name "Bill" to personal speed dial number 90, on prt 21 for example, enter:

[FF6], 3#, 021#, 90#, [CONF]#, (see appendix following this section)#

To reset the names of personal speed dial numbers to the default initialized values, press [FF6], 3#, (001-144)#, (90-99)#, [CONF], [ON/OFF].

NOTES:

If the "Attendant Feature Package" software is being used, the DSS Console must be initially set as type 11 [FF3] 2#, to enable the keys for programming capabilities.

See the appendix following this section for key designations to be used to store characters for personal speed dial numbers. If a DSS is not available, see section 700, in the Operating Instructions Manual, under "Attendant Telephone Features" for alternate instructions on how to store characters.

See Technotes 10 & 12 (March 1992) for complete information.

A message of up to 15 characters can be created so that a person calling from a display phone to an extension that is set with an absence message, can be informed of the status of the extension user.

To assign the message "Leaving at 3:00" to absence message 5, for example, enter:

[FF6], 4#, 5#, [CONF]#, (see appendix following this section)#

To assign the message "Don't Bother Me" to absence message 6, for example, enter:

[FF6], 4#, 6#, [CONF]#, (see appendix following this section)#

To assign the message "Call Later" to absence message 7, for example, enter:

[FF6], 4#, 7#, [CONF]#, (see appendix following this section)#

To assign the message "Return at 2:00" to absence message 8, for example, enter:

[FF6], 4#, 8#, [CONF]#, (see appendix following this section)#

To assign the message "In Bathroom" to absence message 9, for example, enter:

[FF6], 4#, 9#, [CONF]#, (see appendix following this section)#

145

<u>To reset the absence messages to the</u>
<u>default initialized values. press [FF6]. 4#.</u>
<u>(5-9)#. [CONF]. [ON/OFF].</u>

NOTES

If the "Attendant Feature Package"
software is being used, the DSS Console
must be initially set as type 11 in [FF3] 2#,
to enable the keys for programming
capabilities.

See the appendix following this section
for key designations to be used to store
characters for absence messages.

**A DSS Console must be used to set
absence messages.**

CO Line Name Assignment
[FF6]. 5#. (1-64)#. [CONF]#. (xxxxxx)#
(CPC-B, ver. 2.00 or newer)

Central office lines can be given names of
up to 6 characters to help identify the
source of the call. When an inbound call
rings at an extension, the top line of the
LCD indicates the line name.

To set central office line 3 to "support", for
example, enter:

**[FF6], 5#, 3#, [CONF]#, (see appendix
following this section)#**

<u>To reset central office line names to the</u>
<u>default initialized values. press [FF6]. 5#.</u>
<u>(1-64)#. [CONF]#. [ON/OFF].</u>

NOTES

If the "Attendant Feature Package"
software is being used, the DSS Console
must be initially set as type 11 in [FF3] 2#,
to enable the keys for programming
capabilities.

See the appendix following this section
for key designations to be used to store
characters for central office line names.
If a DSS is not available, see section 700,
under "Attendant Telephone Features"
for alternate instructions on how to store
characters.

See Technotes 10 & 12 (March 1992) for
complete information..

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Hunt Group Pilot Name Assignment
[FF6], 6#, (1-8)#, [CONF]#, (xxxxxxxx)#
(CPC-B, ver. 2.00 or newer)

Hunt group pilot numbers can be given a name of up to 11 characters to help identify the source of an inbound central office line call to the hunt group pilot name.

To set a hunt group pilot name for hunt group 1 to "support", for example, enter:

[FF6], 6#, 1#, [CONF]#, (see appendix following this section)#

To reset hunt group pilot names to the default initialized values, press [FF6], 6#, (1-8)#, [CONF]#, [ON/OFF].

NOTES

If the "Attendant Feature Package" software is being used, the DSS Console must be initially set as type 11 in [FF3] 2#, to enable the keys for programming capabilities.

See the appendix following this section for key designations to be used to store characters for hunt group pilot names. If a DSS is not available, see section 700, under "Attendant Telephone Features" for alternate instructions on how to store characters.

See Technotes 10 & 12 (March 1992) for complete information.

Call Waiting/OHVA Text Reply
[FF6], 7#, (1-5)#,
XXXXXXXXXXXXXXX
(CPC-B, VER. 4.00 or NEWER)

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.
In this parameter,
"XXXXXXXXXXXXXXX" represents a 15-character text message.
The text message can be sent after a call waiting tone, a call waiting tone followed by a text message, or an offhook voice announce.

The following table shows the default text associated with messages 1 to 5. These messages can be changed using an attendant phone or a DSS/72.

Message Number	Message Definition
1	Take A Message
2	Please Hold
3	Will Call Back
4	Transfer
5	Unavailable
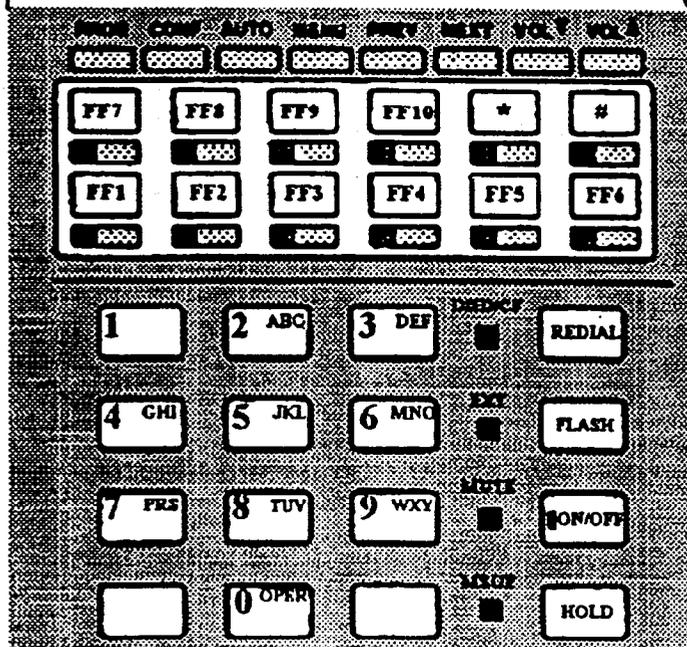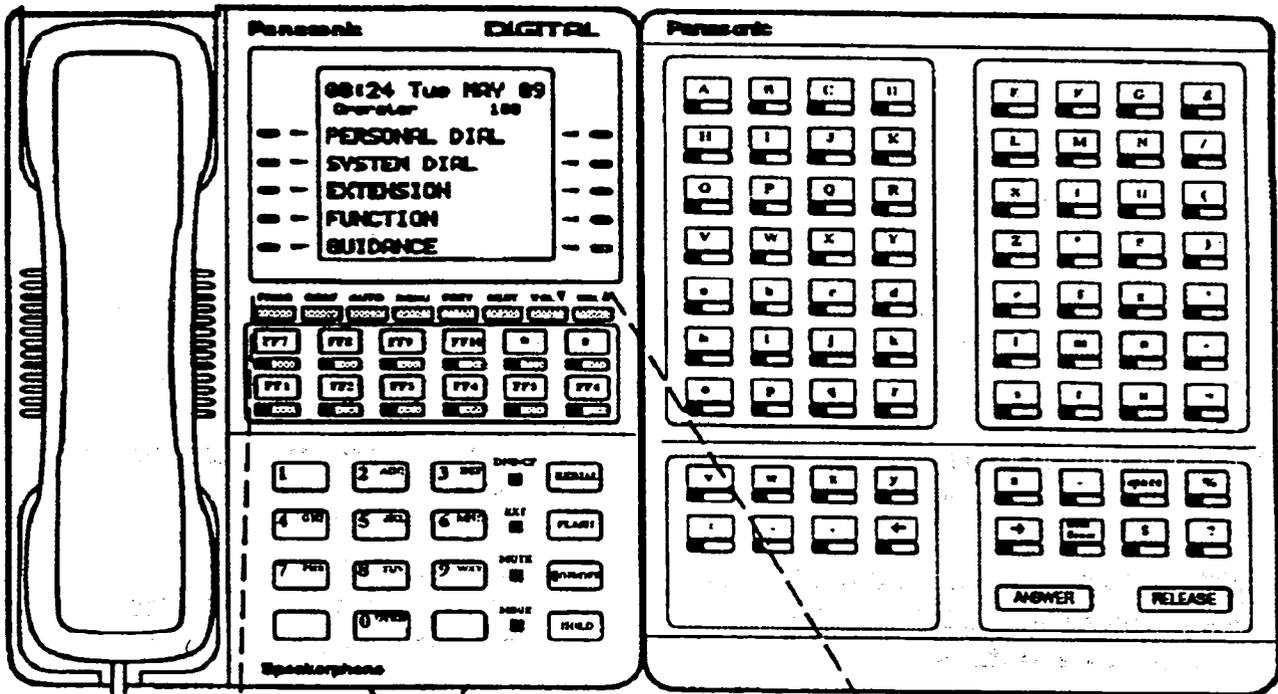
3-7 TOLL RESTRICTION PROGRAM SETTINGS

CENTRAL OFFICE LINE TOLL RESTRICTION
(Overview)

There are 7 types of toll-restriction that can be used to curtail dialing of certain types of calls on a central office line. Toll restriction is effective on a line by line basis per extension, for the DBS day and night operation modes. The following is a brief description of each type.

Type 0: Full restriction of outbound dialing and inbound calls on a central office line Calls can be answered on a type 0 line when the line is assigned to ring on the restricted extension..

Type 1: Full restriction of outbound dialing on a central office line. Inbound ringing central office lines to all telephones can be answered and/or transferred by a type 1 toll restricted telephone.

Type 2: Partial restriction of outbound dialing on a central office line. 3 digit dialing of 211-911 numbers is restricted according to the program option [FF7], 1#, (4-11). Outbound dialing of system speed dial numbers is restricted according to the program option [FF1], 2#, 1#, 4#. Up to fifty 7 digit numbers that are preset in program option [FF7], 6#, are restricted (depending on the setting in [FF7], 1#, 12#). Operator calls are restricted. International calls are restricted. Toll free dialing is allowed. Inter-digit timer is set for 6 seconds. Inbound ringing central office lines to all telephones can be answered and/or transferred by a type 2 toll restricted telephone.

Type 3: Full restriction (in default condition) of all access to any area or office code. Options to allow outbound dialing to selected area codes [FF7], 2#, 3#, and selected office codes [FF7], 3#, 3# to ease full restriction. 3 digit dialing of 211-911 numbers is restricted according to the program option [FF7], 1#, (4-11). Outbound dialing of system speed dial numbers is restricted according to the program option [FF1], 2#, 1#, 4#. Outbound dialing of up to fifty preset 7 digit numbers in program option [FF7], 6#, is restricted (depending on the setting in [FF7], 1#, 13#). Four specially selected area codes [FF7], 4#, (1-4)# will restrict the first 6 digits, by tying each of these special area codes to a special office code table [FF7], 5#, (1-4)#, 000-999# of restrictions. International calls are restricted according to program option [FF7], 1#, 1#. Operator calls are restricted. Toll free dialing is allowed. Inter-digit timer is set for 6 seconds. Inbound ringing central office lines to all telephones can be answered and/or transferred by a type 3 toll restricted telephone.

Type 4: No restriction (in default condition) of all office code dialing. Full restriction (in default condition) of all area code dialing. Options to allow outbound dialing to selected area codes [FF7], 2#, 4#, and selected office codes [FF7], 3#, 4# to alter default

149

restrictions. 3 digit dialing of 211-911 numbers is restricted according to the program option [FF7], 1#, (4-11). Outbound dialing of system speed dial numbers is restricted according to the program option [FF1], 2#, 1#, 4#. Outbound dialing of up to fifty preset 7 digit numbers in program option [FF7], 6#, is restricted (depending on the setting in [FF7], 1#, 14#). Four specially selected area codes [FF7], 4#, (1-4)# will restrict the first 6 digits, by tying each of these special area codes to a special office code table [FF7], 5#, (1-4)#, 000-999# of restrictions. International calls are restricted according to program option [FF7], 1#, 1#. Operator calls are restricted. Inter-digit timer is set for 6 seconds. Inbound ringing central office lines to all telephones can be answered and/or transferred by a type 4 toll restricted telephone.

Type 5: No restriction (in default condition) of all area code dialing. No restriction (in default condition) of all office code dialing. Options to restrict outbound dialing to selected area codes [FF7], 2#, 5#, and selected office codes [FF7], 3#, 5# to alter default restrictions. 3 digit dialing of 211-911 numbers is restricted according to the program option [FF7], 1#, (4-11). Outbound dialing of system speed dial numbers is restricted according to the program option [FF1], 2#, 1#, 4#. Outbound dialing of up to fifty preset 7 digit numbers in program option [FF7], 6#, is restricted (depending on the setting in [FF7], 1#, 15#). Four specially selected area codes [FF7], 4#, (1-4)# will restrict the first 6 digits, by tying each of these special area codes to a special office code table [FF7], 5#, (1-4)#, 000-999# of restrictions. International calls are restricted according to program option [FF7], 1#, 1#. Operator calls are restricted. Inter-digit timer is set for 6 seconds. Inbound ringing central office lines to all telephones can be answered and/or transferred by a type 5 toll restricted telephone.

Type 6: No restriction (in default condition) of dialing to any area or office code. Options to restrict outbound dialing to selected area codes [FF7], 2#, 6#, and selected office codes [FF7], 3#, 6#. 3 digit dialing of 211-911 numbers is restricted according to the program option [FF7], 1#, (4-11). Outbound dialing of system speed dial numbers is restricted according to the program option [FF1], 2#, 1#, 4#. Outbound dialing of up to fifty preset 7 digit numbers in program option [FF7], 6#, is restricted (depending on the setting in [FF7], 1#, 16#). Four specially selected area codes [FF7], 4#, (1-4)# will restrict the first 6 digits, by tying each of these special area codes to a special office code table [FF7], 5#, (1-4)#, 000-999# of restrictions. International calls are restricted according to program option [FF7], 1#, 1#. Operator calls are restricted. Toll free dialing is allowed. Inter-digit timer is set for 6 seconds. Inbound ringing central office lines to all telephones can be answered and/or transferred by a type 6 toll restricted telephone.

Type 7: No restrictions to outbound dialing on all central office lines in the defaulted configuration.

NOTE:

For Toll Restriction types 3 through 6 operator calls are allowed in default if FF7-1#-1# is set to 1#. The Office code tables are used to restrict all 0 plus dialing, the next two digits will also be analized.

INTERNATIONAL CALL FOR TRS TYPES 3-6
[FF7], 1#, 1#, (0 or 1)#

The dialing of international calls can be allowed or denied on all central office lines set with a toll restriction classes of 3-6.

To restrict dialing of international calls for central office lines set with a toll restriction classes of 3 through 6, for example, enter:

[FF7], 1#, 1#, 0#

To enable dialing of international calls for central office lines set with a toll restriction classes of 3 through 6, for example, enter:

[FF7], 1#, 1#, 1#

NOTE:

This program option is tied to the System installation office code address [FF1], 2#, 1#, 18#.

If international calls are allowed, 011 should be allowed in types 3 through 6 office code tables.

DIAL RESTRICTION DURING RINGING INBOUND CO LINE CALLS ON LINES SET FOR TRS TYPES 3-6
[FF7], 1#, 2#, (0 or 1)#

When a new outbound call is being placed on a central office line (with class of service 3 through 6), immediately after a call has been received on that line, this option enables toll restricion.

To restrict the use of the flash key and additional digits dialed, to make an outbound call on a line set for a toll restriction class of 3 through 6, enter:

[FF7], 1#, 2#, 0#

To allow the use of a flash key to make a new outbound call on a line set for a toll restriction class of 3 through 6, enter:

[FF7], 1#, 2#, 1#

Maximum Dialed Digits For TRS Types 3-6
[FF7], 1#, 3#, (1-15)#

The maximum number of digits that can be dialed on central office lines set with a toll restriction class of 3-6 can be limited to 15 to 29 digits, or can be unlimited.

			Digits
1#	15 Digits	9#	23 Digits
2#	16 Digits	10#	24 Digits
3#	17 Digits	11#	25 Digits
4#	18 Digits	12#	26 Digits
5#	19 Digits	13#	27 Digits
6#	20 Digits	14#	28 Digits
7#	21 Digits	15#	29 Digits
8#	22 Digits	**	No Limit

3 Digit Restriction For TRS Types 2-6
[FF7], 1#, (4-11)#, (0 or 1)#

Special three digit numbers (211-911) can be restricted from being dialed on central office lines set for toll restriction class types 2-6.

4 #	2 1 1	8 #	6 1 1
5 #	3 1 1	9 #	7 1 1
6 #	4 1 1	10 #	8 1 1
7 #	5 1 1	11 #	9 1 1

To allow 411 to be dialed on a central office line having a toll restriction class of 2 through 6, for example, enter:

[FF7], 1#, 7#, 0#

To restrict 911 from being dialed on a central office line having a toll restriction class of 2 through 6, for example, enter:

[FF7], 1#, 11#, 1#

NOTE:

211-911 are allowed in default.

7 Digit Toll Restriction Types 2-6 [FF7], 1#, (12-16)#, (0 or 1)#

Seven digit toll restriction allows or denies the dialing of a certain 7 digit number when a toll restriction type 2 through 6 is set. Reference is made to [FF7], 6#. That address is for special 7 digit numbers. If there are any entries set in [FF7], 6#, these entries will be reviewed before the call continues to be processed.

To disable the 7 digit table for type 2 toll restriction, enter:

[FF7], 1# 12#, 0#

To enable 7 digit toll restriction for type 3, enter:

[FF7], 1# 13#, 1#

NOTE:

[FF7], 1#, (12-16)# the 12-16 refers to types 2 through 6 toll restriction.

7 digit toll restriction when enabled will look at the last seven digits dialed, area codes which are allowed may be denied access to specific telephone numbers such as NPX 555-1212.

Area Code Table For TRS Types 3-6 [FF7], 2#, (3-6)#, (000-999)#, (0 or 1)#

Area code dialing restrictions on central office lines set for toll restriction types 3-6 are set in this program option. Telephone users that access a central office line set to one of these classes of service, will be allowed or denied access to a specific area code, according to the setting in this option.

To allow dialing to area code 404 on a central office line set with a toll restriction class of service of 3, for example, enter:

[FF7], 2#, 3#, 404#, 0#

To allow dialing to area code 406 on a central office line set with a toll restriction class of service of 4, for example, enter:

[FF7], 2#, 4#, 406#, 0#

To restrict dialing to area code 212 on a central office line set with a toll restriction class of service of 5, for example, enter:

[FF7], 2#, 5#, 212#, 1#

To restrict dialing to area code 508 on a central office line set with a toll restriction class of service of 6, for example, enter:

[FF7], 2#, 6#, 508#, 1#

**Office Code Table For TRS Types 3-6
[FF7], 3#, (3-6)#, (000-999)#, (0 or 1)#**

To reset area code toll restrictions for central office lines set as classes 3 and 4 to the default initialized value, press [FF7], 2#, (3 or 4)#, (000-999)#, 1#, [ON/OFF].

To reset area code toll restrictions for central office lines set as classes 5 and 6 to the default initialized value, press [FF7], 2#, (5 or 6)#, (000-999)#, 0#, [ON/OFF].

NOTE:

This address is tied to the system installation area code address, [FF1], 2#, 1#, 18#.

Office code dialing restrictions on central office lines set for toll restriction types 3-6 are set in this program option. Telephone users that access a central office line set to one of these classes of service, will be allowed or denied access to a specific office code, according to the setting in this option.

To allow dialing to office code 663 on a central office line set with a toll restriction class of service of 3, for example, enter:

[FF7], 3#, 3#, 663#, 0#

To restrict dialing to office code 346 on a central office line set with a toll restriction class of service of 4, for example, enter:

[FF7], 3#, 4#, 346#, 1#

To restrict dialing to office code 261 on a central office line set with a toll restriction class of service of 5, for example, enter:

[FF7], 3#, 5#, 261#, 1#

SPECIAL AREA CODE TABLE FOR TRS
TYPES 3-6
[FF7], 4#, (1-4)#, (000-999)#

To restrict dialing to office code 588 on a central office line set with a toll restriction class of service of 6, for example, enter:

[FF7], 3#, 6#, 588#, 1#

To reset office code toll restrictions for central office lines set as classes 3 to the default initialized value, press [FF7], 3#, 3)#, (000-999)#, 1#, [ON/OFF].
To reset office code toll restrictions for central office lines set as classes 4, 5 and 6 to the default initialized value, press [FF7], 3#, (4, 5 or 6)#, (000-999)#,0#, [ON/OFF].

NOTE:

This address is tied to the System installation area code address [FF1], 2#, 1#, 18#.

Four area codes can be tied to four special office code tables to allow or restrict a broad range of office codes on central office lines set with toll restriction classes of service 3 through 6. Typically, area codes such as 900 are selected as special area codes.

For example, to select area code 900 as the first "special area code" enter:

[FF7], 4#, 1#, 900#

To select area code 808 as the second "special area code", enter:

[FF7], 4#, 2#, 808#

To select area code 408 as the third "special area code" enter:

[FF7], 4#, 3#, 408#

To select area code 600 as the fourth "special area code" enter:

[FF7], 4#, 4#, 600#

To reset any of the four special area codes to the default initialized value, press [FF7], 4#, (1-4)#, [CONF], [ON/OFF].

**SPECIAL OFFICE CODE TABLE FOR TRS
Types 3-6
[FF7], 5#, (1-4)#, (000-999)#, (0
or 1)#**

Four special office code tables are tied to four special area codes to allow or restrict a broad range of office codes for each special area code, on central office lines set with toll restriction classes of service 3-6.

Typically, office codes such as 976, 555 or other "pay for call" line services are selected as special office codes.

To select office code 976 as an office code to be restricted with the first "special area code", on a central office line set for toll restriction class 3 through 6, for example, enter:

<u>**[FF7], 5#, 1#, 976#, 1#**</u>

To select office code 555 as an allowed office code to work with the second "special area code", on a central office line set for toll restriction class 3 through 6, for example, enter:

[FF7], 5#, 2#, 555#, 0#

To select office code 976 as an office code to be restricted with the third "special area code", on a central office line set for toll restriction class 3 through 6, for example, enter:

[FF7], 5#, 3#, 976#, 1#

To select office code 444 as an office code to be allowed with the fourth "special area code", on a central office line set for toll restriction class 3 through 6, for example, enter:

[FF7], 5#, 4#, 444#, 0#

<u>To reset special office code 1 & 2 toll restrictions for central office lines set as classes 3-6 to the default initialized value, press [FF7], 5#, (1 or 2)#, (000-999)#,1#, [ON/OFF].</u>

<u>To reset special office code 3 & 4 toll restrictions for central office lines set as classes 3-6 to the default initialized value, press [FF7], 5#, (3 or 4)#, (000-999)#, 0#, [ON/OFF].</u>

NOTE:

Special office code tables 1 and 2 are restricted as default values, special office code tables 3 and 4 are allowed as default vaules.

Default values can be changed globally in FF7 9#,13-16#.

**SPECIAL 7 DIGIT TABLE FOR TRS TYPES 2-6
[FF7], 6#, (1-50)#, (0000000-9999999)#**

Up to 50 preset 7 digit numbers can be restricted from being dialed behind all area codes on central office lines set for toll restriction types 2 through 6. The identification of these numbers are set in this program option. [FF7], 1#, (12-16)#, determines whether the seven digit number that is dialed is reviewed by this address.

To assign 555-1212 as the first of 50 preset numbers to be restricted from being dialed on a central office line set for toll restriction class 2 (assuming [FF7], 1#, 12# is set with 1#), for example, enter:

[FF7], 6#, 1#, 5551212#

To assign 976-1212 as the second of 50 preset numbers to be restricted from being dialed on a central office line set for toll restriction class 3 (assuming [FF7], 1#, 13# is set with 1#), for example, enter:

[FF7], 6#, 2#, 9761212#

To reset any of the 50 preset restricted 7 digit numbers to the default initialized value, press [FF7], 6#, (1-50)#, [CONF], [ON/OFF].

**DAY CENTRAL OFFICE TRS TYPES 0-7
[FF7], 7#, (1-144)#, (1-64)#, (0-7)#**

There are 7 types of toll restriction that can be used to curtail dialing of certain types of calls on a central office line, when the DBS is in the day setting. Toll restriction is effective on a line by line basis, per extension. See the overview at the beginning of this programming section for a review of each type of toll restriction.

To set toll restriction on extension port 60 (when the DBS is in the day setting) for central office line 10 to type 3, for example, enter:

[FF7], 7#, 60#, 10#, 3#

To set toll restriction on extension port 22 (when the DBS is in the day setting) for central office line 5 to type 7, for example, enter:

[FF7], 7#, 22#, 5#, 7#

To reset central office toll restriction on any line on any extension (when the DBS is in the day setting), to the default initialized value, press [FF7], 7#, (1-144)#, (1-64)#, 7#, [ON/OFF].

DAY CENTRAL OFFICE TRS TYPES 0-7
[FF7], 7#, (1-144)#, 65#, (0-7)#

This option provides the ability to take a single toll restriction class of service and apply it to all lines that appear on a specific extension, when the DBS is in the day setting. There are 7 types of toll restriction that can be used to curtail dialing of certain types of calls on a central office line. See the overview at the beginning of section 3-7 for a review of each type of toll restriction.

To set all lines that appear on extension port 14, when the DBS is in the day setting, to central office toll restriction class 4, for example, enter:

[FF7], 7#, 14#, 65#, 4#

To reset the toll restriction on any extension when the DBS is in the day setting, to the default initialized value, press [FF4], 7#, (1-144)#, 65#, 7#, [ON/OFF].

NOTE:

The program option outlined above has an address specifically for CPC-B software versions. To perform the same task with CPC-A software, the address is: [FF7], 7#, (1-72)#, 33#, (0-7)#.

NIGHT CENTRAL OFFICE TRS TYPES 0-7
[FF7], 8#, (1-144)#, (1-64)#, (0-7)#

There are 7 types of toll restriction that can be used to curtail dialing of certain types of calls on a central office line, when the DBS is in the night setting. Toll restriction is effective on a line by line basis, per extension. See the overview at the beginning of section 3-7 for a review of each type of toll restriction.

To set toll restriction on extension port 50, central office line 11 (when the DBS is in the night setting) to type 3, for example, enter:

[FF7], 8#, 50#, 11#, 3#

To set toll restriction on extension port 6, central office line 15 (when the DBS is in the night setting) to type 7, for example, enter:

[FF7], 8#, 6#, 15#, 7#

To reset central office toll restriction on any line on any extension when the DBS is in the night setting, to the default initialized value, press [FF7], 8#, (1-144)#, (1-64)#, 7#, [ON/OFF].

NIGHT CENTRAL OFFICE TABLE FOR TRS TYPES 0-7
[FF7], 8#, (1-144)#, 65#, (0-7)#

This option provides the ability to take a single toll restriction class of service and apply it to all lines that appear on a specific extension, when the DBS is in the night setting. There are 7 types of toll restriction that can be used to curtail dialing of certain types of calls on a central office line. See the overview at the beginning of section 3-7 for a review of each type of toll restriction.

To set all lines that appear on extension port 31, when the DBS is in the night setting, to central office toll restriction class 5, for example, enter:

[FF7], 8#, 31#, 65#, 5#

To reset the toll restriction on any extension when the DBS is in the night setting, to the default initialized value, press [FF4], 8#, (1-144)#, 65#, 7#, [ON/OFF].

NOTE:

The program option outlined above has an address specifically for CPC-B software versions. To perform the same task with CPC-A software, the address is: [FF7], 8#, (1-72)#, 33#, (0-7)#.

AREA CODE TABLE FOR TRS TYPES 3-6 (GLOBAL COPY)
[FF7], 9#, (1-4)#, (0 OR 1)#

To allow or restrict all area codes of each area code table of each toll restriction class of service to the same setting, this program option must be used.

To allow dialing to all area codes in the table that controls central office line toll restriction class 3, enter:

[FF7], 9#, 1#, 0#

To restrict dialing to all area codes in the table that controls central office line toll restriction class 3, enter:

[FF7], 9#, 1#, 1#

To allow dialing to all area codes in the table that controls central office line toll restriction class 4, enter:

[FF7], 9#, 2#, 0#

To restrict dialing to all area codes in the table that controls central office line toll restriction class 4, enter:

[FF7], 9#, 2#, 1#

To allow dialing to all area codes in the table that controls central office line toll restriction class 5, enter:

[FF7], 9#, 3#, 0#

To restrict dialing to all area codes in the table that controls central office line toll restriction class 5, enter:

[FF7], 9#, 3#, 1#

To allow dialing to all area codes in the table that controls central office line toll restriction class 6, enter:

[FF7], 9#, 4#, 0#

To restrict dialing to all area codes in the table that controls central office line toll restriction class 6, enter:

[FF7], 9#, 4#, 1#

To reset the global area code toll restrictions for central office lines set as classes 3 and 4 to the default initialized value, press [FF7], 9#, (1 or 2)#, 1#, [ON/OFF].

To reset the global area code toll restrictions for central office lines set as classes 5 and 6 to the default initialized value, press [FF7], 9#, (3 or 4)#, 0#, [ON/OFF].

NOTE:

This program option is tied to the System installation area code address, [FF1], 2#, 1#, 18#.

FF7 9#,(1-4)# the 1-4 represents types 3-6.

OFFICE CODE TABLE FOR TRS TYPES 3-6 (GLOBAL COPY) [FF7], 9#, (5-8)#, (0 OR 1)#

To allow or restrict all office codes of each office code table of each toll restriction class of service to the same setting, this program option must be used.

To allow dialing to all office codes in the table that controls central office line toll restriction class 3, enter:

[FF7], 9#, 5#, 0#

To restrict dialing to all office codes in the table that controls central office line toll restriction class 3, enter:

[FF7], 9#, 5#, 1#

To allow dialing to all office codes in the table that controls central office line toll restriction class 4, enter:

[FF7], 9#, 6#, 0#

To restrict dialing to all office codes in the table that controls central office line toll restriction class 4, enter:

[FF7], 9#, 6#, 1#

To allow dialing to all office codes in the table that controls central office line toll restriction class 5, enter:

[FF7], 9#, 7#, 0#

To restrict dialing to all office codes in the table that controls central office line toll restriction class 5, enter:

[FF7], 9#, 7#, 1#

To allow dialing to all office codes in the table that controls central office line toll restriction class 6, enter:

[FF7], 9#, 8#, 0#

To restrict dialing to all office codes in the table that controls central office line toll restriction class 6, enter:

[FF7], 9#, 8#, 1#

To reset the global office code toll restrictions for central office lines set as type 3 to the default initialized value, press [FF7], 9#, (5 or 6)#, 1#, [ON/OFF].

To reset the global office code toll restrictions for central office lines set as classes 4, 5 and 6 to the default initialized value, press [FF7], 9#, (7 or 8)#, 0#, [ON/OFF].

NOTE:

This program option is tied to the System installation area code address, [FF1], 2#, 1#, 18#.

FF7 9#,(5-8)# the 5-8 represents types 3-6.

To allow or restrict all area and office codes of each toll restriction class of service to the same setting, this program option must be used.

To allow dialing to all area and office codes in the tables that control central office line toll restriction class 3, enter:

[FF7], 9#, 9#, 0#

To restrict dialing to all area and office codes in the tables that control central office line toll restriction class 3, enter:

[FF7], 9#, 9#, 1#

To allow dialing to all area and office codes in the tables that controls central office line toll restriction class 4, enter:

[FF7], 9#, 10#, 0#

To restrict dialing to all area and office codes in the tables that control central office line toll restriction class 4, enter:

[FF7], 9#, 10#, 1#

To allow dialing to all area and office codes in the tables that control central office line toll restriction class 5, enter:

[FF7], 9#, 11#, 0#

161

To restrict dialing to all area and office codes in the tables that control central office line toll restriction class 5, enter:

[FF7,9#,11#,1#

To allow dialing to all area and office codes in the tables that control central office line toll restriction class 6, enter:

[FF7], 9#, 12#, 0#

To restrict dialing to all area and office codes in the tables that control central office line toll restriction class 6, enter:

[FF7], 9#, 12#, 1#

To reset the global area and office code toll restrictions for central office lines set as classes 3 to the default initialized value, press [FF7], 9#, 9#, 1#, [ON/OFF]. Type 4 can not be returned to default values using this program.

To reset the global area and office code toll restrictions for central office lines set as classes 5 and 6 to the default initialized value, press [FF7], 9#, (11 or 12)#, 0#, [ON/OFF].

NOTE:

This program option is tied to the System installation area code program option, [FF1], 2#, 1#, 18#.

FF7 9#, (9-12) represents types 3-6.

**SPECIAL OFFICE CODE TABLE FOR TRS TYPES 3-6 (GLOBAL COPY)
[FF7], 9#, (13-16)#, (0 OR 1)#**

Four special office code tables that are tied to four special area codes can be globally set to allow or restrict all office codes for each special area code, on central office lines set with toll restriction classes of service 3-6.

To restrict all special office codes for the first "special area code", enter:

[FF7], 9#, 13#, 1#

To allow all special office codes for the second "special area code", enter:

[FF7], 9#, 14#, 0#

To restrict all special office codes for the third "special area code", enter:

[FF7], 9#, 15#, 1#

To allow all special office codes for the fourth "special area code", enter:

[FF7], 9#, 16#, 0#

To reset all office codes tied to special area codes 1 & 2 for central office lines set as classes 3-6 to the default initialized value, press [FF7], 9#, (13 or 14)#, 1#, [ON/OFF]. To reset all office codes tied to special area codes 3 & 4 for central office lines set as classes 3-6 to the default initialized value, press [FF7], 9#, (15 or 16)#, 0#, [ON/OFF].

DBS Programming Instructions
CPC-A / 3.0, CPC-B / 2.0 / 3.0 / 4.0

Section 400 FF7
Issue 3 July 1993

NOTE:

FF7 9#, (13-16) represents special office code tables 1-4.

Default values for special office code tables
Special office code table 1   All Denied
Special office code table 2   All Denied
Special office code table 3   All Allowed
Special office code table 4   All Allowed

3-8 LEAST COST ROUTING PROGRAM SETTINGS

LEAST COST ROUTING
(Overview)

Least cost routing is designed to route calls on central office lines that are supplied by specific carriers. By identifying a certain group of these lines along with a specific cost to place outbound calls on them during certain time periods of the day, a cost savings will accrue. Additionally, non dialed digits can be added or deleted from the prefix of the dialed string by the DBS.

Call processing flow

To determine how to route a specific number, this DBS program group uses 10 tables, each containing 1000 numbers. All tables are set up in the same manner. The tables are defined as Area Code, Office Code, 4 Special Area Code, and 4 Special Office Code tables. Each block in the table has an "xx" block connected to it. This xx area is used to store the route table number (1-15) that it's prefix is to use. The prefix is a defined 3 digit area or office code, or 3 digit special office or area code numbers. An example of an LCR table is shown below.

LCR Table

The Special Area and Special Office code tables are designed for 6 digit LCR dialing analysis. The Office code table is used for all 7 digit dialing. One plus 7 digit dialing

000	xx	001	xx	002	xx	003	xx	004	xx	005	xx	006	xx	007	xx	008	xx	009	xx
010	xx	011	xx	012	xx	013	xx	014	xx	015	xx	016	xx	017	xx	108	xx	019	xx
020	xx	021	xx	022	xx	023	xx	024	xx	025	xx	026	xx	027	xx	028	xx	029	xx
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.
960	xx	961	xx	962	xx	963	xx	964	xx	965	xx	966	xx	967	xx	968	xx	969	xx
970	xx	971	xx	972	xx	973	xx	974	xx	975	xx	976	xx	977	xx	978	xx	979	xx
980	xx	981	xx	982	xx	983	xx	984	xx	985	xx	986	xx	987	xx	988	xx	989	xx
990	xx	991	xx	992	xx	993	xx	994	xx	995	xx	996	xx	997	xx	998	xx	999	xx

searches the Area code table, or the Special office code tables, when the DBS program address [FF1], 2#, 1#, 18#, is configured with a "1". When this program address is improperly set, the LCR may search incorrect tables.

After a specific number to be dialed has been identified in one of the tables above, the process proceeds to one of the 15 time priority route tables. If no time priority route table has been assigned to a specific 3 digit number or segment thereof, the call will exit LCR routing, and be placed on a pooled group "9" central office line. If all central office lines have been removed from the "9" pooled group the call will stop being processed, and the caller will receive a busy tone.

The 15 time priority route tables are used to determine which LCR trunk groups are selected, and the priority on which those trunk groups are used. The "lookback" capability of the DBS provides for multiple searches of the highest priority line groups before lower priority groups are searched. The highest priority line group is initially chosen to route the call. If the line is available, the LCR add and LCR delete tables associated with the central office line group are reviewed for additions or deletions to the dialed digit string. If no lines of the defined group are available, a warning tone is sent to the caller, a 2 second wait ensues, and the group is searched again. If a line is still unavailable, the second line group is accessed. This process continues until all 8 line groups in the priority are searched for an available line. In the event that all prioritized line groups are busy, caller can dial the digit 2. This procedure will enable a callback and a reservation of the first line in the group. When the DBS recalls the extension, the caller accesses a line, and the DBS will automatically redial the previously dialed number.

Time Priority Route Guide Table (0-15)
With older versions of software (CPC-A, older than 3.21, CPC-B, older than 2.11), when LCR is used behind Centrex, special precautions are needed in the Office Code table. To eliminate the need to dial a "9" before such numbers as 411, 555, 911, 800, and 0, there

Time	<------High		Priority				Low----->	
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 am	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 #

are Office Code Table numbers that **MUST NOT** be assigned to a time priority route guide table. These numbers are 941, 955, 980, and 991. If Office Codes such as 941, 955, 991, and 980 are found in the locale that the DBS is installed in, it is recommended that LCR should not be used in combination with Centrex, or behind PBX applications. Further clarification of LCR operation may be found in Technote 5 (November 1991), and Appnote

Least Cost Routing (LCR) Area Codes
[FF8], 1#, (1-15)#, (000-999)#, (0 or 1)#

When an outbound central office line is accessed to make a call, in a DBS set with Least Cost Routing, the DBS searches one of 15 preprogrammed routing tables for the least expensive central office line, based on time of day and cost of the line. Toll restriction settings for the line are checked, and the number is then outpulsed.

To add 203 to route, using time priority table 1, for example, enter:

[FF8], 1#, 1#, 203#, 1#

To add 516 to route, using time priority table 2, for example, enter:

[FF8], 1#, 2#, 516#, 1#

To remove 409 from time priority table three, for example, enter:

[FF8], 1#, 3#, 409#, 0#

To remove 609 from time priority table four, for example, enter:

[FF8], 1#, 4#, 609#, 0#

To reset the LCR Area Code tables to the default initialized value, press [FF8], 1#, (1-15)#, (000-999)#, 0#, [ON/OFF].

NOTE:

The time priority route guide table option found at address: [FF8], 5#, (1-15)#, (1-48)#, (1-8)#, must be set.

Once a line has been accessed through LCR, the [FLASH] operation will not work.

All area code numbers must be pointed to a specific time priority table and enabled in order for LCR to automatically route the call.

When executing changes in this address, a "1" entry signifies addition to the table, and a "0" signifies the office code is not part of the table.

Least Cost Routing (LCR) Office Codes
[FF8], 2#, (1-15)#, (000-999)#, (0 or 1)#

When an outbound central office line is accessed to make a call, in a DBS set with Least Cost Routing, the DBS searches one of 15 time priority routing tables for the least expensive central office line, based on time of day and cost of the line. Toll restriction settings for the line are checked, and the number is then outpulsed.

To use the fifth time priority route table for a call made to office code 222, for example, enter:

[FF8], 2#, 5#, 222#, 1#

To use the sixth time route table for a call made to office code 546, for example, enter:

[FF8], 2#, 6#, 546#, 1#

To remove office code 999 from routing through the seventh time priority table, for example, enter:

[FF8], 2#, 7#, 999#, 0#

To remove office code 447 from routing through the eighth time priority table, for example, enter:

[FF8], 2#, 8#, 447#, 0#

To reset the LCR Office Code tables to the default initialized value, press [FF8], 2#, (1-15)#, (000-999)#, 0#, [ON/OFF].

NOTE:

The time priority route guide table option found at address: [FF8], 5#, (1-15)#, (1-48)#, (1-8)#. must be set.

Once a line has been accessed through LCR, the [FLASH] operation will not work.

All office code numbers must be pointed to a specific time priority table and enabled in order for LCR to automatically route the call.

When executing changes in this address, a "1" entry signifies addition to the table, and a "0" signifies the office code is not part of the table.

SPECIAL LCR AREA CODES

[FF8], 3#, (1-4)#, (000-999)#

Four special area codes, designated as 1 through 4 in the address above, can be specially chosen for LCR routing, and tied to four special LCR office code tables to allow a broad range of numbers to be dialed by the least costly route.

This operation keys off the first six digits dialed, where the first three digits represent an area code, and the second three digits represent an office code.

To select area code 407 as the first "special LCR area code", to be used for LCR dialing for example, enter:

[FF8], 3#, 1#, 407#

To select area code 609 as the second "special LCR area code" to be used for LCR dialing for example, enter:

[FF8], 3#, 2#, 609#

To select area code 404 as the third "special LCR area code" to be used for LCR dialing for example, enter:

[FF8], 3#, 3#, 404#

To select area code 508 as the fourth "special LCR area code" to be used for LCR dialing for example, enter:

[FF8], 3#, 4#, 508#

To reset the special LCR area code tables to the default initialized value, press [FF8], 3#, (1-4)#, [CONF]#, [ON/OFF].

NOTE:

The time priority route guide table option found at address: [FF8], 5#, (1-15)#, (1-48)#, (1-8)#. must be set.

Once a line has been accessed through LCR, the [FLASH] operation will not work.

SPECIAL LCR OFFICE CODE TABLES

[FF8], 4#, (1-4)#, (1-15)#, (000-999)#, (0 or 1)#

Four special office code tables, designated as 1 through 4 in the address above, can be tied to four special LCR area codes to allow up to 1000 office codes per special LCR area code to be dialed by the least cost routing.

This operation keys off the first six digits dialed, where the first three digits represent an area code, and the second three digits represent an office code.

To set special office code entry 1, time table 13 for office code 776 to be dialed on the least expensive route, for example, enter:

[FF8], 4#, 1#, 13#, 776#, 1#

To set special office code entry 2, time table 5 for office code 392 to be dialed on the least expensive route, for example, enter:

[FF8], 4#, 2#, 5#, 392#, 1#

To set special office code entry 3, time table 15 for office code 248 to be dialed on the least expensive route, for example, enter:

[FF8], 4#, 3#, 15#, 248#, 1#

To reset the special LCR office code tables to the default initialized value, press [FF8], 4#, (1-4)#, (1-15)#, (000-999)#, 0#, [ON/OFF].

NOTE:

When executing changes in this address, a "1" entry signifies addition to the table, and a "0" signifies the office code is not part of the table.

TIME PRIORITY ROUTE TABLES
[FF8], 5#, (1-15)#, (1-48)#, (1-8)#

Since central office line costs can vary by time of day, when least cost routing is being used outbound calls will be automatically placed on different central office line groups depending on the time of day. This option provides for this.

For example, to use time route table 1, priority 1, LCR line group 1 for outbound calls placed by the least cost routing method, enter:

[FF8], 5#, 1#, 1#, 1#

For example, to use time route table 2, priority 9, LCR line group 6 for outbound calls placed by the least cost routing method, enter:

[FF8], 5#, 2#, 9#, 6#

For example, to use time route table 15, priority 17, LCR line group 4 for outbound calls placed by the least cost routing method, enter:

[FF8], 5#, 15#, 17#, 4#

LCR CO LINE GROUP TABLES
[FF8], 6#, (1-8)#, (1-8)#, (1-64)#

<u>To reset any CO line group position in
any time priority route table to the
default initialized value, press [FF8],
5#, (1-15)#, (1-48)#, [CONF], [ON/OFF].</u>

NOTE:

The 15 time priority route tables are each
divided into 6 preset time periods, with 8
priority positions in each time period for
LCR line group assignments. The six preset
time periods are as follows:
1. 7:00 am to 7:59 am, positions 1-8
2. 8:00 am to 4:59 pm, positions 9-16
3. 5:00 pm to 7:59 pm, positions 17-24
4. 8:00 pm to 11:59 am, positions 25-32
5. 12:00 am to 6:59 am, positions 33-40
6. WEEKEND, positions 41-48

See feature options [FF1], 2#, 1#, 3#,
(System setting for LCR), and [FF8], 6#,
(LCR Trunk group table.)

See Time Priority Route Guide Tables
(1-15), for priority numbers 1 through
48 on page 133.

The use of LCR requires predetermined LCR
line groups to be prioritized according to the
cost of line(s). There are 8 groups, and each
group has 8 positions for central office lines.
Once the central office line priorities have
been established, these LCR groups are
inserted in the time priority route guide
tables, so that predetermined LCR groups
will be utilized during each preset time period
for outbound calling.

To set up LCR group 1, position 1 with
central office line 16, for example, enter:

[FF8], 6#, 1#, 1#, 16#

To set up LCR group 2, position 1 with
central office line 3, for example, enter:

[FF8], 6#, 2#, 1#, 3#

To set up LCR group 3, position 2 with
central office line 6, for example, enter:

[FF8], 6#, 3#, 2#, 6#

To set up LCR group 4, position 5 with
central office line 64, for example, enter:

[FF8], 6#, 4#, 5#, 64#

To set up LCR group 5, position 6 with
central office line 12, for example, enter:

[FF8], 6#, 5#, 6#, 12#

LCR DELETE TABLES
[FF8], 7#, (1-8)#, (Up to 16 digits)#

To set up LCR group 6, position 5 with central office line 10, for example, enter:

[FF8], 6#, 6#, 5#, 10#

To set up LCR group 7, position 1 with central office line 33, for example, enter:

[FF8], 6#, 7#, 1#, 33#

To set up LCR group 8, position 8 with central office line 60, for example, enter:

[FF8], 6#, 8#, 8#, 60#

To reset a position within an LCR central office line group to the default initialized setting, press [FF8], 6#, (1-8)#, (1-8)#, [CONF], [ON/OFF].

NOTE:

See feature options [FF1], 2#, 1#, 3#, (System setting for LCR), and [FF8], 6#, (LCR Trunk group table.)

Trunks are selected in the order they are stored in the LCR trunk groups. To lower the possibility of call glare remember to place the trunks in reverse order.

The first digits in the dialed string that match the digits stored in the delete table are automatically deleted before dialing the telephone number.

If LCR trunk group 1 is accessed, and the dial string is 1-212-666-1212 and 1-212 should be deleted prior to dialing for example, enter:

[FF8], 7#, 1#, 1212#

If LCR using trunk group 2 is designed to eliminate the first digit 1 in all area codes for example, enter:

[FF8], 7#, 2#, 1#

If LCR trunk group 3 is used to route calls to a specific carrier and to prevent connection to another carrier such as 10288 for example, enter:

[FF8], 7#, 3#, 10288#

If LCR trunk group 4 is used behind centrex or a PBX and a digit 9 is automatically added (dial add table) you can eliminate incorrectly dialing the digit 9 twice by deleting the 9 each time it is dialed for example, enter:

[FF8], 7#, 4#, 9#

-------> Line Search Direction ------->			
LCR Group 1	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 2	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 3	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 4	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 5	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 6	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 7	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line
LCR Group 8	1st CO Line	2nd CO Line	3rd CO Line	to 8th CO Line

LCR ADD TABLES
[FF8], 8#, (1-8)#, (UP TO 16 DIGITS)#

If LCR trunk group 5 is a direct T1 access line to another facility in a different area code such as 714, and the digit string 714 should not be dialed for example, enter:

[FF8], 7#, 5#, 714#

To reset the LCR delete tables to the default initialized value, press [FF8], 7#, (1-8)#, [CONF], [ON/OFF].

NOTES

Digit Delete Tables are matched to the LCR trunk groups. Each time one of these groups are accessed the dial delete table is checked.

Digits in the dialed string that are needed to be outpulsed after a central office line has been seized (such as access codes), are automatically added before the dialed telephone number is outpulsed on the central office line. This option allows for the addition of digits.

If LCR line group 1 is to be accessed, and the digit string 10288 is to be added before the dialed number is outpulsed for example, enter:

[FF8], 8#, 1#, 10288#

If LCR trunk group 2 is to be accessed, and you want to add the digit 1 before all long distance numbers dialed for example, enter:

[FF8], 8#, 2#, 1#

If LCR trunk group 3 is to be accessed, and the digit 9 is to be added before the dialed number is outpulsed for example, enter:

[FF8], 8#, 3#, 9#

If LCR trunk group 4 is to be accessed, and the digit string 8 is to be added before the dialed number is outpulsed for example, enter:

[FF8], 8#, 4#, 8#

<u>To reset the LCR add tables to the
default initialized value, press [FF8],
8#, (1-8)#, [CONF], [ON/OFF].</u>

NOTE:

If digits are being added and deleted
from the same CO line group, the DBS
will delete digits first, then add digits.

3-9 COPY PROGRAM SETTINGS

CENTRAL OFFICE LINE COPY
[FF9], 1#, (1-64)#, (1-64)##

To copy all the attributes of one central office line to another, this option is used. Copying must be done on a line by line basis. The first line number of this address is the source line being copied, the second line number is the target destination.

To copy the attributes of central office line port 1 to that of central office line port 5, for example, enter:

[FF9], 1#, 1#, 5##

To copy the attributes of central office line port 7 to that of central office line port 3, for example, enter:

[FF9], 1#, 7#, 3##

There is no default initialized value for this option.

NOTE:

Using this address to copy central office line attributes results in the copying of all attributes for the line except the private line attribute.
The second # after the second central office line entry is a part of the program sequence, which confirms the copy action.

EXTENSION COPY
[FF9], 2#, (1-144)#, (1-144)##

To copy all the attributes of one extension to another, this option is used. Copying must be done on an extension by extension basis. The first extension port number of this address is the source extension being copied, the second extension port number is the target destination.

To copy the attributes of extension port 10 to that of extension port 5, for example, enter:

[FF9], 2#, 10#, 5##

To copy the attributes of extension port 70 to that of extension port 3, for example, enter:

[FF9], 2#, 70#, 3##

There is no default initialized value for this option.

NOTE:

Using this address to copy extension attributes results in the copying of all attributes including toll restriction for an extension except the extension number, telephone type, station lock-out code, and EM 24 port number (BLF port setting).

The second # after the second extension entry is a part of the program sequence, which confirms the copy action.

> **FF Key Copy**
> **[FF9], 3#, (1-144)#, (1-144)##**

To copy all the attributes of one extensions LED FF keys to another, this option is used. Copying must be done on an extension by extension basis. The first extension port number of this address is the FF key source extension being copied, the second extension port number is the FF key target extension port number.

To copy the LED FF key attributes of extension port 2 to that of extension port 5, for example, enter:

[FF9], 3#, 2#, 5##

To copy the LED FF key attributes of extension port 6 to that of extension port 10, for example, enter:

[FF9], 3#, 6#, 10##

There is no default initialized value for this option.

> **NOTE:**

The exceptions to the FF key copy program are that *ONLY* the LED FF key programming can be copied. Non LED FF key settings will not be copied. The second # after the second extension entry is a part of the program sequence, which confirms the copy action.

When copying the FF keys of a phone to another that is in the default condition, the originally assigned keys must first be cleared. This is done in address [FF5], (1-144)#, (1-24)#.

A quick way to accomplish copying the same FF key settings (that are different than the default settings) is to go to the FF5 address indicated above, and clear all keys. Then copy the cleared keys to all other extensions with address [FF9], 3#. Return to the [FF5], (1-144)#, (1-24)# address and create the key configuration desired. Finally, return to [FF9], 3#, and copy those features to all extensions.

3-10 SYSTEM AND PERSONAL SPEED DIAL SETTINGS

> **SYSTEM SPEED DIAL NUMBERS**
> [FF10], 1#, (00-89)#, (UP TO 16 DIGITS)#

The storage of up to 90 speed dial numbers for use by designated DBS extension users are set in this feature option.

To set the telephone number (203) 555-1212, in system speed dial bin number 00, for example, enter:

[FF10], 1#, 00#, 2035551212#

To set the telephone number (800) 555-1212, in system speed dial bin number 64, for example, enter:

[FF10], 1#, 64#, 8005551212#

To set the telephone number (203) 555-1212, in system speed dial bin number 00, for example, enter:

[FF10], 1#, 00#, 2035551212#

To set the telephone number (404) 555-1212, in system speed dial bin number 44, for example, enter:

[FF10], 1#, 44#, 4045551212#

To reset a system speed dial bin to the default initialized value, press, [FF10], 1#, (00-89)#, [CONF], [ON/OFF].

NOTES:

System speed dial numbers will display on large display telephones in alphabetical order. A block of system speed dial numbers can be restricted from general use. To create this partition, see feature option [FF1], 2#, 1#, 4#. To restrict the display of system speed dial numbers, see [FF1], 2#, 1#, 5#. To set large display telephones to display 5 or 10 system speed dial numbers, see [FF1], 2#, 19#. To store an associated name for a system speed dial number, see [FF6], 2#, (00-89)#. If a DSS console is available for programming, it is possible to assign a central office line group as part of a system speed dial number. To make use of this capability, insert a **C** as the first character of the speed dial bin, followed by 1-6 to designate the line group number. A 9 can also be used to access the pooled line capabilty. The **C** is required for an SLT to use SSD. A **P** will insert a pause, complete the entry with the COMPLETE number as it would be dialed if manually done. The following keys perform the indicated functions for the programming of speed dial numbers:

[CONF], on the phone clears entered data
[<-], on the DSS backspaces
[BS], on the DSS backspaces
[->], on the DSS forward spaces
P, pauses
C, initiates line group access and when a line is accessed drops the 9 from the dial string.

EXAMPLE:
C1P5551212 will access line group 1, then pause, then dial 555-1212.

PERSONAL SPEED DIAL NUMBERS
[FF10], 2#, (1-144)#, (90-99)#, (UP TO 16 DIGITS)#

The storage of up to 10 personal speed dial numbers for use by each DBS extension user are set in this feature option.

To set the telephone number (203) 555-1212 for extension port 20, in personal speed dial bin number 90, for example, enter:

[FF10], 2#, 20#, 90#, 2035551212#

To set the telephone number (800) 555-1212, for extension port 140, in personal speed dial bin number 95, for example, enter:

[FF10], 2#, 140#, 95#, 8005551212#

To reset a personal speed dial bin to the default initialized value, press, [FF10], 2#, (1-144)#, (90-99)#, [CONF], [ON/OFF].

NOTES:

Personal speed dial numbers will display on large display telephones in alphabetical order.

CPC-B software version 2.00 requires the use of a large display telephone on port 1, in order for the personal speed dial keys to function. CPC-B software newer than version 2.05, allows personal speed dial key operation with the use of any model telephone. See Technotes 10 & 12 (March 1992) for complete information.

A personal speed dial number can only be used by the extension port it is set on. To set large display telephones to display 5 or 10 personal speed dial numbers, see [FF3], (1-144)#, 17#.

To store an associated name for a personal speed dial number, see [FF6], 3#, (1-144)#, (90-99)#.

If a DSS console is available for programming, it is possible to assign a central office line group as part of a personal speed dial number. To make use of this capability, insert a **C** as the first character of the speed dial bin, followed by 1-6 to designate the line group number. A 9 can also be used to access the pooled line capabilty. The **C** is required for an SLT to use SSD. A **P** will insert a pause, complete the entry with the COMPLETE number as it would be dialed if manually done. The following keys perform the indicated functions for the programming of speed dial numbers:

[CONF], on the phone clears entered data
[<-], on the DSS backspaces
[BS], on the DSS backspaces
[->], on the DSS forward spaces
P, pauses
C, initiates line group access and when a line is accessed drops the 9 from the dial string.

EXAMPLES:
C1P5551212 will access line group 81, then pause, then dial 555-1212.

C9P12015551212, will access pooled line group 9, then pause, then dial 1 (201) 555-1212.

Preface

CPC-B - VERSIONS 1.0 and 2.0

There are now two versions of DBS CPC-B.

CPC-B, Version 2.0 (DBS III) has many new or improved features. Included in this publication are *new programming addresses* as well as addresses for CPC-B, Version 1.0 (Enhanced DBS).

See *DBS Programming Instructions, Section 400*, for other programming addresses.
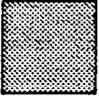
Addendum to the DBS Programming Instructions Section 400B

CPC-B Versions 1.0 and 2.0

Contents

CPC-B

V1.0

DATA TABLES

Initial Settings - Data Tables, Version 1.0

Address	Feature	Default	Page
FF I KEY - System Programming			**3**
FF1-2#-			**3**
1-2#-1#-22#-(0 or 1-15)#	Attendant overflow	8 calls	3
1-2#-1#-23#-(0 or 1)#	Delayed-ring capability	Disable	3
1-2#-2#-10#-(0 or 1)#	RAI baud rate switch	1200 baud	4
FF1-3#-			**5**
1-3#-20#-(0 or 1-8)#	Outbound ground detection timer	4 seconds	5
1-3#-21#-(0 or 1-8)#	Incoming ground detection timer	4 seconds	5
FF 2 KEY - Trunk Programming			**6**
FF2-			**6**
2-(01-64)#-21#-(0 or 1)#	Loop-start/ground-start switch	Loop-start	6
FF 4 KEY - Ring Assignment and Hunt Groups			**7**
FF4-			**7**
4-5#-(001-145)#-(01-64)#-(0 or 1)#	Daytime delayed-ring tables	No ring	7
4-6#-(001-145)#-(01-64)#-(0 or 1)#	Nighttime delayed-ring tables	No ring	7
FF 5 Key - Flexible Feature Key Asignment			**8**
FF5-			**8**
5-(145-148)#-(01-72)#-CONF-Code#	DSS/72/BLF consoles		8

FF 1 KEY

SYSTEM PROGRAMMING

V1.0

COMMON SYSTEM SETTINGS

ATTENDANT OVERFLOW	
FF1-2#-1#-22#-(0 or 1-15)#	
0#: No stacked calls 1#: 1 call 2#: 2 calls 3#: 3 calls 4#: 4 calls 5#: 5 calls 6#: 6 calls 7#: 7 calls 8#: 8 calls 9#: 9 calls 10#: 10 calls 11#: 11 calls 12#: 12 calls 13#: 13 calls 14#: 14 calls 15#: 15 calls	Determines the maximum number of incoming calls that can be stacked to the first attendant. The overflow calls are transferred to other stations set in the delayed-ring tables.
NOTE: Attendant overflow is available only in CPC-B, Version 1.0. Version 2.0 does not have this feature.	

DELAYED-RING CAPABILITY	
FF1-2#-1#-23#-(0 or 1)#	
0#: Disable 1#: Enable	If there is no answer at an extension set to ring in the extension-ring tables, the call can also ring at an extension set in the extension delayed-ring tables if the system is set up for it. This setting enables the system to program delayed-ring tables. *See the section on Delayed-Ring Tables under FF 4 Key Ring Assignment and Hunt Groups elsewhere in this manual.*

COMMON SYSTEM SETTINGS

RAI BAUD RATE SWITCH	
FF1-2#-2#-10#-(0 or 1)#	
0#: 300 Baud (RAI-A or RAI-B) 1#: 1200 Baud (RAI-B)	The baud rate that serves the system's remote administration capability can be switched to either 300 or 1200 baud when the RAI B card is installed. The settings for Data Length and Stop-Bit Length are the same for both TTY and RAI. However, the No Parity Check setting is always fixed on the RAI regardless of the TTY settings.

DETECTION TIMERS

OUTBOUND GROUND DETECTION TIMER	
FF1-3#-20#-(0 or 1-8)#	
0#: No detection 1#: 1 second 2#: 2 seconds 3#: 3 seconds 4#: 4 seconds 5#: 5 seconds 6#: 6 seconds 7#: 7 seconds 8#: 8 seconds	The system sends a ground signal to the ground-start trunk and waits for a return ground signal from the telephone company's central office. The returning ground signal activates the detection timer and the system starts the outgoing process. If a return ground signal is not detected, the system regards the trunk as unavailable and sends a busy tone to the caller. To activate the Detection Timer, set the loop-start/ground-start switch at ground start. Install loop-start/ground-start trunk card VB-43531.

INCOMING GROUND DETECTION TIMER	
FF1-3#-21#-(0 or 1-8)#	
0#: No detection 1#: 1 second 2#: 2 seconds 3#: 3 seconds 4#: 4 seconds 5#: 5 seconds 6#: 6 seconds 7#: 7 seconds 8#: 8 seconds	The time between detection of a ground signal on a ground-start trunk coming from the central office during the idle state and the start of a call process can be programmed. At the moment the ground signal is detected, the line LED on the key set will turn red indicating that the trunk is in use, even though the call has not yet been processed. To activate the Detection Timer, set the loop-start/ground-start switch at ground-start. Install loop-start/ground/start trunk card VB-43531.

FF 2 KEY

TRUNK PROGRAMMING

V1.0

SWITCHES

LOOP-START/GROUND-START SWITCH	
FF2-(01-64)#-21#-(0 or 1)#	
0#: Loop-start trunk 1#: Ground-start trunk	Trunk-by-trunk switching for either the loop-start or ground-start circuit allows a flexible trunk setup between the two trunks. When the ground-start trunk is enabled, check the parameters for the Outbound Ground Detection Timer and the Inbound Ground Detection Timer. Install loop-start/ground-start trunk card VB-43531.

FF 4 KEY

RING ASSIGNMENT
AND
HUNT GROUPS

V1.0

DELAYED-RING TABLES

DAYTIME DELAYED-RING TABLES	
FF4-5#-(001-145)#-(01-64)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	Assigned extensions will ring at this table when there is no answer at the extensions assigned to the Daytime CO-Line Ring Tables. Port 145 is for Universal Night Answer (UNA)

NIGHTTIME DELAYED-RING TABLES	
FF4-6#-(001-145)#-(01-64)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	Assigned extensions will ring at this table when there is no answer at the extensions assigned to the Nighttime CO-Line Ring Tables. Port 145 is for Universal Night Answer (UNA)

FF 5 KEY

FLEXIBLE FEATURE KEY PROGRAMMING

V1.0

DSS/72/BLF CONSOLES

FF 5 KEY ASSIGNMENT FOR DSS/72/BLF CONSOLES FF5-(145-148)#-(01-24) or (01-72)#-CONF- Code#	
CONF: Clears data Code#: *See Section 700,* *DBS Programming Instructions,* *under "FF 5 Key Mode" for codes.*	Dedicated trunk lines (01-64) or pooled trunk lines (81-86, 89) can only be stored on the first 24 FF keys (01-24). All other codes can be stored in any of the 72 FF keys (01-72). **145:** DSS 1 for First Attendant **146:** DSS 2 for First Attendant **147:** DSS 1 for Second Attendant **148:** DSS 2 for Second Attendant

CPC-B

V2.0

DATA TABLES

Initial Settings - Data Tables, Version 2.0

Address	Feature	Default	Page
FF I KEY - System Programming			**13**
FF1-2#-1#-			**13**
1-2#-1#-24#-CONF-(101-699/11-69#) Second attendant		101	13
1-2#-1#-25#-CONF-(101-699/11-69#) Third attendant		CONF	13
1-2#-1#-26#-CONF-(101-699/11-69#) Fourth attendant		CONF	13
1-2#-1#-27#-CONF-(101-699/11-69#) Attendant transfer extension number		CONF	14
1-2#-1#-28#-(0 or 1)#	Attendant override switch	Enable	14
1-2#-1#-29#-(0 or 1)#	ALM key LED	Lights	15
1-2#-1#-30#-(0 or 1)#	Extension delayed-ring capability	No ring	15
FF1-3#-			**16**
1-3#-22#-(0 or 1-12)#	Att. intercom hold-recall timer	20 seconds	16
1-3#-23#-(0 or 1-12)#	Ext. intercom hold-recall timer	140 seconds	16
1-3#-24#-(0 or 1-12)#	Att. intercom transfer-recall timer	20 seconds	17
1-3#-25#-(0 or 1-12)#	Ext. intercom transfer-recall timer	140 seconds	17

Initial Settings - Data Tables, Version 2.0

Address	Feature	Default	Page
FF 2 KEY - Trunk Programming			**18**
FF2-(01-64)-			**18**
2-(01-64)#-21#-(0-2)#	Loop-start/ground-start/did	Loop-start	18
2-(01-64)#-22#-(0 or 1)#	DID - immediate or wink start	Wink	19
2-(01-64)#-23#-(0-15)#	Wink-start timer	200 milliseconds	19
2-(01-64)#-24#-(0 or 1-15)#	Dial time out for digits	18 seconds	20
2-(01-64)#-25#-(0-15)#	DID interdigit dial time out	80 milliseconds	20
FF 3 KEY - Extension Programming			**21**
FF3-(001-144)#-			**21**
3-(001-144)#-2#-(0 or 1-19)#	Telephone types	-	21
3-(001-144)#-34#-(0 or 1)#	Extension directory display	Displays 5 extensions	21
3-(001-144)#-35#-(0000-9999)#	DID dial outside tel. number	0000	22
3-(001-144)#-36#-(0-2)#	Ringback tone with busy signal	RBT with busy signal	22

Initial Settings - Data Tables, Version 2.0

Address	Feature	Default	Page
FF 4 KEY - Ring Assignment and Hunt Groups			**23**
FF4-1#-			**23**
4-1#-(151-158)#-(01-64)#-(0 or 1)#	Hunt-group daytime CO-line ring tables	No ring	23
FF4-2#-			**23**
4-2#-(151-158)#-(01-64)#-(0 or 1)#	Hunt-group nighttime CO-line ring tables	No ring	23
FF4-3#-			**24**
4-3#-(1-8)#-1#-(0 or 101-699/11-69)#	Hunt-group pilot ext. number	No assignment	24
4-3#-(1-8)#-2#-(0-2)#	Hunt-group search methods	Terminal	24
4-3#-(1-8)#-3#-(0 or 100-699/10-69)#	Transfer extension number	No assignment	25
4-3#-(1-8)#-4#-(2-32)#	Transfer timer	2 seconds	25
4-3#-(1-8)#-(5-12)#-(0 or 100-699/10-69)#	Hunt-group extension (1-8)	No assignment	25
FF4-5#-			**26**
4-5#-(151-158)#-(01-64)#-(0 or 1)#	Hunt-group daytime delayed ring tables	No ring	26
FF4-6#-			**27**
4-6#-(151-158)#-(01-64)#-(0 or 1)#	Hunt-group nighttime delayed ring tables	No ring	27
FF4-7#-			**27**
4-7#-(001-144)#-(001-144)#-(0 or 1)#	Extension-ring tables	No ring	27
FF4-8#-			**27**
4-8#-(001-144)#-(001-144)#-(0 or 1)#	Extension delayed-ring tables	No ring	27

Initial Settings - Data Tables, Version 2.0

Address	Feature	Default	Page
FF 5 KEY - Flexible Feature Key Assignment			**28**
FF5-			**28**
Extensions			**28**
5-(001-144)#-(01-24)#-CONF-(PROG 10-69/100-699#) or (81-86, 89#) EL/ML keys		CONF	28
5-(001-144)#-(01-24)#-CONF-(PROG PROG xxxxxx#) or (xxxxxx#) Any key/Pre-programmed codes		CONF	28
DSS/BLF Console			29
5-(145-148)#-(01-24)#-CONF-(PROG 10-69/100-699#) or (81-86, 89#) EL/ML keys		CONF	29
5-(145-148)#-(01-72)#-CONF-(PROG PROG xxxxxx#) or (xxxxxx#) Any key/Pre-programmed codes		CONF	29
Attendant Console			**30**
5-(149-152)#-(01-32)#-CONF-(PROG 10-69/100-699#) or (81-86, 89#) EL/ML keys		CONF	30
5-(149-152)#-(01-32)#-CONF-(PROG PROG xxxxxx#) (xxxxxx#) Any key/Pre-programmed codes		CONF	30
FF 6 KEY - Name Assignment			**31**
FF6-5#			**31**
6-5#-(01-64)#-CONF-(xxxxxx#)	CO-trunk-line name assignment	CONF	31
FF6-6#			
6-6#-(1-8)#-CONF-(xxxxxxxxxx#)	Hunt-group pilot name assign.	CONF	31

MULTI-LINE KEY FEATURES

Attendants

When all the multi-line keys on the first attendant's telephone are busy, a call will transfer in sequence to the second, third and fourth attendant.
If all four attendants are busy, the call will transfer to a preset destination which must be a real extension number, such as a single-line telephone, answering machine or other single-line device. The transfer-destination extension cannot be a pilot number.

101: Second attendant 101-699/11-69#: Extension number	**SECOND ATTENDANT EXTENSION NUMBER** **FF1-2#-1#-24#-CONF-(101-699/11-69#)**
CONF: No third attendant 101-699/11-69#: Extension number	**THIRD ATTENDANT EXTENSION NUMBER** **FF1-2#-1#-25#-CONF-(101-699/11-69#)**
CONF: No fourth attendant 101-699/11-69#: Extension number	**FOURTH ATTENDANT EXTENSION NUMBER** **FF1-2#-1#-26#-CONF-(101-699/11-69#)**

MULTI-LINE KEY FEATURES

Attendants

ATTENDANT TRANSFER EXTENSION NUMBER	
FF1-2#-1#-27#-CONF-(101-699/11-69#)	
CONF: No extension number 101-699/11-69#: Transfer extension number	If the attendants are busy, the system will transfer the call to the attendant transfer extension number.
NOTE: The transfer extension should be a real extension. It cannot be a pilot extension number.	

ATTENDANT OVERRIDE SWITCH	
FF1-2#-1#-28#-(0 or 1)#	
0#: Disable 1#: Enable	If the attendant tries to override a call once the *system* is set for Attendant Override Disable, a busy tone will sound.

COMMON SYSTEM SETTINGS

ALM KEY LED
FF1-2#-1#-29#-(0 or 1)#

0#: Does not light 1#: Lights	The Alarm (ALM) key on the Attendant Console will either light or not light with this setting.

EXTENSION (BUSY LAMP FIELD) DELAYED-RING CAPABILITY
FF1-2#-1#-30#-(0 or 1)#

0#: No 1#: Yes	When there is no answer at the extensions set in the extension ring tables, calls are distributed to other extensions set in the extension delayed-ring tables. *See the section on Delayed-Ring Tables under FF 4 Key Ring Assignment and Hunt Groups elsewhere in this manual.*

MULTI-LINE KEY FEATURES

Intercom Recall Timers

Intercom-Recall Timers are a new feature for the DBS system.

Intercom HOLD-Recall Timers

If a held intercom call does not respond after a preset time, a recall signal will sound. The time for the begining of the signal is programmable.

The Attendant and the Extensions are each set separately.

0#: No intercom-HOLD 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** INTERCOM HOLD-RECALL TIMER FF1-3#-22#-(0 or 1-12)#
0#: No intercom-HOLD 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	**Extensions** INTERCOM HOLD-RECALL TIMER FF1-3#-23#-(0 or 1-12)#

FF 1 KEY

SYSTEM PROGRAMMING

V2.0

MULTI-LINE KEY FEATURES

Intercom Recall Timers

Intercom Transfer-Recall Timers

If a transferred intercom call does not respond after a preset time, a recall signal will sound. The time for the begining of the signal is programmable.

The Attendant and the Extensions are each set separately.

0#: No intercom-transfer 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** INTERCOM TRANSFER-RECALL TIMER FF1-3#-24#-(0 or 1-12)#
0#: No intercom-transfer 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	**Extensions** INTERCOM TRANSFER-RECALL TIMER FF1-3#-25#-(0 or 1-12)#

FF 2 KEY

TRUNK PROGRAMMING

V2.0

TRUNK CARDS

LOOP-START/GROUND-START/DIRECT-IN-DIAL TRUNK CARDS	
FF2-(01-64)#-21#-(0-2)#	
<u>0#: Loop-start trunk</u> 1#: Ground-start trunk 2#: DID trunk	There are three types of trunks: Loop-start, Ground-start and Direct-in-Dial (DID). When installing a DID trunk, check the parameters for Immediate or Wink start. Also check the parameters for the Wink-Start Timer, Dial Time Out for Digits and the DID Interdigit Dial Time Out. ***See also following pages.***

DIRECT-IN-DIAL (DID)

DID - IMMEDIATE OR WINK START
FF2-(01-64)#-22#-(0 or 1)#

0#; Wink start 1#: Immediate start	**Immediate Start** - After connecting with a distant switching system, the DBS system will wait 65 milliseconds before accepting the digits of a dialed number. **Wink Start** - The DBS system waits for a momentary signal (wink) before accepting the digits of a dialed number.

WINK-START TIMER
FF2-(01-64)#-23#-(0-15)#

0#: 140 milliseconds 1#: 160 msec 2#: 180 msec 3#; 200 msec 4#: 220 msec 5#: 240 msec 6#: 260 msec 7#: 280 msec 8#: 300 msec 9#: 200 msec 10#: 200 msec 11#: 200 msec 12#: 200 msec 13#: 200 msec 14#: 200 msec 15#: 200 msec	Maximum amount of time the system waits before accepting the digits of a dialed number.

DIRECT-IN-DIAL (DID)

DIAL TIME OUT FOR DIGITS	
FF2-(01-64)#-24#-(0 or 1-15)#	
0#: No time out 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#: 18 seconds 10#: 18 seconds 11#: 18 seconds 12#: 18 seconds 13#: 18 seconds 14#: 18 seconds 15#: 18 seconds	Maximum amount of time before a time-out signal, indicating an incomplete dialed number, is sent from the telephone company's central office.

DID INTERDIGIT DIAL TIME OUT	
FF2-(01-64)#-25#-(0-15)#	
0#: 30 milliseconds 1#: 40 msec 2#: 50 msec 3#: 60 msec 4#: 70 msec 5#: 80 msec 6#: 90 msec 7#: 100 msec 8#: 110 msec 9#: 120 msec 10#: 130 msec 11#: 140 msec 12#: 150 msec 13#: 160 msec 14#: 160 msec 15#: 160 msec	Sets the amount of time for dialing each digit before a time-out signal is sent from the telephone company's central office indicating an incomplete dialed number.

FF 3 KEY

EXTENSION
PROGRAMMING

V2.0

EXTENSION PROGRAMMING

TELEPHONE TYPES	
FF3-(001-144)#-2#-(0 or 1-19)#	
0#: No assignment 1#: Analog telephone 2#: Digital telephone (FF 6 key) 3#: Digital telephone (FF 12 key) 4#: Digital telephone (FF 24 key) 5#: Reserved 6#: Reserved 7#: EM/24 VB-43310 8#: OPX (pulse) 9#: OPX (tone) 10#: Voice mail (AEC) 11#: DSS1 - Extension 100/10 12#: DSS2 - Extension 100/10 13#: DSS3 - Extension 101/11 14#: DSS4 - Extension 101/11 15#: Voice mail (OPX) **CPC-B, Version 2.0** 16#: First attendant console 17#: Second attendant console 18#: Third attendant console 19#: Fourth attendant console	Stores telephones in the system.

EXTENSION DIRECTORY DISPLAY	
FF3-(001-144)#-34#-(0 or 1)#	
0#: Displays 5 extensions 1#: Displays 10 extensions	Extension directory display on a large-screen display telephone.

DIRECT-IN-DIAL (DID)

DID DIAL OUTSIDE TELEPHONE NUMBER	
FF3-(001-144)#-35#-(0000-9999)#	
0000#: Default 0000-9999#: Outside telephone number	A signal is sent from the DID CO-trunk line to the DBS system and converted to a DBS extension number. The parameters represent the last four digits of the DID outside telephone number.

RINGBACK TONE WITH BUSY SIGNAL

RINGBACK TONE WITH BUSY SIGNAL	
FF3-(001-144)#-36#-(0-2)#	
0#: Ringback tone with busy signal 1#: Busy signal 2#: Ringback tone	Sets ringback tone on a busy Multi-Line key. A caller ringing in on a busy multi-line key will hear the tone set by this address. This tone can also be set to a Voice-Mail port.

FF 4 KEY

RING ASSIGNMENT
AND
HUNT GROUPS

V2.0

RING ASSIGNMENT AND HUNT GROUPS

In the DBS system, you can have up to eight hunt groups with a maximum of eight extensions plus a pilot extension number in each group.

The pilot extension number is not a real extension, but a receiver of incoming ring signals. Once the ring signal reaches the hunt group through the pilot number, the signal then rings at the first free extension in the group according to the hunt-group search method. *See following page.*

INCOMING CO-LINE RING SIGNAL TO A HUNT GROUP

CO-line ring signals are set in Day Ring, Night Ring, Day Delayed-Ring and Night Delayed-Ring tables. You can set a ring signal for each hunt-group pilot number (151-158) and each CO line (01-64).

HUNT-GROUP RING TABLES

DAYTIME CO-LINE RING TABLES	
FF4-1#-(151-158)#-(01-64)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	Sets the hunt-group pilot numbers for daytime ring.

NIGHTTIME CO-LINE RING TABLES	
FF4-2#-(151-158)#-(01-64)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	Sets the hunt-group pilot numbers for nighttime ring.

HUNT-GROUP PROGRAMMING

PILOT EXTENSION NUMBER FOR A HUNT GROUP	
FF4-3#-(1-8)#-1#-(0 or 101-699/11-69)#	
<u>0#: No Assignment</u> 101-699/11-69#: Extension number	Pilot extension number in a hunt group.

HUNT-GROUP SEARCH METHODS		
FF4-3#-(1-8)#-2#-(0-2)#		
<u>0#: Terminal</u> 1#: Distributed 2#: Longest Idle	**There are three types of hunt groups:**	
	Terminal	Begins its search with the pilot number and then moves through the eight extension numbers, in sequence, before transferring after a set time to the pilot number of the next hunt group.
	Distributed	Distributes calls through the pilot number based on which extension in the group received a call in the last search. The next extension in sequence receives the new call.
	Longest Idle	Searches through the pilot number for an extension in the group which has

HUNT-GROUP PROGRAMMING

TRANSFER EXTENSION NUMBER	
FF4-3#-(1-8)#-3#-(0 or 100-699/10-69)#	
0#: No assignment 100-699/10-69#: Extension number	Once a ring signal ends its search in a hunt group, it can be transferred to a pilot number in another hunt group, an extension, the attendant, an answering machine or another destination.

TRANSFER TIMER	
FF4-3#-(1-8)#-4#-(2-32)#	
2#: 2 seconds 3-32#: 3-32 seconds	Sets the maximum amount of time before a call is transferred to another hunt group.

HUNT-GROUP EXTENSION (1-8)	
FF4-3#-(1-8)#-(5-12)#-(0 or 100-699/10-69)#	
0#: No assignment 100-699/10-69#: Extension number	Assigns an extension number to one of the eight places in a hunt group.

DELAYED-RING TABLES

HUNT-GROUP DAYTIME DELAYED-RING TABLES
FF4-5#-(151-158)#-(01-64)#-(0 or 1)#

0#: No ring signal 1#: Ring signal	Sets the hunt-group pilot numbers (151-158) in the daytime delayed-ring tables.

DELAYED-RING TABLES

HUNT-GROUP NIGHTTIME DELAYED-RING TABLES	
FF4-6#-(151-158)#-(01-64)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	Sets the hunt-group pilot numbers (151-158) in the nighttime delayed-ring tables.

EXTENSION-RING TABLES	
FF4-7#-(001-144)#-(001-144)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	This sets the ring on an extension-line key. The first set of port numbers (001-144) represent your telephone. The second set of port numbers (001-144) belong to the target telephone.

EXTENSION DELAYED-RING TABLES	
FF4-8#-(001-144)#-(001-144)#-(0 or 1)#	
0#: No ring signal 1#: Ring signal	If the set extensions on the extension-ring table do not answer, a call will also ring on extensions set in the extension delayed-ring table. The first set of port numbers (001-144) represent your telephone. The second set of port numbers (001-144) belong to the target telephone.

FF 5 KEY

FLEXIBLE FEATURE KEY
PROGRAMMING

V2.0

MORE FLEXIBILITY FOR FF KEYS

FF KEY FEATURE ASSIGNMENT FOR EXTENSIONS

CONF: Clears data PROG 10-69/100-699#: EL keys 81-86, 89#: ML keys	**EXTENSION LINE (EL) AND MULTI-LINE (ML) KEYS** **FF5-(001-144)#-(01-24)#-CONF- (PROG 10-69/100-699#) or (81-86, 89#)** Programs Extension-Line (EL) and Multi-Line (ML) keys. Store the Multi-Line key as **81-86, 89**. There can be a maximum of 12 ML keys on the Attendant *telephone*. On other telephones, there can be up to 3 ML keys assigned to any of the 24 FF keys (01-24). *See Section 700B, Addendum to the DBS Operating Instructions under "Line Key Features" for an explanation of EL and ML keys.*
CONF: Clears data PROG PROG xxxxxx#: Any key, maximum of six digit xxxxxx#: Pre-programmed codes	**ANY KEY OR PRE-PROGRAMMED CODES** **FF5-(001-144)#-(01-24)#-CONF- (PROG PROG xxxxx#) or (xxxxx#)** **(PROG PROG xxxxx#)** will program the *Any Key* feature. You can program *any digits up to a maximum of six*. Use this feature to store, for example, code 5 for OHVA. There can be a maximum of 24 FF keys (01-24). **Note:** The LCD screen will only display up to four digits. **(xxxxx#)** is for setting pre-programmed codes. *See Section 700, DBS Operating Instructions, under "Storing the FF Keys" for a chart of these codes. See also Section 700B, Addendum to the DBS Operating Instructions under "More Flexibility for FF Keys" for instructions on how to store CF codes plus an extension to an FF key.* **NOTE:** You cannot use the *programming mode* through the telephone to assign the **FLASH** or **CONF** features to an FF key. *See Section 700B, Addendum to the DBS Operating Instructions under "More Flexibility for FF Keys" for instructions on how to assign these features to FF keys.*

MORE FLEXIBILITY FOR FF KEYS

FF KEY ASSIGNMENT FOR DSS/72/BLF CONSOLES

145: DSS 1 for First Attendant   **147:** DSS 1 for Second Attendant

146: DSS 2 for First Attendant   **148:** DSS 2 for Second Attendant

CONF: Clears data
PROG 10-69/100-699#:
    DSS/72/BLF keys
 	
81-86, 89#: MCO keys
	DSS/72/BLF AND POOLED-TRUNK-LINE KEYS
	
	FF5-(145-148)#-(01-24) or (01-72)#-CONF-
	      (PROG 10-69/100-699#) or (81-86, 89#)
	
	Programs DSS/72/BLF and Pooled-Trunk-Line (MCO) keys. Store the MCO key as **81-86, 89** on the first 24 FF keys (01-24). All of the 72 FF keys can be used for DSS/72/BLF keys.
	
	See Section 700B, Addendum to the DBS Operating Instructions under "Line Key Features" for an explanation of EL and ML keys.

CONF: Clears data
PROG PROG xxxxxx#:
  Any key, maximum of six digits
 	
xxxxxx#: Pre-programmed codes
	ANY KEY OR PRE-PROGRAMMED CODES
	
	FF5-(145-148)#-(01-72)#-CONF-
	      (PROG PROG xxxxx#) or (xxxxx#)
	
	(PROG PROG xxxxx#) will program the *Any Key* feature. You can program *any digits up to a maximum of six*. Use this feature to store, for example, code 5 for OHVA. There are 72 FF keys (01-72).
	
	Note: The LCD screen will only display up to four digits.
	
	(xxxxx#) is for setting pre-programmed codes.
	
	See Section 700, DBS Operating Instructions, under "Storing the FF Keys" for a chart of these codes. See also Section 700B, Addendum to the DBS Operating Instructions under "More Flexibility for FF Keys" for instructions on how to store CF codes plus an extension to an FF key.
	
	NOTE: You cannot use the *programming mode* through the telephone to assign the **FLASH** or **CONF** features to an FF key.
	
	See Section 700B, Addendum to the DBS Operating Instructions under "More Flexibility for FF Keys" for instructions on how to assign these features to FF keys.

MORE FLEXIBILITY FOR FF KEYS

FF KEY ASSIGNMENT FOR ATTENDANT CONSOLES

Use with Optional Attendant Feature Package (VB-43330)

(See Attendant Console User Guide, Section 760 for FF Key Layout.)

	DSS/72/BLF AND POOLED-TRUNK-LINE KEYS
	FF5-(149-152)#-(01-08) or (01-32)#-CONF- **(PROG 10-69/100-699#) or (81-86, 89#)**
CONF: Clears data PROG 10-69/100-699#: DSS/72/BLF keys 81-86, 89#: MCO keys	Programs DSS/72/BLF and Pooled-Trunk-Line (MCO) keys on the Attendant *console*. Store the MCO keys as **81-86, 89** on the first eight FF keys (01-08) only.
	ANY KEY OR PRE-PROGRAMMED CODES **FF5-(149-152)#-(01-32)#-CONF-** **(PROG PROG xxxxx#) or (xxxxx#)** **(PROG PROG xxxxx#)** will program the *Any Key* feature. You can program *any digits up to a maximum of six*. Use this feature to store, for example, code 5 for OHVA. There are 32 FF keys (01-32).
CONF: Clears data PROG PROG xxxxx#: Any key, maximum of six digits xxxxx#: Pre-programmed codes	**Note:** The LCD screen will only display up to four digits. **(xxxxx#)** is for setting pre-programmed codes. *See Section 700, DBS Operating Instructions, under "Storing the FF Keys" for a chart of these codes. See also Section 700B, Addendum to the DBS Operating Instructions under "More Flexibility for FF Keys" for instructions on how to store CF codes plus an extension to an FF key.* **NOTE:** You cannot use the *programming mode* through the telephone to assign the **FLASH** or **CONF** features to an FF key. *See Section 700B, Addendum to the DBS Operating Instructions under "More Flexibility for FF Keys" for instructions on how to assign these features to FF keys.*

FF 6 KEY

NAME ASSIGNMENT

V2.0

NAME ASSIGNMENT

CO-TRUNK-LINE NAME ASSIGNMENT	
FF6-5#-(01-64)#-CONF-(xxxxxx#)	
CONF: Clears data xxxxxx#: Name or message assignment - up to six characters	You can set CO-trunk-line name assignment in the programming mode during remote maintenance or you can set it with PCAS. Programming through a telephone set requires a 72-port Direct Selection Station (DSS/72). **Note:** The DSS/72 must be set to Telephone Types 11 for extension 100 or 13 for extension 101. *See under **FF 3 Key Extension Programming, V2.0** elsewhere in this manual.*

HUNT-GROUP PILOT NAME ASSIGNMENT	
FF6-6#-(1-8)#-CONF-(xxxxxxxxx#)	
CONF: Clears data xxxxxxxxx#: Name assignment - up to 10 characters	Assigns a name of up to 10 characters to a Hunt-Group Pilot Extension number.

Index

S

Second attendant extension number   9, 13

Switches   2, 6

System programming, V1.0   2, 3, 4

System programming, V2.0   9, 13, 14, 15, 16, 17

T

Telephone types   10, 21

Terminal, hunt groups   24

Third attendant extension number   9, 13

Transfer extension number   11, 25

Transfer timer   11, 25

Trunk cards   10, 18

Trunk programming, V1.0   2, 6

Trunk programming, V2.0   10, 18

U

UNA   7

Universal night answer   7

V

Voice mail   21, 22

W, X, Y, Z

Wink-start timer   10, 19

Panasonic

Issue 3 - July 1993

DBS Programming

Forms and Tables

Section 450

CPC-B Versions 1.0, 2.0, 3.1, and 4.0

CPC-A Versions 3.0, 3.1, and 3.2

Preface

he new **DBS Programming Forms and Tables**, section 450, has fewer pages, yet contains more information on how to make programming easier by using the newly-designed forms to record programmed data. How-to instructions precede each FF Key chapter.

While some forms overlap in information, every form charts a specific kind of programming. The instructions make clear who will use each form.

This manual is for software versions:

CPC-B 1.0, 2.0, 3.1, 4.0

and

CPC-A 3.0, 3.1, 3.2

All of the forms in this manual are intended to be photocopied. **Save your originals** and use them as copy masters.

FF1 Key - System
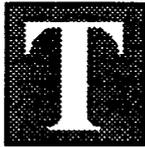
The FF1 Key is for system-wide programming. There are seven submodes (1# to 7#) for this key.

Time and Date, Recall and Pause timers, and DISA (Direct Inward System Access) are a few of the nearly 100 features available for programming on the FF1 Key.

Features programmed on this key affect the entire system. In contrast, the other nine FF keys affect only one extension or trunk, and are programmed on an extension-by-extension or trunk-by-trunk basis. The exception to these keys is System Speed Dial in the FF10 Key which also affects the entire system.

The programming forms and tables for the FF1 Key apply to each DBS system (single or double cabinet). The data options for most features are **0** and **1**, but some features have more than these two programming options. For example, the options for the Paging feature range from 00 to 07. Other features offer up to 15 options, such as the Automatic Pause Timer and Unsupervised Conference Talk-Time (trunk-to-trunk conferencing).

Save Your Original Forms!!!

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-1#		
-1#-(MMDDYY)# Date (month/day/year)	*No entry at default* MMDDYY: (01 to 12) (01 to 31) (00 to 99)	
-2#-(HHMM)# Time (hour/minutes)	*No entry at default* HHMM: (0000 to 2359)	
-2#-1#		
-1#-(0 or 1)# Call duration display	0: No display *1: display*	
-2#-(0 to 2)# SMDR timer/starting time display	*0: Starting from 5 sec.* 1: Starting from 16 sec. 2: Starting from 30 sec.	
-3#-(0 or 1)# See FF2-3#, FF8 Least Cost Routing (LCR)	*0: Pooled trunk access* 1: LCR	
-4#-(00 to 89)# Toll Restriction for SSD	SSD overrides TRS 00 to 89:_____ *TRS*	
-5#-(0 or 1)# Displays SSD during dialing	*0: Display* 1: No display	
-6#-(0 or 1)# AUTO-FLASH-REDIAL	0: Disable *1: Enable*	
-7#-(0 or 1)# One-touch dialing	0: Disable *1: Enable (must be set to 1)*	
-8#-(0 or 1)# Onhook transfer	0: Disable *1: Enable*	
-9#-(0 or 1)# Key-bank (automatic) HOLD (DSS BLF)	*0: Disable* 1: Enable	
-10#-(0 or 1)# Non-appearance CO line hold	0: Exclusive hold *1: System hold*	
-11#-(0 or 1)# SLT FLASH control	0: Intercom dial tone *1: Retrieves held CO line*	
-12#-(0 or 1)## Sets number of extension digits	0: 2 digits (10 to 69) *1: 3 digits (100 to 699)*	
-14#-(0 or 1)# Attendant intercom	0: Tone *1: Voice*	
-15#-(0 or 1)# Extension intercom	0: Tone *1: Voice*	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✓
-2#-1#		
-16#-(0 or 1)# Splash (alert) tone on a voice call	0: Disable *1: Enable*	
-17#-(0 or 1)# **See FF3-9#, 10#** Splash (alert) tone on a busy override	*0: Disable* 1: Enable	
-18#-(0 or 1)# Area code or 1 + area code	0: Area code only *1: 1 + area code*	
-19#-(0 or 1)# SSD name display - large display	*0: 5 names* 1: 10 names	
-21#-(0 or 1)# Voice mail tone	*0: Silence* 1: Busy tone	
-22#-(0 or 1 to 15)# Attendant overflow	0: No stacked calls (CPC-B Vs. 1.0)_____ *8: 8 calls (CPC-B Version 1.0)*	
-23#-(0 or 1)# Delayed-ring capability	*0: Disable* 1: Enable	
-24#-(101 to 69/11 to 699)# (CPC-B Vs. 2.0) Second attendant	*101: Second attendant* 11 to 69/101 to 699: Extension_____	
-25#-(101 to 69/11 to 699)# (CPC-B Vs. 2.0) Third attendant	*No entry at default* 11 to 69/101 to 699: Extension_____	
-26#-(101 to 69/11 to 699)# (CPC-B Vs. 2.0) Fourth attendant	*No entry at default* 11 to 69/101 to 699: Extension_____	
-27#-(101 to 69/11 to 699)# (CPC-B Vs. 2.0) Attendant transfer extension	*No entry at default* 11 to 69/101 to 699: Extension_____	
-28#-(0 or 1)# (CPC-B Vs. 2.0) Attendant override switch	0: Disable *1: Enable*	
-29#-(0 or 1)# (CPC-B Vs. 2.0) Alarm LED mode	0: Does not light *1: Lights*	
-30#-(0 or 1)# (CPC-B Vs. 2.0) BLF (extension) delayed ring	*0: No* 1: Yes	
-31#-(0 to 6)# Analog port transfer ring interval	*0: 0.5 Sec ON / 3.5 Sec OFF* 1: 3.0 Sec ON / 1.0 Sec OFF 2: 2.0 Sec ON / 2.0 Sec OFF 3: 1.0 Sec ON / 2.0 Sec OFF 4: 1.0 Sec ON / 3.0 Sec OFF 5: 1.0 Sec ON / 5.0 Sec OFF 6: 1.0 Sec ON / 7.0 Sec OFF	

FF1 Key - System

| DBS Account Name_____Cutover Date_____Sheet___of___ |
| Account Address_____Account Phone (Main List)_____ |

Address / Feature	Program Options	✔
-2#-1#		
-32#-(0 to 1)# (CPC-B Vs. 4.0 or higher) DID/DNIS emulation	**0: Disable** 1: Enable	
-32#-(0 or 1)# (CPC-B Vs. 3.0 or higher) Multiple DID	**0: Disable** 1: Enable	
-33#-(0 or 1)# Paging duration	**0: No limit** 1: 60 seconds	
-34#-(0 or 1)# SLT DISA ringing pattern	**0: 1 Sec ON / 3 Sec OFF** 1: Flexible (see CO TRF ringing pattern)	
-2#-2#		
-1#-(0 or 1)# SMDR TTY parity check	0: No parity check **1: Parity check (CPC-A Vs. 3.0 and above)**	
-2#-(0 or 1)# SMDR TTY parity type	0: Odd **1: Even**	
-3#-(0 or 1)# SMDR baud rate	1: 300 bps **2: 1200 bps - CPC-A V 2.0** 3: 4800 bps **4: 9600 bps - CPC-A V 3.0, CPC-B V 1.0, 2.0**	
-4#-(0 or 1)# SMDR stop-bit length	**1: 1.0 bits** 2: 1.5 bits 3: 2.0 bits	
-5#-(0 or 1)# SMDR data length	1: 5.0 bits (less than 90 ports) 2: 6.0 bits (less than 90 ports) 3: 7.0 bits **4: 8.0 bits**	
-6#-(0 or 1)#　　　　See FF3-14# SMDR print mode 1	0: Outgoing calls only **1: Incoming and outgoing**	
-7#-(0 or 1)# SMDR print mode 2	0: Long-distance calls only **1: All outgoing calls**	
-8#-(0 or 1)# SMDR print mode 3	**0: TTY data only** 1: Titles and TTY data	
-9#-(0 or 1)# Dump data mode (Xon/Xoff)	**0: No control** 1: Control	
-10#-(0 or 1)# RAI baud rate switch (remote)	0: 300 bauds (RAI-A, RAI-B) **1: 1200 bauds (RAI-B)**	

FF1 Key - System

DBS Account Name_____ Cutover Date_____ Sheet___of___
Account Address_____ Account Phone (Main List)_____

Address / Feature	Program Options	✔
-2#-3#		
-1#-(Up to 3 digits)#	***No entry at default***	
PBX access code 1	PBX access codes: Up to 3 digits_____	
-2#-(Up to 3 digits)#	***No entry at default***	
PBX access code 2	PBX access codes: Up to 3 digits_____	
-3#-(Up to 3 digits)#	***No entry at default***	
PBX access code 3	PBX access codes: Up to 3 digits_____	
-4#-(Up to 3 digits)#	***No entry at default***	
PBX access code 4	PBX access codes: Up to 3 digits_____	
-5#-(Up to 3 digits)#	***No entry at default***	
PBX access code 5	PBX access codes: Up to 3 digits_____	
-6#-(Up to 3 digits)#	***No entry at default***	
PBX access code 6	CO access codes: Up to 3 digits_____	
-7#-(Up to 3 digits)#	***No entry at default***	
PBX access code 7	CO access codes: Up to 3 digits_____	
-8#-(Up to 3 digits)#	***No entry at default***	
PBX access code 8	CO access codes: Up to 3 digits_____	
-9#-(1 to 3)# See FF2-13#	***No entry at default***	
Automatic pause after dialing 1	1: Pause - 1st digit	
	2: Pause - 2nd digit	
	3: Pause - 3rd digit	
-10#-(1 to 3)# See FF2-13#	***No entry at default***	
Automatic pause after dialing 2	1: Pause - 1st digit	
	2: Pause - 2nd digit	
	3: Pause - 3rd digit	
-11#-(1 to 3)# See FF2-13#	***No entry at default***	
Automatic pause after dialing 3	1: Pause - 1st digit	
	2: Pause - 2nd digit	✓
	3: Pause - 3rd digit	
-12#-(1 to 3)# See FF2-13#	***No entry at default***	
Automatic pause after dialing 4	1: Pause - 1st digit	
	2: Pause - 2nd digit	
	3: Pause - 3rd digit	
-13#-(1 to 3)# See FF2-13#	***No entry at default***	
Automatic pause after dialing 5	1: Pause - 1st digit	
	2: Pause - 2nd digit	
	3: Pause - 3rd digit	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-2#-3#		
-14#-(1 to 3)# See FF2-13# Automatic pause after dialing 6	*No entry at default* 1: Pause - 1st digit 2: Pause - 2nd digit 3: Pause - 3rd digit	
-15#-(1 to 3)# See FF2-13# Automatic pause after dialing 7	*No entry at default* 1: Pause - 1st digit 2: Pause - 2nd digit 3: Pause - 3rd digit	
-16#-(1 to 3)# See FF2-13# Automatic pause after dialing 8	*No entry at default* 1: Pause - 1st digit 2: Pause - 2nd digit 3: Pause - 3rd digit	
-17#-(1 to 3)# See FF2-13# Automatic pause after dialing 9	*No entry at default* 1: Pause - 1st digit 2: Pause - 2nd digit 3: Pause - 3rd digit	
-18#-(1 to 3)# See FF2-13# Automatic pause after dialing 0	*No entry at default* 1: Pause - 1st digit 2: Pause - 2nd digit 3: Pause - 3rd digit	
-2#-4#		
-1#-(0 or 1)# See FF4-1#, 2# Universal Night Answer (UNA) ring pattern	*0: 3 secs on/1 sec off* 1: Continuous	
-2#-(0 or 1)# External Page Interface (EPI) page group 00	*0: No EPI relay* 1: EPI relay	
-3#-(0 or 1)# External Page Interface (EPI) page group 01	*0: No EPI relay* 1: EPI relay	
-4#-(0 or 1)# External Page Interface (EPI) page group 02	*0: No EPI relay* 1: EPI relay	
-5#-(0 or 1)# External Page Interface (EPI) page group 03	*0: No EPI relay* 1: EPI relay	
-6#-(0 or 1)# External Page Interface (EPI) page group 04	*0: No EPI relay* 1: EPI relay	
-7#-(0 or 1)# External Page Interface (EPI) page group 05	*0: No EPI relay* 1: EPI relay (Not in use)	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-2#-4#		
-8#-(0 or 1)#	***0: No EPI relay***	
External Page Interface (EPI) page group 06	1: EPI relay (Not in use)	
-9#-(0 or 1)#	***0: No EPI relay***	
External Page Interface (EPI) page group 07	1: EPI relay (Not in use)	
-2#-5#		
-(1-8)#-(1-20)#-(0 or 1)#	***0: Restricted***	
Class of Service setting	1: Not restricted	
-2#-6#		
-(1-100)#-1#-(0001-9999)#	****: ***No account codes are set***	
Verified Forced Account Codes	(0001-9999)#	
-(1-100)#-2#-(0-7)#	***0: TRS Type 0***	
Verified Forced Account Code toll restriction	1: TRS Type 1	
	2: TRS Type 2	
	3: TRS Type 3	
	4: TRS Type 4	
	5: TRS Type 5	
	6: TRS Type 6	
	7: TRS Type 7	
-3#-1#		
-(0000 to 2359)#	***No entry at default***	
Automatic switch to night mode (HHMM)	0000 to 2359: Automatic	
-3#-2#		
-(0 or 1 to 12)#	0: No recall	
Attendant HOLD-recall timer	***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	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-3#		
-(0 or 1 to 12)# Extension HOLD-recall timer	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	
-3#-4#		
-(0 or 1 to 12)# Attendant transfer-recall timer	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	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-5#		
-(0 or 1 to 12)# Extension transfer-recall timer	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	
-3#-6#		
-(0 or 1 to 12) Attendant Hunt Group recall timer	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	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-7#		
-(0 or 1 to 12)# Extension Hunt Group recall timer	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	
-3#-8#		
-(0 or 1 to 12)# Attendant park HOLD recall timer	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	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-9#		
-(0 or 1 to 12)# Extension park-HOLD recall timer	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	
-3#-10#		
-(0 or 1 to 12)# Attendant reversion timer	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	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-11#		
-(0 or 1 to 15)#　　　**See FF2-16#, FF3-13#** Unsupervised conference talk-time	0: Disable 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	
-3#-12#		
-(0 or 1 to 15)# Automatic pause timer	0: No pause 1: 0.5 second 2: 1.0 second 3: 1.5 seconds 4: 2.0 seconds 5: 2.5 seconds 6: 3.0 seconds **7: 3.5 seconds** 8: 4.0 seconds 9: 4.5 seconds 10: 5.0 seconds 11: 5.0 seconds 12: 5.0 seconds 13: 5.0 seconds 14: 5.0 seconds 15: 5.0 seconds	

FF1 Key - System

DBS Account Name_____ Cutover Date_____ Sheet____of____

Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-13#		
-(0 or 1 to 10)# See 18# CO line FLASH timer	0: No FLASH 1: 0.2 second 2: 0.3 second 3: 0.4 second 4: 0.5 second 5: 0.6 second 6: 0.7 second 7: 0.8 second 8: 0.9 second *9: 1.0 second* 10: 1.1 seconds	

Address / Feature	FLASH (F) Disconnect (D)	
-3#-14#		
-(0 or 1 to 6)# SLT onhook FLASH timer	0: 200-500 ms (F) Over 500 ms (D) 1: 200-750 ms (F) Over 750 ms (D) 2: 200-1000 ms (F) Over 1000 ms (D) 3: 200-1200 ms (F) Over 1200 ms (D) *4: 200-1500 ms (F) Over 1500 ms (D)* 5: Over 200 ms (D) 6: 30-140 ms (F) Over 500 ms (D)	

Address / Feature	Program Options	
-3#-15#		
-(0 to 3)# Incoming ring timer	0: 4 seconds *1: 8 seconds* 2: 10 seconds 3: 12 seconds	

FF1 Key - System

DBS Account Name_____ Cutover Date_____ Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-16#		
-(0 or 1 to 15)# Incoming ring delay timer	0: Synchronizes to incoming ring cycle 1: Expand to 50 ms 2: Expand to 100 ms 3: Expand to 150 ms 4: Expand to 200 ms 5: Expand to 250 ms 6: Expand to 300 ms *7: Expand to 350 ms* 8: Expand to 400 ms 9: Expand to 450 ms 10: Expand to 500 ms 11: Expand to 550 ms 12: Expand to 600 ms 13: Expand to 650 ms 14: Expand to 700 ms 15: Expand to 750 ms	
-3#-17#		
-(0 to 15)# Dial pause timer	0: 1.2 seconds *1: 1.2 seconds* 2: 2.0 seconds 3: 3.0 seconds 4: 4.0 seconds 5: 5.0 seconds 6: 6.0 seconds 7: 7.0 seconds 8: 8.0 seconds 9: 9.0 seconds 10: 10 seconds 11: 11 seconds 12: 12 seconds 13: 13 seconds 14: 14 seconds 15: 15 seconds	

FF1 Key - System

| DBS Account Name | Cutover Date | Sheet | of |
| Account Address | Account Phone (Main List) | | |

Address / Feature	Program Options	✓
-3#-18#		
-(0 or 1 to 10)# See 13# PBX-FLASH timer	0: No FLASH 1: 0.2 second 2: 0.3 second 3: 0.4 second 4: 0.5 second 5: 0.6 second 6: 0.7 second **7: 0.8 second** 8: 0.9 second 9: 1.0 second 10: 1.1 seconds	
-3#-19#		
-(0 to 15)# Call Forward-No Answer timer	0: Call forward after 4 seconds 1: Call forward after 8 seconds **2: Call forward after 12 seconds** 3: Call forward after 16 seconds 4: Call forward after 20 seconds 5: Call forward after 24 seconds 6: Call forward after 28 seconds· 7: Call forward after 32 seconds 8: Call forward after 36 seconds 9: Call forward after 40 seconds 10: Call forward after 44 seconds 11: Call forward after 48 seconds 12: Call forward after 52 seconds 13: Call forward after 56 seconds 14: Call forward after 60 seconds 15: Call forward after 64 seconds	

FF1 Key - System

DBS Account Name_____ Cutover Date_____ Sheet____of____
Account Address_____ Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-20#		
-(0 or 1 to 8)# Outbound ground detection timer	0: No detection 1: 1 second 2: 2 seconds 3: 3 seconds *4: 4 seconds* 5: 5 seconds 6: 6 seconds 7: 7 seconds 8: 8 seconds	
-3#-21#		
-(0 or 1 to 8)# Incoming ground detection timer	0: No detection 1: 1 second 2: 2 seconds 3: 3 seconds *4: 4 seconds* 5: 5 seconds 6: 6 seconds 7: 7 seconds 8: 8 seconds	
-3#-22#		
-(0 or 1 to 12)# Attendant intercom HOLD-recall timer **(CPC-B Vs. 2.0)**	0: No intercom HOLD 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	

FF1 Key - System

Address / Feature	Program Options	✔
-3#-23#		
-(0 or 1 to 12)# Extension intercom HOLD recall timer **(CPC-B Vs. 2.0)**	0: No intercom HOLD 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	
-3#-24#		
-(0 or 1 to 12)# Attendant intercom transfer recall timer **(CPC-B Vs. 2.0)**	0: No intercom transfer 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	

System-wide Settings

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-3#-25#		
-(0 or 1 to 12)# Extension intercom transfer recall timer **(CPC-B Vs. 2.0)**	0: No intercom transfer 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	
-3#-26#		
-(0 to 15)# CO delayed ringing timer **(CPC-B Vs. 3.0 or higher)**	0: CO delay ringing after 4 seconds 1: CO delay ringing after 8 seconds *2: CO delay ringing after 12 seconds* 3: CO delay ringing after 16 seconds 4: CO delay ringing after 20 seconds 5: CO delay ringing after 24 seconds 6: CO delay ringing after 28 seconds 7: CO delay ringing after 32 seconds 8: CO delay ringing after 36 seconds 9: CO delay ringing after 40 seconds 10: CO delay ringing after 44 seconds 11: CO delay ringing after 48 seconds 12: CO delay ringing after 52 seconds 13: CO delay ringing after 56 seconds 14: CO delay ringing after 60 seconds 15: CO delay ringing after 64 seconds	

FF1 Key - System

| DBS Account Name_____Cutover Date_____Sheet____of____ |
| Account Address_____Account Phone (Main List)_____ |

Address / Feature	Program Options	✔
-3#-27#		
-(0 to 15)# EXT. delayed ringing timer **(CPC-B Vs. 3.0 or higher)**	0: EXT. delay ringing after 4 seconds	
	1: EXT. delay ringing after 8 seconds	
	2: EXT. delay ringing after 12 seconds	
	3: EXT. delay ringing after 16 seconds	
	4: EXT. delay ringing after 20 seconds	
	5: EXT. delay ringing after 24 seconds	
	6: EXT. delay ringing after 28 seconds	
	7: EXT. delay ringing after 32 seconds	
	8: EXT. delay ringing after 36 seconds	
	9: EXT. delay ringing after 40 seconds	
	10: EXT. delay ringing after 44 seconds	
	11: EXT. delay ringing after 48 seconds	
	12: EXT. delay ringing after 52 seconds	
	13: EXT. delay ringing after 56 seconds	
	14: EXT. delay ringing after 60 seconds	
	15: EXT. delay ringing after 64 seconds	
-3#-28#		
-(0 to 15)# Hunt Group no answer **(CPC-B Vs. 3.0 or higher)**	0: H. Group no answer after 4 seconds	
	1: H. Group no answer after 8 seconds	
	2: H. Group no answer after 12 seconds	
	3: H. Group no answer after 16 seconds	
	4: H. Group no answer after 20 seconds	
	5: H. Group no answer after 24 seconds	
	6: H. Group no answer after 28 seconds	
	7: H. Group no answer after 32 seconds	
	8: H. Group no answer after 36 seconds	
	9: H. Group no answer after 40 seconds	
	10: H. Group no answer after 44 seconds	
	11: H. Group no answer after 48 seconds	
	12: H. Group no answer after 52 seconds	
	13: H. Group no answer after 56 seconds	
	14: H. Group no answer after 60 seconds	
	15: H. Group no answer after 64 seconds	
-3#-29#		
-(HHMM)# **(CPC-B Vs. 4.0 or higher)**	HH: Hours (00 to 23) MM: Minutes (00 to 23)	

FF1 Key - System

DBS Account Name_____**Cutover Date**_____**Sheet**____**of**____

Account Address_____**Account Phone (Main List)**_____

Address / Feature	Program Options	✔
-4#		
-(4 digits)# Also used with DISA Remote maintenance	*9999: Default* 0000 to 9999: Stored code_____	
-5#		
-(4 digits)# See FF2-11#, 19#, 20# DISA ID code	*No entry at default* 0000 to 9999: Stored code_____	
-6#-1#		
-(4 digits)# See FF2-11#, 19#, 20# DISA outgoing code 1	*1111: Default* 0000 to 9999: Stored code_____	
-6#-2#		
-(4 digits)# See FF2-11#, 19#, 20# DISA outgoing code 2	*9999: Default* 0000 to 9999: Stored code_____	
-7#		
-(4 digits)# System programming ID code	*9999: Default* 0000 to 9999: Stored code_____	
-8#-1#		
-(0 or 1)# (CPC-B Vs. 3.0 or higher) DID reset	*0: No (do not reset DID numbers)* 1: Yes (reset DID numbers)	
-(0 to 1)# (CPC-B Vs. 4.0 or higher) DID/T1 reset (6)	*0: Off* 1: Clear	
-8#-2#		
-(0 or 1)# (CPC-B Vs. 3.0 or higher) Confirmation of DID reset	*0: No (do not reset DID numbers)* 1: Yes (reset DID numbers)	
-(0 or 1)# (CPC-B Vs. 4.0 or higher) Confirmation of DID/T1 reset	*0: No (do not reset DID/T1 numbers)* 1: Yes (reset DID/T1 numbers)	
-8#-3#		
-(0 to 9999)#-(10 to 69 or 100 to 699)# DID Number Set (CPC-B Vs. 3.0 or higher)	10 to 69 100 to 699	
T1 Settings		
-8#-4#		

-1#-1#-(0 to 8)#
 System   size
 (CPC-B Vs. 4.0 or higher)
	0: DBS 40
	 1: DBS 72
	 2: DBS 96
	 3: DBS 40 + DBS 40
	     (T1 must be in slave cabinet.)
	 4: DBS 72 + DBS 40 (T1 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	

FF1 Key - System

Address / Feature	Program Options	✔
-8#-4#		
-1#-2#-(1 to 3)# Synchronization setting for the first sync source	1: T1 of the master cabinet 2: T1 of the slave cabinet ***3: Free Run (Internal clocking)***	
-1#-3#-(0 to 3)# Synchronization setting for the second sync source	***0: None*** 1: T1 of the master cabinet 2: T1 of the slave cabinet 3: Free Run (Internal clocking)	
-1#-4#-(0 to 3)# Synchronization setting for the third sync source	***0: None*** 1: T1 of the master cabinet 2: T1 of the slave cabinet 3: Free Run (Internal clocking)	
-2#-1#-(0 to 25)# Network Re-sync timer	0 to 25 hours ***(25) = No Entries***	
-2#-2#-(0 to 12)# Disconnect timer	0 to 12 ***(1) = 200 MS***	
-2#-3#-(0 to 15)# Guard timer	0 to 15 ***(3)***	
-2#-4#-(0 to 15)# Release acknowledge timer (RLS ACK Timer)	0 to 15 ***(9) = 240 seconds***	
-2#-5#-(0 to 8)# Outpulse delay timer	0 to 8 ***(2) = 500 MS***	
-2#-6#-(0 to 15)# Wink timeout timer (Wink Timeout)	0 to 15 ***(15) = 5500***	
-2#-7#-(0 to 15)# Incoming detection timer	0 to 15 ***(7) = 90 MS***	
-2#-8#-(0 to 8)# Answer supervision timer (Answer Superv)	0 to 8 ***(3) = 600 MS***	
-2#-9#-(0 to 15)# Immediate Glare timer (Imm-Glare Timer)	0 to 15 ***(3) = 60 MS***	
-2#-10#-(0 to 15)# Wink Glare timer (WK-Glare Timer)	0 to 15 ***(3) = 60 MS***	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔

-8#-4#

-3#-(1 to 8)#-(1 to 8)#-(0 to 30)#

Digital pad settings (Digital Pad Set)

Figure 1: Circuit-type numbers

Circuit Types	No.
K-TEL	1
SLT	2
DATA	3
Analog CO Trk	4
T1 Master	5
T1 Slave	6
OPTION 1*	7
OPTION 2*	8
DTMF#	9
CONF (SCC)#	10
Tone 1 (MFR1)#	11
Tone 2 (MFR2)#	12

Circuit Type 3 & 9-12 are reserved for future use.

*Use Options 1 and 2 to assign unique PAD levels to circuits that require special volume levels.

Figure 1 shows the numbers used to identify each circuit type.

Figure 2 shows the default values for the most common T1 connections.

Figure 3 lists the adjustments provided by each pad number.

Figure 2: Default pad values

From	To	Setting	Value
T1 #1	K-TEL	16	-2 dB
T1 #2	K-TEL	16	-2 dB
T1 #1	SLT	16	-2 dB
T1 #2	SLT	16	-2 dB
K-TEL	T1 #1	16	-2 dB
K-TEL	T1 #2	16	-2 dB
SLT	T1 #1	16	-2 dB
SLT	T1 #2	16	-2 dB

Figure 3: Pad Nos.

Pad No.	Level
0	0 dB
1	+2 dB
.	.
.	.
.	.
14	+28 dB
15	+30 dB
16	-2 dB
17	-4 dB
.	.
.	.
.	.
29	-28 dB
30	-30 dB

FF1 Key - System

Address / Feature	Program Options	✔
-8#-4#		
-4#-1#-1#-(0 to 1)# (Master cabinet) -5#-1#-1#-(0 to 1)# (Slave cabinet) Trunk class	*0: Analog only* 1: T1 and analog trunks	
-4#-1#-2#-(0 to 24)# (Master cabinet) -5#-1#-2#-(0 to 24)# (Slave cabinet) Number of channels used	0 to 24 *(0)*	
-4#-1#-3#-(0 to 1)# (Master cabinet) -5#-1#-3#-(0 to 1)# (Slave cabinet) Frame format	0: SF (Super Frame) *1: ESF (Extended Super Frame)*	
-4#-1#-4#-(0 to 1)# (Master cabinet) -5#-1#-4#-(0 to 1)# (Slave cabinet) Clear channel	*0: AMI (Alternate Mark Inversion)* 1: B8ZS (Binary 8-zeros suppression)	
-4#-1#-5#-(0 to 1)# (Master cabinet) -5#-1#-5#-(0 to 1)# (Slave cabinet) Failure mode	*0: Mode 1* 1: Mode 2	
-4#-1#-6#-(0 to 1)# (Master cabinet) -5#-1#-6#-(0 to 1)# (Slave cabinet) Remote loopback (R-Loopback)	*0: No (No system response to loopback.)* 1: Yes (System responds to loopback.)	
-4#-1#-7#-(0 to 1)# (Master cabinet) -5#-1#-7#-(0 to 1)# (Slave cabinet) Yellow alarm send	0: Off *1: On*	
-4#-2#-1#-(0 to 15)# (Master cabinet) -5#-2#-1#-(0 to 15)# (Slave cabinet) Red alarm detection (Red Alm Det)	0 to 5 *(2)*	
-4#-2#-2#-(0 to 15)# (Master cabinet) -5#-2#-2#-(0 to 15)# (Slave cabinet) Yellow detection (Yel Alm Det)	0 to 15 *(1) (1 = 15 ms)*	
-4#-2#-3#-(0 to 15)# (Master cabinet) -5#-2#-3#-(0 to 15)# (Slave cabinet) Yellow alarm recovery (Yel Alm Rec)	0 to 15 *(1) (1 = 10ms)*	
-4#-2#-4#-(0 to 15)# (Master cabinet) -5#-2#-4#-(0 to 15)# (Slave cabinet) Other alarms detection (Other Alm Det)	0 to 15 0 to 15 *(1) (1 = 250 ms)*	
-4#-2#-5#-(0 to 15)# (Master cabinet) -5#-2#-5#-(0 to 15)# (Slave cabinet) Other alarms recovery (Other Alm Rec)	0 to 15 *(1) (1 = 250ms)*	
-4#-3#-1#-(0 to 9000)# (Master cabinet) -5#-3#-1#-(0 to 9000)# (Slave cabinet) Frame loss counter (Frame Count)	0 to 9000/24h *(9000)*	
-4#-3#-2#-(0 to 9000)# (Master cabinet) -4#-3#-2#-(0 to 9000)# (Slave cabinet) Slip counter (Slip Count)	0 to 9000/24h *(9000)*	
-4#-3#-3#-(0 to 1)# (Master cabinet) -4#-3#-3#-(0 to 1)# (Slave cabinet) Red alarm counter (Red Alm Count)	0 to 9000/24h *(9000)*	

FF1 Key - System

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	✔
-8#-4#		
-4#-3#-4#-(0 to 9000)# (Master cabinet) **-5#-3#-4#-(0 to 9000)#** (Slave cabinet) Loss signal counter (Sig Loss Count)	0 to 9000/24h *(9000)*	
-4#-3#-5#-(0 to 9000)# (Master cabinet) **-5#-3#-5#-(0 to 9000)#** (Slave cabinet) Sync loss counter (Sync Loss Count)	0 to 9000/24h *(9000)*	
-4#-3#-6#-(0 to 9000)# (Master cabinet) **-5#-3#-6#-(0 to 9000)#** (Slave cabinet) Yellow alarm counter (Yel Alm Count)	0 to 9000/24h *(9000)*	
-4#-4#-1#-(0 to 1)# (Master cabinet) **-5#-4#-1#-(0 to 1)#** (Slave cabinet) Yellow alarm relay (Yel Alm Relay)	*0: Off* 1: On	
-4#-4#-2#-(0 to 1)# (Master cabinet) **-5#-4#-2#-(0 to 1)#** (Slave cabinet) Red alarm relay (Red Alm Relay)	*0: Off* 1: On	
-4#-4#-3#-(0 to 1)# (Master cabinet) **-5#-4#-3#-(0 to 1)#** (Slave cabinet) Loss relay	*0: Off* 1: On	
-4#-4#-4#-(0 to 1)# (Master cabinet) **-5#-4#-4#-(0 to 1)#** (Slave cabinet) Frame loss relay (Frm Loss Relay)	*0: Off* 1: On	
-4#-4#-5#-(0 to 1)# (Master cabinet) **-5#-4#-5#-(0 to 1)#** (Slave cabinet) AIS relay	*0: Off* 1: On	
-4#-4#-6#-(0 to 1)# (Master cabinet) **-5#-4#-6#-(0 to 1)#** (Slave cabinet) **Alarm relay reset**	*0: Timed* 1: Manual	
-6#-(1 to 64)#-1#-(0 to 3)# **Trunk Type**	0: Loop Start (Default) 1: Ground Start 1 2: Ground Start 2 3: E&M	

FF1 Key - System

| DBS Account Name_____Cutover Date_____Sheet___of___ |
| Account Address_____Account Phone (Main List)_____ |

Address / Feature	Program Options	✔
-8#-4#		
-6#(1 to 64)#-2#-(0 to 2)# DID/DNIS table (DID/DNIS)	*0: Not provided* 1: DID 2: DNIS	
-6#(1 to 64)#-3#-(0 to 2)# Outgoing type	*0: Immediate Start* 1: Wink start 2: Dial Tone start	
-6#(1 to 64)#-4#-(0 to 1)# Incoming type	*0: Immediate Start/ringdown* 1: Wink start	
-6#(1 to 64)#-5#-(0 to 2)# Trunk mode	*0: Bothway* 1: Outgoing only	
-6#(1 to 64)#-6#-(0 to 1)# Robbing bit setting (Robbing bit set)	0: Off (ABCD signal not used) *1: On (ABCD signal used)*	
-6#(1 to 64)#-7#-(0 to 1)# Incoming dialing method (Incoming Dial)	0: Dial pulse (10PPS) *1: DTMF*	
-6#(1 to 64)#-8#-(0 to 1)# Dial tone transmission (DT Send)	*0: Off* 1: On	
-6#(1 to 64)#-9#-(0 to 1)# Busy tone transmission (BT Send)	*0: Off* 1: On	
-6#(1 to 64)#-10#-(0 to 1)# Dial tone generation (DT Receive)	*0: Off* 1: On	
-6#(1 to 64)#-11#-(0 to 1)# Ringback transmission (RBT Send)	*0: Off* 1: On	
-7#(0 to 9999)#-2#-(0 to 2)# Other alarms detection (Other Alm Det)	0 to 15 0 to 15 *(1) (1 = 250 ms)*	
-6#(1 to 64)#-(10 to 69 or 100 to 699)# DNIS Number Setting (DNIS Number Set)	10 to 69 100 to 699	

Notes
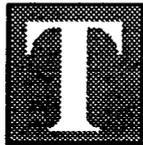
The FF2 Key is for programming trunk lines and acts as an interface between the CO or DID trunk lines and the DBS system.

There are two programming forms for the FF2 Key:

The **Trunk Port** list is for assigned names and TelCo circuit numbers.

The **Trunk Features** list is for recording any of the 25 features that can be programmed on each trunk port.

Notes:

(1) The *Pooled Trunk Group Access* settings in the FF2 Key (Trunks' programming) are different from the *Trunk Group* settings in the FF8 Key (LCR programming):

(a) Trunk lines set in the FF2 Key are accessed by the user with access codes (9, 81 to 86).

(b) Trunk lines set in the FF8 Key are automatically selected by the system.

Save Your Original Forms!!!

FF2 Key - Trunk Ports

DBS Account Name_____ **Cutover Date**_____ **Sheet**____ **of**____

Account Address_____**Account Phone (Main List)**_____

Trunk Ports	Telephone Number (Circuit Number)	Line Type	Name (Maximum 6 Characters)		Comments
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

FF2 Key - Trunk Ports

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Trunk Ports	Telephone Number (Circuit Number)	Line Type	Name (Maximum 6 Characters)	Comments
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
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55				
56				
57				
58				
59				
60				
61				
62				
63				
64				

FF2 Key - Trunk Ports

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	Trunk Ports (01-64)										
-(1 to 64)#-1#-(0 or 1)# Denies trunk use	0: In service 1: Out of service											
-(1 to 64)#-2#-(0 or 1)# Pulse or DTMF dial	0: DTMF 1: 10pps pulse											
-(1 to 64)#-3#-(0 or 1)# Pooled trunk access, Group 9	0: No pooled trunk access 1: Group 9											
-(1 to 64)#-4#-(0 or 1)# Pooled trunk access, Group 81	0: No pooled trunk access 1: Group 81											
-(1 to 64)#-5#-(0 or 1)# Pooled trunk access, Group 82	0: No pooled trunk access 1: Group 82											
-(1 to 64)#-6#-(0 or 1)# Pooled trunk access, Group 83	0: No pooled trunk access 1: Group 83											
-(1 to 64)#-7#-(0 or 1)# Pooled trunk access, Group 84	0: No pooled trunk access 1: Group 84											
-(1 to 64)#-8#-(0 or 1)# Pooled trunk access, Group 85	0: No pooled trunk access 1: Group 85											
-(1 to 64)#-9#-(0 or 1)# Pooled trunk access, Group 86	0: No pooled trunk access 1: Group 86											
-(1 to 64)#-10#-(1 or 2)# Trunk line type	1: CO line 2: PBX line											
-(1 to 64)#-11#-(0 or 1)# Enables DISA	0: Disable 1: Enable											
-(1 to 64)#-12#-(1 to 144)# Private line port number	No entry at default 1 to 144: Private line port											
-(1 to 64)#-13#-(0 or 1)# Automatic pause	0: No auto pause 1: Automatic pause											
-(1 to 64)#-14#-(0 or 1)# Dial tone detection	0: Detects dial tone 1: No detection											
-(1 to 64)#-15#-(0 or 1)# DTMF signal sending time	1: 75ms ON/50ms OFF 2: 125ms ON/125ms OFF 3: 250ms ON/250ms OFF											
-(1 to 64)#-16#-(1 to 3)# Unsupervised conference	0: No trunk-to-trunk 1: Trunk to trunk											
-(1 to 64)#-17#-(0 or 1 to 9)# Incoming ring signal (tone pattern)	0: Signal synchronized 1: 3 secs ON/1 sec OFF 2: 2 secs ON/2 secs OFF 3: 1 sec ON/1 sec OFF 4: 1 sec ON/2 secs OFF 5: 1 sec ON/3 secs OFF 6: .5 sec ON/.5 sec OFF 7: .5 sec ON/.5 sec OFF .5 sec ON/2.5 secs OFF 8: .5 sec ON/3.5 secs OFF 9: 1 sec ON/7 secs OFF											

31

FF2 Key - Trunk Ports

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	Trunk Ports (01-64)									
-(1 to 64)#-18#-(0 or 1 to 15)# Trunk disconnect timer	0: No disconnect 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										
-(1 to 64)#-19#-(HHMM)# DISA start timer	*No entry at default* HHMM: (0000 to 2359)										
-(1 to 64)#-20#-(HHMM)# DISA end timer	*No entry at default* HHMM: (0000 to 2359)										
-(1 to 64)#-21#-(0 to 2)# Loop/Ground/DID trunk cards (CPC-B Vs. 2.0)	*0: Loop-start trunk* 1: Ground-start trunk 2: DID trunk										
-(1 to 64)#-21#-(0 to 3)# Trunk Selection	*0: Loop start* 1: Ground start 2: DID (CPC-B Vs. 4.0 or higher) 3: T1										
-(1 to 64)#-22#-(0 or 1)# DID - Immediate/Wink start	*0: Wink start (CPC-B Vs.2)* 1: Immediate start										
1 to 64)#-23#-(0 to 15)# Wink-start timer (CPC-B Vs. 2.0)	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: 200 ms 10: 200 ms 11: 200 ms 12: 200 ms 13: 200 ms 14: 200 ms 15: 200 ms										

FF2 Key - Trunk Ports

| DBS Account Name_____Cutover Date_____Sheet____of____ |
| Account Address_____Account Phone (Main List)_____ |

Address / Feature	Program Options	Trunk Ports (01-64)													
-(1 to 64)#-24#-(0 or 1 to 15)# DID digit dial time out (CPC-B Vs. 2.0) See FF3-35#	0: No time out 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: 18 seconds 10: 18 seconds 11: 18 seconds 12: 18 seconds 13: 18 seconds 14: 18 seconds 15: 18 seconds														
-(1 to 64)#-25#-(0 to 15)# DID interdigit dial time out (CPC-B Vs. 2.0) See FF3-35#	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: 160 ms 15: 160 ms														
-(1 to 64)#-26#-(4 to 6 or 13)# T1 port class - trunk (CPC-B Vs. 4.0 or higher)	4: Analog trunk 5: T1 #1 (Master) 6: T1 #2 (Slave) 13: Other														
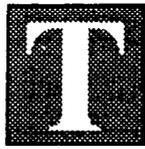
he FF3 Key is for programming extensions. The 36 feature available for this key represent 36 submodes (1# to 36#).

Telephone Types, submode 2#, default automatically to data settings 1 through 7 or can be set in programming mode using data 8 through 19.

The number of buttons or keys on the telephone determine how many FF keys are available for programming. DBS telephone models come in 16-, 22-, and 34-button sets.

There are several programming forms available for extension programming:

The **Extension Ports** form summarizes the programming on all extension ports and is for use by the installer/programmer.

The forms explained below are located at the back of this manual immediately following the FF10 Key information:

The **Extension Summary** form is for recording features programmed on a single extension port. The salesperson or programmer and the system administrator will use this form to design a program for an extension port. Refer to the *Extension General Information* and the *Extension Programming* boxes on this form. Use a separate form for each extension port. Photocopy the original form and use only the copies.

The **Summary Key Plan** or the **Key Plan** are for the Customer. Use either form as appropriate.

To copy extension features from one extension port to another extension port, use the FF9 Key.

Save Your Original Forms!!!

FF3 Key - Extensions

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Address / Feature	Program Options	Extension Ports (1 to 144)						
-(1 to 144)#-1#-(100 to 699/10 to 69)# Extension numbers	No entry *100 to 699/10 to 69: Extensions*							
-(1 to 144)#-2#-(0 or 1 to 19)# Telephone types **(CPC-B Vs. 2.0 or higher)**	0: No assignment 1: Analog telephone 2: Digital telephone (6 FF lines) 3: Digital telephone (12 FF lines) 4: Digital telephone (24 FF lines) 5: Reserved 6: D.SLT (Vs. 3.0 or higher) 7: EM/24 VB-43310 8: OPX (pulse) 9: OPX (tone) 10: Voice mail (AEC) 11: DSS1 - Extension 10/100 12: DSS2 - Extension 10/100 13: DSS3 - Extension 11/101 14: DSS4 - Extension 11/101 15: Voice mail (OPX) 16: First attendant console 17: Second attendant console 18: Third attendant console 19: Fourth attendant console							
-(1 to 144)#-3#-(001 to 144)# EM/24 console station-port number	*EM/24 not connected* 1 to 144: Stored extensions on EM/24							
-(1 to 144)#-4#-(0 or 1)# Forced LCR restriction	*0: No LCR restriction for outside calls* 1: Forced LCR							
-(1 to 144)#-5#-(0 or 1)# Forced verified account code	*0: Disable* 1: Enable							
-(1 to 144)#-6#-(4 digits)## Station lockout code	*No entry at default* 0000 to 9999: Station lockout code							
-(1 to 144)#-7#-(0 or 1)# CO line off hook signal	*1: Extension Ports 1 and 2* *0: Extension Ports 2 to 144*							
-(1 to 144)#-8#-(0 or 1)# Call waiting	0: No call waiting *1: Call waiting*							
-(1 to 144)#-9#-(0 or 1)# Busy override	*0: Disable* 1: Enable							
-(1 to 144)#-10#-(0 or 1)#(See FF1-2#-1#-17#) Busy overridden	0: Rejects *1: Accepts*							
-(1 to 144)#-11#-(0 or 1)# Prime line preference	*0: Disable* 1: Enable							
-(1 to 144)#-12#-(0 or 1)# Ringing line preference	0: Disable *1: Enable*							
-(1 to 144)#-13#-(0 or 1)#(FF2-16#,FF-3#-11#) Unsupervised conference - Extension-wide	*0: Disable* 1: Enable							
-(1 to 144)#-14#-(0 or 1)#(FF1-2#,-2#-6#) SMDR printout of incoming calls	0: Disable *1: Enable*							

FF3 Key - Extensions

DBS Account Name_____ Cutover Date_____ Sheet____of____

Account Address_____ Account Phone (Main List)_____

Address / Feature	Program Options	Extension Ports (1 to 144)					
-(1 to 144)#-15#-(0 or 1 to 4)# CO line off-hook signal volume	0: No alert tone 1: Minimum volume 2: *Lower medium volume* 3: Higher medium volume 4: Maximum volume						
-(1 to 144)#-16#-(0 or 1)# CO line off hook signal pattern	0: *Continuous signal* 1: Send only one signal						
-(1 to 144)#-17#-(0 or 1)# PSD names (5 or 10 names) - large display	0: *5 names* 1: 10 names						
-(1 to 144)#-18#-(0 or 1)# Sets extensions to page groups 00	0: *Does not belong to page group 00* 1: Page group 00						
-(1 to 144)#-19#-(0 or 1)# Sets extensions to page groups 01	0: *Does not belong to page group 01* 1: Page group 01						
-(1 to 144)#-20#-(0 or 1)# Sets extensions to page groups 02	0: *Does not belong to page group 02* 1: Page group 02						
-(1 to 144)#-21#-(0 or 1)# Sets extensions to page groups 03	0: *Does not belong to page group 03* 1: Page group 03						
-(1 to 144)#-22#-(0 or 1)# Sets extensions to page groups 04	0: *Does not belong to page group 04* 1: Page group 04						
-(1 to 144)#-23#-(0 or 1)# Sets extensions to page groups 05	0: *Does not belong to page group 05* 1: Page group 05						
-(1 to 144)#-24#-(0 or 1)# Sets extensions to page groups 06	0: *Does not belong to page group 06* 1: Page group 06						
-(1 to 144)#-25#-(0 or 1)# Sets extensions to page groups 07	0: *Does not belong to page group 07* 1: Page group 07						
-(1 to 144)#-26#-(0 or 1 to 24)# Idle display - large-display telephone	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-27#-(0 or 1 to 24)# IDT off hook display - large-display	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-28#-(0 or 1 to 24)# IDT call status display - large-display	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-29#-(0 or 1 to 24)# CO line call display during dialing	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-30#-(0 or 1 to 24)# CO line call display after dialing	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-31#-(0 or 1 to 24)# Page call display - large-display	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-32#-(0 or 1 to 24)# Call waiting display - large-display	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-33#-(0 or 1 to 24)# Intercom busy tone display - large-display	0: *No change* 1 to 24: See Programming Manual						
-(1 to 144)#-34#-(0 or 1)# (CPC-B Vs. 2.0) Extension directory display - large display	0: *5 entries* 1: 10 entries						
-(1 to 144)#-35#-(0 or 1 to 8)# (CPC-B Vs 3.0 or higher) Extension class of service setting	0: *Default* 1 to 8: Set to individual extension						

FF3 Key - Extensions

DBS Account Name_____	Cutover Date_____	Sheet___of___
Account Address_____	Account Phone (Main List)_____	

Address / Feature	Program Options	Extension Ports (1 to 144)						
-(1 to 144)#-36#-(0 to 2)# (CPC-B Vs. 3.0) Ringback tone with busy signal	**0: Ringback tone with busy signal** 1: Busy signal 2: Ringback tone							
-(1 to 144)#-37#-(1 to 3 or 7 to 13)# T1 port class station **(CPC-B Vs. 4.0 or higher)**	1: KTEL 2: SLT 3: DATA 7: OPT1 8: OPT2 9: DTMF 10: CONF (SCC) 11: MFR1 12: MFR2							
-(1 to 144)#-38#-(0 or 1)# (CPC-B Vs. 3.0 or higher) SLT hook flash	**0: Broker's hold** 1: Initiate conference call							
-(1 to 144)#-39#-(0 to 9)# (CPC-B Vs. 3.0 or higher) Extension ring pattern (KTEL)	**0: Dependent on trunk setting** 1: 3 sec ON/1 sec OFF 2: 2 sec ON/2 sec OFF 3: 1 sec ON/1 sec OFF 4: 1 sec ON/2 sec OFF 5: 1 sec ON/3 sec OFF 6: 0.5 sec ON/0.5 sec OFF 7: 0.5 sec ON/0.5 sec OFF 0.5 sec ON/2.5 sec OFF 8: 0.5 sec ON/3.5 sec OFF 9: 1 sec ON/7 sec OFF							
-(1 to 144)#-39#-(0 to 9)# (CPC-B Vs. 3.0 or higher) Extension ring pattern (SLT/OPX)	**0: Dependent on SLT transfer ring** **pattern in program setting** 1: 3 sec ON/1 sec OFF 2: 2 sec ON/2 sec OFF 3: 1 sec ON/2 sec OFF 4: 1 sec ON/3 sec OFF 5: 1 sec ON/5 sec OFF 6: 1 sec ON/7 sec OFF 7: 0.5 sec ON/3.5 sec OFF 8: 0.5 sec ON/3.5 sec OFF 9: 0.5 sec ON/3.5 sec OFF							
-(1 to 144)#-40#-(0 or 1)# (CPC-B Vs. 3.0 or higher) D-SLT handset volume level	**0: Normal** 1: Louder (+6dB Gain)							
-(1 to 144)#-41#-(0001 to 9999)# (CPC-B Vs. 3.0 or higher) Auto set relocation codes	*****: No relocation codes set** (0001 to 9999)#							
-(1 to 144)#-42#-(0 to 3)# (CPC-B Vs. 3.0 or higher) Permanent call forward	**0: Not forwarded** 1: Busy/No answer 2: Busy 3: No answer							
-(1 to 144)#-43#-(NN(N))# (CPC-B Vs. 3.0 or higher) Permanent call forward extension	******: No permanent call forwarding** NN(N): Call forward extension number							
-(1 to 144)#-44#-(0 or 1)# (CPC-B Vs. 4.0 or higher) ML/MCO Separation	0: MCO keys 1: ML keys							
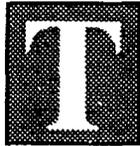
T he FF4 Key is for setting ring assignments to each trunk.

The attendant position (port 1) defaults to *ring* (data 1). All other extension ports default to *no ring* (data 0).

Ring settings are assigned for day, night, day-delayed, night-delayed, extension, and extension-delayed ring.

To assign a ring to Recall timers or to set Call Forward - No Answer, refer to the FF1 Key forms on pages 8, 9, 10, 11, 12, and 17.

There are four programming forms for recording ring-assignment information:

The **Hunt Group Tables** form and the **Call Coverage Group Extension Tables** form are summary sheets for the installer/ programmer and are helpful cross-references for the Customer since the same information is also on the **Extension Summary** form and **Key Plan.**

The forms explained below are located at the back of this manual immediately following the FF10 Key information:

The **Extension Summary** form is for the salesperson and system administrator. Refer to the *Ringing Assignment* box on this form.

Note: See the *DBS Programming Guidance Manual,* Section 400, for the five (5) ring-assignment addresses.

See the *Addendum to the DBS Programming Instructions,* Section 400B, for the eleven (11) Hunt Group addresses.

Save Your Original Forms!!!

FF4 Key - Ring Assignment

❏	Day	FF4-1#-(1 to 145)#-(1 to 64)#-(0 or 1)#	See FF1-2#-4#-1#
❏	Night	FF4-2#-(1 to 145)#-(1 to 64)#-(0 or 1)#	See FF1-2#-4#-1#
❏	Day-Delayed	FF4-5#-(1 to 145)#-(1 to 64)#-(0 or 1)#	
❏	Night-Delayed	FF4-6#-(1 to 145)#-(1 to 64)#-(0 or 1)#	
❏	Extension	FF4-7#-(1 to 144)#-(1 to 144)#-(0 or 1)#	
❏	Extension-Delayed	FF4-8#-(1 to 144)#-(1 to 144)#-(0 or 1)#	

Extension port ring entries = 1		Extension port ring entries = 1	
CO Line	Extension ports (1 to 145)	CO Line	Extension ports (1 to 145)
01		33	
02		34	
03		35	
04		36	
05		37	
06		38	
07		39	
08		40	
09		41	
10		42	
11		43	
12		44	
13		45	
14		46	
15		47	
16		48	
17		49	
18		50	
19		51	
20		52	
21		53	
22		54	
23		55	
24		56	
25		57	
26		58	
27		59	
28		60	
29		61	
30		62	
31		63	
32		64	

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39

FF4 Key - Ring Assignment

DBS Account Name_____ Cutover Date_____ Sheet____of____
Account Address_____ Account Phone (Main List)_____

Hunt-Group Tables

Hunt Group 1

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 2

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 3

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 4

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 5

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 6

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 7

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

Hunt Group 8

Pilot Name_____
Pilot Ext/Port_____
Type_____
TRF Extension_____
TRF Timer_____

Extension 1_____
Extension 2_____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Day Delayed Ring_____
Night Delayed Ring___

40

FF4 Key - Ring Assignment

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Call Coverage Group Extension Tables

Call Coverage Group 1
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 2
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 3
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 4
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 5
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 6
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 7
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 8
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 9
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 10
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 11
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 12
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 13
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 14
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 15
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

Call Coverage Group 16
Covering Extension 1____
Covering Extension 2____
Extension 3_____
Extension 4_____
Extension 5_____
Extension 6_____
Extension 7_____
Extension 8_____

The FF5 Key is for setting pre-programmed feature codes to extension ports. *Remove any CO line or pooled trunk information with the CONF key before programming the FF5 features.*

In addition to the 16-, 22-, and 34-button telephones, you can also program FF5 features on the AFP (Attendant Feature Package) Console, the DSS/72, and the EM/24.

There are four programming forms for FF5 Key features. All of these forms are for the installer/programmer:

The **Extension Keys** form on page 43 and the sample form on page 44 are for recording Personal Speed Dial and Flexible Feature information for a single extension. Use one form for each extension port. Photocopy the original form and use only the copies.

The **AFP (Attendant Feature Package) Console FF Keys** form on page 45 is for recording AFP programming. The shaded areas on the form represent fixed AFP console keys. The AFP is available only on CPC-B Version 2.0.

The **DSS/72 FF Keys** form on page 46 is for recording all attendant console programming, including the AFP.

The **EM/24 FF Keys** form on page 47 is for recording trunks or extensions assigned to specific extension ports.

Save Your Original Forms!!!

FF5 Key - Flexible Features

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Port_____
Extension_____

PSD

FF Keys
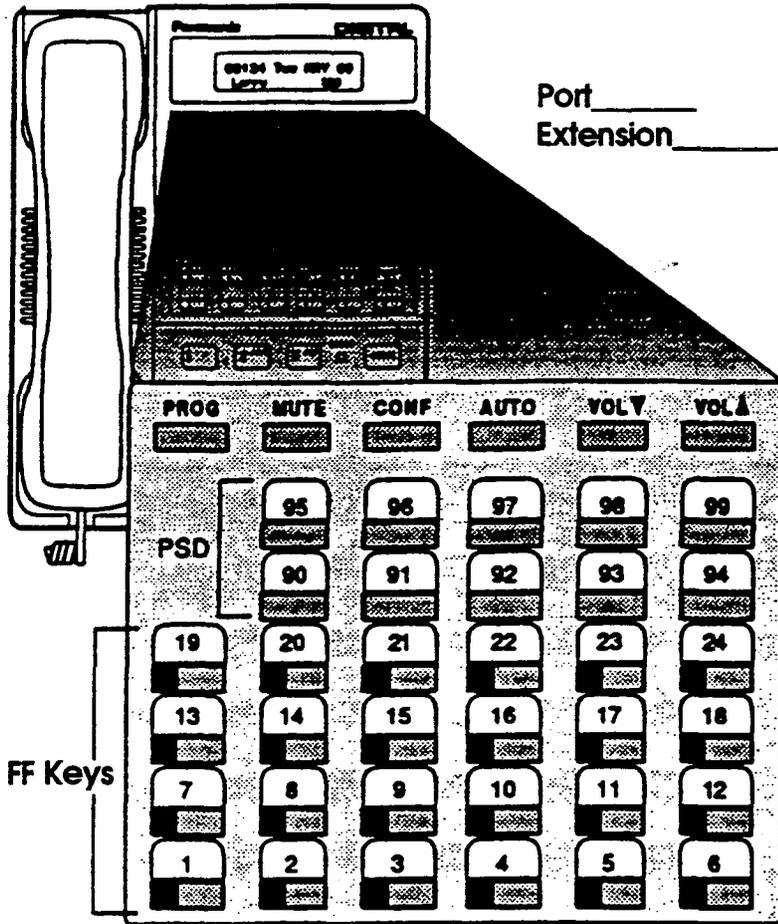
Personal Speed Dial (PSD)

FF10-2#-(1 to 144)#-(90 to 99)#-(16 digits)#

PSD CODES	Name / Number
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	

Multi-Line Key Assignment

FF5-(1 to 144)#-(1 to 24)#-CONF-(81 to 86, 89)#

	Name / Number
ML1 (81)	
ML2 (82)	
ML3 (83)	
ML4 (84)	
ML5 (85)	
ML6 (86)	
ML9 (9)	

Flexible Feature Key Assignment

FF5-(1 to 144)#-(1 to 24)#-CONF-(Up to 6 digits)#

	Feature Code		Feature Code		Feature Code		Feature Code		Feature Code		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

(For Feature Codes and T1 Alarm Key Assignment, See FF-Key Code Chart on Page 74)

FF5 Key - Flexible Features

Port_____
Extension_____

Personal Speed Dial (PSD)

FF10-2#-(1 to 144)#-(90 to 99)#-(16 digits)#

PSD CODES	Name / Number	
90	Operator	0
91	Sales	300
92	Service	400
93	Do-Not-Disturb	73
94		
95	ABC Corp.	C91-201-555-1234
96		
97		
98	Home	C9-555-1234
99		

Multi-Line Key Assignment

FF5-(1 to 144)#-(1 to 24)#-CONF-(81 to 86, 89)#

	Name / Number
ML1 (81)	1, 2, 3
ML2 (82)	4, 5
ML3 (83)	6, 7
ML4 (84)	8
ML5 (85)	14
ML6 (86)	15 through 22
ML9 (9)	4 through 13, 23

PSD

FF Keys

Flexible Feature Key Assignment

FF5-(1 to 144)#-(1 to 24)#-CONF-(Up to 6 digits)#

	Feature Code		Feature Code		Feature Code		Feature Code		Feature Code		Feature Code
19		20		21		22		23		24	
13		14		15		16		17		18	
7	DSS 210 / P210	8	DSS 220 / P220	9	Gp. Pickup / 70	10	All Page / #00	11	BGM / #53	12	Talkback / *3
1	ML1 / 81	2	ML9 / 89	3	ML9 / 89	4	DSS 120 / P120	5	DSS 130 / P130	6	DSS 140 / P140

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

(For Feature Codes and T1 Alarm Key Assignment, See FF-Key Code Chart on Page 74)

5

E x t e n s i o n   K e

FF5 Key - Flexible Features

This Table for

1st Attendant Console 2nd Attendant Console 3rd Attendant Console 4th Attendant Console


```
FF5-(149 to 152)#-(01 to 32)#-CONF-(PROG-100 to 699 / 10 to 69)#    DSS / 72-BLF keys
                                                                    or
                                              (81 to 86, 89)#       MCO keys
FF5-(149 to 152)#-(01 to 32)#-CONF-(PROG-PROG-Up to 6 digits)#      Any key
                                                                    or
        (CPC-B, V.2.0)                        (Up to 6 digits)#     Pre-programmed codes
```

Left Side   **Right Side**

Key	Feature	Key	Feature	Key	Feature	Key	Feature		Key	Feature	Key	Feature	Key	Feature	Key	Feature
-----	---------	-----	---------	-----	---------	-----	---------		-----	---------	-----	---------	-----	---------	-----	---------
									29	Z0	30	Z1	31	Z2	32	Z3
									25	Z4	26	Z5	27	Z6	28	Z7
									21	PK0	22	PK1	23	PK2	24	PK3
									17	PK4	18	PK5	19	PK6	20	PK7
									13	PK8	14	PK9	15		16	
									9		10		11		12	
									5		6		7		8	
									ANS		RLSY		DSS		NIGHT	
									1		2		3		4	

✳ Indicate External Page   ▬▬▬ = Fixed Feature   xxx(xx) = Default for 3 digits (or 2 digits)
Zone with an asterisk.

FF5 Key - Flexible Features

DSS/72 FF Key Assignments

Left Side

Key	Feature	Key	Feature	Key	Feature	Key	Feature
65	PAGE0	66	PAGE1	67	PAGE2	68	PAGE3
57	PARK0	58	PARK1	59	PARK2	60	PARK3
49	148 (59)	50	149 (59)	51	150 (60)	52	151 (61)
41	140 (51)	42	141 (51)	43	142 (52)	44	143 (53)
33	132 (42)	34	133 (43)	35	134 (44)	36	135 (45)
25	124 (34)	26	125 (35)	27	126 (36)	28	127 (37)
17	116 (26)	18	117 (27)	19	118 (28)	20	119 (29)
9	108 (18)	10	109 (19)	11	110 (20)	12	111 (21)
1	100 (10)	2	101 (11)	3	102 (12)	4	103 (13)

Left   **Right**
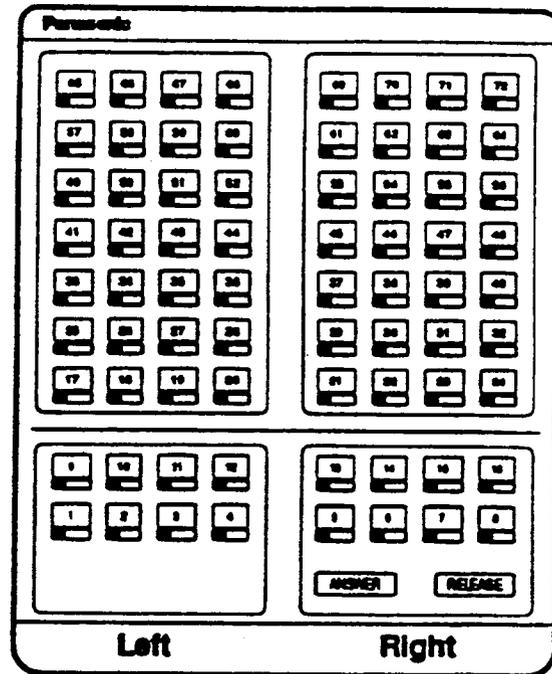
```
FF5-(145 to 148)#-(01 to 24)#-CONF-(PROG-100 to 699 / 10 to 69)#    DSS / 72-BLF keys
                                                           or
                                             (81 to 86, 89)#         MCO keys
FF5-(145 to 148)#-(01 to 72)#-CONF-(PROG-PROG-Up to 6 digits)#       Any key
                                                           or
         (CPC-B, V.2.0)                      (Up to 6 digits)#       Pre-programmed codes
```

Right Side

This Table for	Ext. Port No.	Key	Feature	Key	Feature	Key	Feature	Key	Feature
1st DSS Console for 1st Attendant ☐ ___		69	PAGE4	70	PAGE5	71	PAGE6	72	NIGHT
2nd DSS Console for 1st Attendant ☐ ___		61	PARK4	62	PARK5	63	PARK6	64	PARK7
1st DSS Console for 2nd Attendant ☐ ___		53	152 (62)	54	153 (63)	55	154 (64)	56	155 (65)
2nd DSS Console for 2nd Attendant ☐ ___		45	144 (54)	46	145 (55)	47	146 (56)	48	147 (57)
		37	136 (46)	38	137 (47)	39	138 (48)	40	139 (49)
		29	128 (38)	30	129 (39)	31	130 (40)	32	131 (41)
		21	120 (30)	22	121 (31)	23	122 (32)	24	123 (33)
		13	112 (22)	14	113 (23)	15	114 (24)	16	115 (25)
		5	104 (14)	6	105 (15)	7	106 (16)	8	107 (17)

✱ Indicate External Page Zone with an asterisk.

| xxx(xx) | = Default for 3 digits (or 2 digits)

FF5 Key - *Flexible Features*

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____
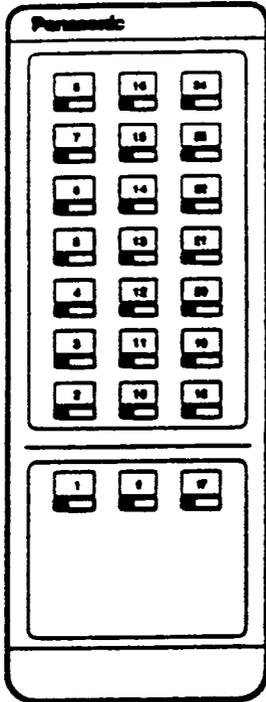
EM/24 FF Key Assignments

You need both the FF3 key and the FF5 key to program the EM/24 Console.

For Extension (   )

Key	Feature	Key	Feature	Key	Feature
8	TRK8	16	TRK16	24	TRK24
7	TRK7	15	TRK15	23	TRK23
6	TRK6	14	TRK14	22	TRK22
5	TRK5	13	TRK13	21	TRK21
4	TRK4	12	TRK12	20	TRK20
3	TRK3	11	TRK11	19	TRK19
2	TRK2	10	TRK10	18	TRK18
1	TRK1	9	TRK9	17	TRK17

For Extension (   )

Key	Feature	Key	Feature	Key	Feature
8	TRK8	16	TRK16	24	TRK24
7	TRK7	15	TRK15	23	TRK23
6	TRK6	14	TRK14	22	TRK22
5	TRK5	13	TRK13	21	TRK21
4	TRK4	12	TRK12	20	TRK20
3	TRK3	11	TRK11	19	TRK19
2	TRK2	10	TRK10	18	TRK18
1	TRK1	9	TRK9	17	TRK17

1. Set the EM/24 to an extension port already in use

   FF3-EM/24 Port (1 to 144)#-3#-Extension Port (1 to 144)#

2. Set the FF keys on the EM/24

   FF5-Extension Port (1 to 144)#-FF Keys (1 to 24)#-
   (Feature Code - Up to 6 digits)#

For Extension (   )

Key	Feature	Key	Feature	Key	Feature
8	TRK8	16	TRK16	24	TRK24
7	TRK7	15	TRK15	23	TRK23
6	TRK6	14	TRK14	22	TRK22
5	TRK5	13	TRK13	21	TRK21
4	TRK4	12	TRK12	20	TRK20
3	TRK3	11	TRK11	19	TRK19
2	TRK2	10	TRK10	18	TRK18
1	TRK1	9	TRK9	17	TRK17

For Extension (   )

Key	Feature	Key	Feature	Key	Feature
8	TRK8	16	TRK16	24	TRK24
7	TRK7	15	TRK15	23	TRK23
6	TRK6	14	TRK14	22	TRK22
5	TRK5	13	TRK13	21	TRK21
4	TRK4	12	TRK12	20	TRK20
3	TRK3	11	TRK11	19	TRK19
2	TRK2	10	TRK10	18	TRK18
1	TRK1	9	TRK9	17	TRK17

| x | = Default |

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FF6 Key - Name Assignment

T he FF6 Key, in combination with the DSS/72, can create messages for absence message codes 5 to 9, and can assign names to extensions, system speed dial, personal speed dial, trunk lines, and hunt group pilot extensions.

When there are several DSS units, use *only* the unit positioned nearest the telephone for programming.

Use the **Name Assignment** form with the **Speed Dial List**, **Key Plan**, and **Summary Key Plan**. All these forms are for the installer / programmer.

Save Your Original Forms!!!

FF6 Key - Name Assignment

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

(CONF) Clear Data   Use the DSS to enter Names

SP: Space
BS: Back space
← : Move to left
→: Move to right
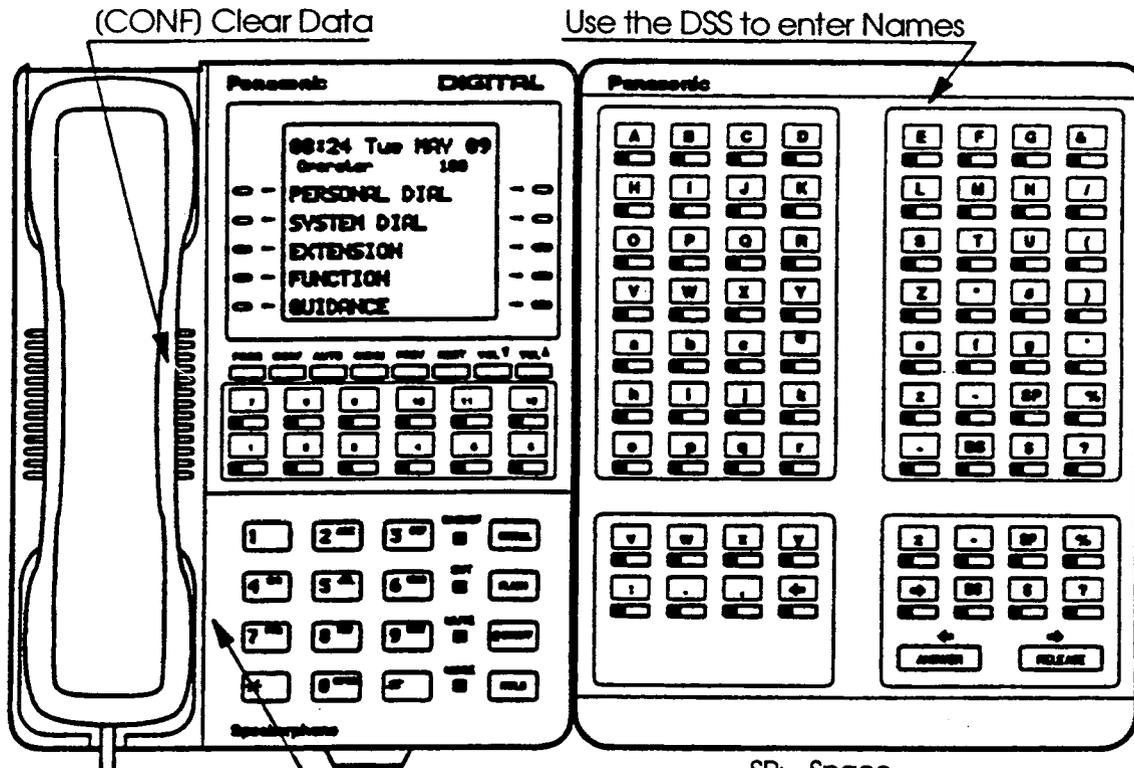
Use Keypad to enter Numbers

Extension Names
FF6-1#-(1 to 144)#-(10 characters)#

Use with Key Plan or Summary Key Plan

SSD Name Assignment
FF6-2#-(00 to 89)#-(16 characters)#

A name can be stored in each System Speed Dial code (00 to 89).

Use with Speed Dial list

PSD Name Assignment
FF6-3#-(1 to 144)#-(90 to 99)#-(16 characters)#

A name can be stored in Personal Speed Dial codes (90 to 99) for each extension port (001 to 144).

Use with Speed Dial list

Absence Message
FF6-4#-(5 to 9)#-(15 characters)#

Store Absence Messages in message codes (5 to 9). Each message can be a maximum of 15 characters. Messages (0 to 4) cannot be changed.

0: In Meeting	5:_____
1: At Lunch	6:_____
2: Out of Office	7:_____
3: Vacation	8:_____
4: Another Office	9:_____

Trunk Name Assignment (CPC-B, V.2.0)
FF6-5#-(1 to 64)#-(6 characters)#

A trunk name can be a maximum of 6 characters.

Hunt Group Pilot Name Assignment (CPC-B, V.2.0)
FF6-6#-(1 to 8)#-(10 characters)#

A pilot name can be a maximum of 10 characters.

Call Waiting Text Reply (CPC-B, V3.0 or higher)
FF6-7#-(1 to 5)#-(15 characters)#

The answer can be a maximum of 15 characters.

The FF7 Key is for programming toll restricted Area and Office codes. The submodes are (1# to 9#).

There are seven forms the installer/programmer can use to record these codes:

The **TRS System Settings** form is for submode 1#. This programming affects the entire toll restrict system.

The **TRS Area Codes / Office Codes** form is for submodes 2# and 3#. It establishes restrictions for Classes of Restriction 3 to 6.

The **TRS Special Area Code Tables** form is for submodes 4# and 5#. It is for Classes of Restriction 3 to 6. Each of the four tables can accept one thousand (1,000) office code or area code entries.

The **7-Digit Call Restrict** form is for submode 6#. Use this optional table to restrict up to fifty 7-digit numbers for Classes of Restriction 2 to 6.

The **TRS Day / Night Assignments** form is for submodes 7# and 8#. In most cases, the "all-trunk" setting is used for each extension, but exceptions can be made wherever needed. Enter trunk number and COR (0 to 7). Photocopy the original form and use a separate page for day and night.

The **TRS Block Mode** form is for submode 9#. Record default changes (deny, allow) for each COR from 3 to 6 throughout the toll restrict system.

The form explained below is located at the back of this manual immediately following the FF10 Key information:

The **Extension Summary** form is for assigning toll restrictions to each extension. Use one form for each extension port. Photocopy the original form and use only the copies. Refer to the *Toll Restriction* box on this form.

Save Your Original Forms!!!

FF7 Key - TRS

TRS System Settings

FF7-1#-(1 to 2)#-(0 or 1)#
FF7-1#-(3)#-(1 to 15)#
FF7-1#-(4 to 16)#-(0 or 1)#

Address	Feature	Program Options	Selected Option
-1#-1#	International calls	0: Restriction not determined by office code table **1: Restriction determined by office code table**	
-1#-2#	Incoming calls	0: Disable **1: Enable**	
-1#-3#	Maximum digits dialed	**Not restricted** 1 to 15: 15th to 29th digit	
-1#-4#	211 dial restriction	**0: Allow** 1: Deny	
-1#-5#	311 dial restriction	**0: Allow** 1: Deny	
-1#-6#	411 dial restriction	**0: Allow** 1: Deny	
-1#-7#	511 dial restriction	**0: Allow** 1: Deny	
-1#-8#	611 dial restriction	**0: Allow** 1: Deny	
-1#-9#	711 dial restriction	**0: Allow** 1: Deny	
-1#-10#	811 dial restriction	**0: Allow** 1: Deny	
-1#-11#	911 dial restriction	**0: Allow** 1: Deny	
-1#-12#	See FF7-6# 7-digit restrict table COR Type 2	0: Allow **1: Restrict**	
-1#-13#	See FF7-6# 7-digit restrict table COR Type 2	0: Allow **1: Restrict**	
-1#-14#	See FF7-6# 7-digit restrict table COR Type 2	0: Allow **1: Restrict**	
-1#-15#	See FF7-6# 7-digit restrict table COR Type 2	0: Allow **1: Restrict**	
-1#-16#	See FF7-6# 7-digit restrict table COR Type 2	0: Allow **1: Restrict**	

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T R S S y s t e m S e t t i n g s

FF7 Key - TRS

DBS Account Name_____Cutover Date_____ Sheet____ of____
Account Address_____Account Phone (Main List)_____

Area Codes/Office Codes

Area Codes   2#-(3 to 6)#-(000 to 999)#-(0 or 1)#

Office Codes   3#-(3 to 6)#-(000 to 999)#-(0 or 1)#

☐ **Area Codes**   ☐ **Office Codes**   COR_____
                                                         (3 to 6)

___ ___	___	___ ___
___ ___	___	___ ___
___ ___	___	___ ___
___ ___	000 to 999	___ ___

☐ **Area Codes**   ☐ **Office Codes**   COR_____
                                                         (3 to 6)

___ ___	___	___ ___
___ ___	___	___ ___
___ ___	___	___ ___
___ ___	000 to 999	___ ___

☐ **Area Codes**   ☐ **Office Codes**   COR_____
                                                         (3 to 6)

___ ___	___	___ ___
___ ___	___	___ ___
___ ___	___	___ ___
___ ___	000 to 999	___ ___

☐ **Area Codes**   ☐ **Office Codes**   COR_____
                                                         (3 to 6)

___ ___	___	___ ___
___ ___	___	___ ___
___ ___	___	___ ___
___ ___	000 to 999	___ ___

Class of Restriction (COR)

FF7 Key - TRS

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

Office Codes for Special Area Codes

Special Area Code 4#-(1 to 4)#-(000 to 999)#
Special Office Code 5#-(1 to 4)#-(000 to 999)#-(0 or 1)#

Special Area Code_____ **Table**_____
(000 to 999) **(1 to 4)**

COR_____
(3 to 6)

Deny
Allow

Special Office Codes (000 to 999)

Special Area Code_____ **Table**_____
(000 to 999) **(1 to 4)**

COR_____
(3 to 6)

Deny
Allow

Special Office Codes (000 to 999)

Special Area Code_____ **Table**_____
(000 to 999) **(1 to 4)**

COR_____
(3 to 6)

Deny
Allow

Special Office Codes (000 to 999)

Special Area Code_____ **Table**_____
(000 to 999) **(1 to 4)**

COR_____
(3 to 6)

Deny
Allow

Special Office Codes (000 to 999)

Class of Restriction (COR)

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FF7 Key - TRS

DBS Account Name_____Cutover Date_____Sheet____of____
Account Address_____Account Phone (Main List)_____

Seven-Digit Toll Restriction

FF7-6#-(1 to 50)#-(7 Digits)#   (See FF7-1#-12#)

COR Types (2 to 6) - FF7-1#-(12 to 16)#-(0 or 1)#

Address	Program Options* -(7 Digits)	Address	Program Options* -(7 Digits)
-6#-1#		-6#-26#	
-6#-2#		-6#-27#	
-6#-3#		-6#-28#	
-6#-4#		-6#-29#	
-6#-5#		-6#-30#	
-6#-6#		-6#-31#	
-6#-7#		-6#-32#	
-6#-8#		-6#-33#	
-6#-9#		-6#-34#	
-6#-10#		-6#-35#	
-6#-11#		-6#-36#	
-6#-12#		-6#-37#	
-6#-13#		-6#-38#	
-6#-14#		-6#-39#	
-6#-15#		-6#-40#	
-6#-16#		-6#-41#	
-6#-17#		-6#-42#	
-6#-18#		-6#-43#	
-6#-19#		-6#-44#	
-6#-20#		-6#-45#	
-6#-21#		-6#-46#	
-6#-22#		-6#-47#	
-6#-23#		-6#-48#	
-6#-24#		-6#-49#	
-6#-25#		-6#-50#	

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7 - Digit Call Restrictions

* No entries at default

FF7 Key - TRS

TRS Day/Night Assignments

☐ **DAY** FF7-7#-(1 to 144)#-(1 to 64)# or (65)#-(0 to 7)#

☐ **NIGHT** FF7-8#-(1 to 144)#-(1 to 64)# or (65)#-(0 to 7)#

Ext Port (1 to 144)	Trunk Port (1 to 64)	All Trunks (65)	COR (0 to7)	Ext Port (1 to 144)	Trunk Port (1 to 64)	All Trunks (65)	COR (0 to7)
01				37			
02				38			
03				39			
04				40			
05				41			
06				42			
07				43			
08				44			
09				45			
10				46			
11				47			
12				48			
13				49			
14				50			
15				51			
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18				54			
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26				62			
27				63			
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30				66			
31				67			
32				68			
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34				70			
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FF7 Key - TRS

TRS Block Mode

FF7-9#-(1 to 16)#-(0 or 1)#

Address	Feature	Program Options	Selected Option
-9#-1#	Area Code - COR 3	0: Allow *1: Deny*	
-9#-2#	Area Code - COR 4	0: Allow *1: Deny*	
-9#-3#	Area Code - COR 5	*0: Allow* 1: Deny	
-9#-4#	Area Code - COR 6	*0: Allow* 1: Deny	
-9#-5#	Office Code - COR 3	0: Allow *1: Deny*	
-9#-6#	Office Code - COR 4	*0: Allow* 1: Deny	
-9#-7#	Office Code - COR 5	*0: Allow* 1: Deny	
-9#-8#	Office Code - COR 6	*0: Allow* 1: Deny	
-9#-9#	Special Office Code - COR 3 (000 - 999)	0: Allow *1: Deny*	
-9#-10#	Special Office Code - COR 4 (000 - 999)	0: Allow *1: Deny*	
-9#-11#	Special Office Code - COR 5 (000 - 999)	0: Allow *1: Deny*	
-9#-12#	Special Office Code - COR 6 (000 - 999)	0: Allow *1: Deny*	
-9#-13#	Special Area Code/Office Code - COR 3	0: Allow *1: Deny*	
-9#-14#	Special Area Code/Office Code - COR 4	0: Allow *1: Deny*	
-9#-15#	Special Area Code/Office Code - COR 5	*0: Allow* 1: Deny	
-9#-16#	Special Area Code/Office Code - COR 6	*0: Allow* 1: Deny	

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T he FF8 Key controls economy trunk lines for designated calling areas. The submodes are (1# to 8#).

The following forms are for the installer/programmer:

The **LCR Area Codes/Office Codes** form for submodes 1# and 2# establishes area code tables and office code tables.

The **LCR Office Codes for Special Area Codes** form is for submodes 3# and 4#. If the customer requires special area codes, set them in tables 1 to 4.

The **LCR Time Priority Tables** form for submode 5# sets up time priority tables for the trunk groups.

The **LCR Trunk Groups** form for submode 6# separates trunks into groups.

The **LCR Delete/Add Tables** form is for submodes 7# (delete) and 8# (add).

The **Delete Table** records up to 16 digits stripped from an outgoing dialed number. *Example:* delete an area code or 1+ area code.

The **Add Table** records up to 16 digits added to an outgoing dialed number. *Example:* adds a carrier's (MCI, Sprint, etc.) account number or equal access number (10xxx).

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Save Your Original Forms!!!

FF8 Key - LCR

DBS Account Name_____ Cutover Date_____ Sheet____ of____
Account Address_____ Account Phone (Main List)_____

Area Codes/Office Codes (See FF1-2#-1#-3#)

Area Codes   FF8-1#-(1 to 15)#-(000 to 999)#-(0 or 1)#

Office Codes   FF8-2#-(1 to 15)#-(000 to 999)#-(0 or 1)#

Area Codes	Office Codes	000 to 999

Time Priority Table ____ (1 to 15)

Area Codes	Office Codes	000 to 999

Time Priority Table ____ (1 to 15)

Area Codes	Office Codes	000 to 999

Time Priority Table ____ (1 to 15)

Area Codes	Office Codes	000 to 999

Time Priority Table ____ (1 to 15)

FF8 Key - LCR

Office Codes for Special Area Code Tables

Time Priority Table_____ (1 to 15)   (See FF1-2#-1#-3#)

Special Area Codes FF8-3#-(1 to 4)#-(000 to 999)#

Special Office Codes FF8-4#-(1 to 4)#-(1 to 15)#-(000 to 999)#-(0 or 1)#

Special Area Code_____Table_____(1 to 4)

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Office Code Entries (000 to 999)

Special Area Code_____Table_____(1 to 4)

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Office Code Entries (000 to 999)

Special Area Code_____Table_____(1 to 4)

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Office Code Entries (000 to 999)

Special Area Code_____Table_____(1 to 4)

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Office Code Entries (000 to 999)

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LCR Special Area Codes

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FF8 Key - LCR

Time Priority Table_____ (1 to 15)

Time Bands
(See FF1-2#-1#-3#)

FF8-5#-(1 to 15)#-(1 to 48)#-(1 to 8)#

See also LCR Trunk Group Table

| 1# - 8# | 7:00 am - 8:00 am |

1#_____2#_____3#_____4#_____5#_____6#_____7#_____8#_____
(Trunk Groups)

| 9# - 16# | 8:00 am - 5:00 pm |

9#_____10#_____11#_____12#_____13#_____14#_____15#_____16#_____
(Trunk Groups)

| 17# - 24# | 5:00 pm - 8:00 pm |

17#_____18#_____19#_____20#_____21#_____22#_____23#_____24#_____
(Trunk Groups)

| 25# - 32# | 8:00 pm - 12:00 pm |

25#_____26#_____27#_____28#_____29#_____30#_____31#_____32#_____
(Trunk Groups)

| 33# - 40# | 0:00 am - 7:00 am |

33#_____34#_____35#_____36#_____37#_____38#_____39#_____40#_____
(Trunk Groups)

| 41# - 48# | WEEKEND |

1#_____42#_____43#_____44#_____45#_____46#_____47#_____48#_____
(Trunk Groups)

High   PRIORITY   Low

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FF8 Key - LCR

LCR Trunk Group Table
FF8-6#-(1 to 8)#-(1 to 8)#-(01 to 64)#

Group 1 (1#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 2 (2#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 3 (3#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 4 (4#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 5 (5#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 6 (6#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 7 (7#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

Group 8 (8#)

1#_____ 2#_____ 3#_____ 4#_____ 5#_____ 6#_____ 7#_____ 8#_____

(Order within Each Trunk Group)

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FF8 Key - LCR

LCR Delete/Add Tables

FF8-7#-(1 to 8)#-(Delete up to 16 digits)#

FF8-8#-(1 to 8)#-(Add up to 16 digits)

Address	Feature	Program Option*	Selected Option*
LCR Delete Table			
-7#-1#	Trunk 01 - Delete Dialing Digits	Delete up to 16 digits	
-7#-2#	Trunk 02 - Delete Dialing Digits	Delete up to 16 digits	
-7#-3#	Trunk 03 - Delete Dialing Digits	Delete up to 16 digits	
-7#-4#	Trunk 04 - Delete Dialing Digits	Delete up to 16 digits	
-7#-5#	Trunk 05 - Delete Dialing Digits	Delete up to 16 digits	
-7#-6#	Trunk 06 - Delete Dialing Digits	Delete up to 16 digits	
-7#-7#	Trunk 07 - Delete Dialing Digits	Delete up to 16 digits	
-7#-8#	Trunk 08 - Delete Dialing Digits	Delete up to 16 digits	
LCR Add Table			
-8#-1#	Trunk 01 - Add Dialing Digits	Add up to 16 digits	
-8#-2#	Trunk 02 - Add Dialing Digits	Add up to 16 digits	
-8#-3#	Trunk 03 - Add Dialing Digits	Add up to 16 digits	
-8#-4#	Trunk 04 - Add Dialing Digits	Add up to 16 digits	
-8#-5#	Trunk 05 - Add Dialing Digits	Add up to 16 digits	
-8#-6#	Trunk 06 - Add Dialing Digits	Add up to 16 digits	
-8#-7#	Trunk 07 - Add Dialing Digits	Add up to 16 digits	
-8#-8#	Trunk 08 - Add Dialing Digits	Add up to 16 digits	

* No entries at default

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The FF9 Key copies programmed data from extension to extension, trunk to trunk, or FF key to FF key. The sub-modes are 1# to 3#.

Trunks/submode 1#. **FF9-1#-(01 to 64)#-(01 to 64)##**

Trunk features can be copied to another trunk with the single exception of the Private Line feature, which cannot be copied.

Extensions/submode 2#. **FF9-2#-(1 to 144)#-(1 to 144)##**

With four exceptions, all other features can be copied to any extension in the DBS system.

The four exceptions are: extension number, telephone type, station lockout code, and the EM/24 port number (BLF).

FF Keys/submode 3#. **FF9-3#-(1 to 144)#-(1 to 144)##**

Copies only *LED* FF keys.

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Save Your Original Forms!!!

FF10 Key - Speed Dial

T he FF10 Key is for programming System Speed Dial (SSD) and Personal Speed Dial (PSD) numbers. There are 90 SSD codes and 10 PSD codes in the DBS system.

The **Speed Dial List** is for recording the SSD and PSD numbers.

SSD numbers are programmed by the installer/programmer or the attendant.

PSD numbers can be programmed by the station user as well as the attendant and installer/programmer. Distribute a copy of each **Speed Dial List** to every station user in the system. Photocopy the original form and use only the copies.

See instructions for the FF6 Key to assign speed dial names.

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Save Your Original Forms!!!

FF10 Key - Speed Dialing

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____Account Phone (Main List)_____

System *Speed Dial* Codes (SSD) FF10-1#-(00 to 89)#-(16 digits)#

SSD Code	Telephone Number	Name	SSD Code	Telephone Number	Name
00			46		
02			47		
03			48		
04			49		
05			50		
06			51		
07			52		
08			53		
09			54		
10			55		
11			56		
12			57		
13			58		
14			59		
15			60		
16			61		
17			62		
18			63		
19			64		
20			65		
21			66		
22			67		
23			68		
24			69		
25			70		
26			71		
27			72		
28			73		
29			74		
30			75		
31			76		
32			77		
33			78		
34			79		
35			80		
36			81		
37			82		
38			83		
39			84		
40			85		
41			86		
42			87		
43			88		
44			89		
45					

Personal *Speed Dial* Codes (PSD) FF10-2#-(001 to 144)#-(90 to 99)#-(16 digits)#

90		95		
91		96		
92		97		
93		98		
94		99		

The Extension Summary form is for recording all the FF3, 4, 6, and 7 Key features associated with each extension port.

This form is for the installer/programmer who will eventually transcribe the information onto the **Summary Key Plan** or the **Key Plan** for sign-off by the Customer.

Save Your Original Forms!!!

Extension Summary

DBS Account Name_____	Cutover Date_____ Sheet___of___
Account Address_____	Account Phone (Main List)_____

Extension General Information (FF3, 6)

Ext. Port_____ Extension_____
(1 to 144)   (100 to 699/10 to 69)

Italic = Default

Telephone Type	Keys: □16 □22 □34 □Std.
	□SP □DS □LDS □DSLT
Model	VB-	4	3	2	3		
Name							
DID Extension							

Extension Programming 1 (FF3)

Forced LCR	□Enable □*Disable*
Forced Verified Acct Code	□Enable □*Disable*
Station Lockout Code	□□□□
CO Off Hook Signal	□Enable □*Disable*
Call Waiting	□*Accept* □Reject
Busy Override	□Enable □*Disable*
Busy Overridden	□*Accept* □Reject
Prime Line Preference	□Enable □*Disable*
Ringing Line Preference	□*Enable* □Disable
Unsupervised Conference	□Enable □*Disable*
SMDR Printout	□Yes □No
Off Hook Signal Volume	1, 2, 3, 4
Off Hook Signal Pattern	□One □*Continue*
Page Group Pickup	00, 01, 02, 03
(External Paging)	04, 05, 06, 07
Ringback Tone on 2nd Call	□*B-RBT* □RBT □BT
EXT Class of Service	0, 1, 2, 3, 4, 5, 6, 7, 8,
SLT Hook Flash	□*Broker's Hold* □Conf
EXT Ring Pattern	0, 1, 2, 3, 4, 5, 6, 7, 8, 9
DSLT Handset Volume	□*Normal* □Louder
Auto Set Relocation	□□□□
Permanent Call Forward Type	□All □Busy/NA □Busy □NA
EXT Permanent Call Forward	□□□□

Hunt Group (FF4)

Hunt Group Member	
Hunt Group Number	1 to 8
Hunt Type	T / D / L
Transfer Extension	
Pilot Extension/Name	

Ringing Assignment (FF4)

CO Ring Assign.	Trunks (1 to 64)
Day	
Night	
Day Delayed	
Night Delayed	

Ext. Ring Assign.	Ext. 10 to 69 (100 to 699)
Immediate	
Delayed	

Call Coverage (FF4)

Coverage Member	
Coverage Group number	1 to 16
Covering Extension 1	
Covering Extension 2	

Toll Restriction Class of Restriction (FF7)

DAY	Type (0 to 7)	Trunks (1 to 64)
TRS Type		
TRS Type		
TRS Type		
TRS Type		

DAY	Type (0 to 7)	Trunks (1 to 64)
TRS Type		
TRS Type		
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TRS Type		

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Extension Summary

DBS Account Name_____	Cutover Date_____ Sheet____of____
Account Address_____	Account Phone (Main List)_____

(Program Sample)

Ext. Port_____ Extension_____
(1 to 144)   (100 to 699/10 to 69)

Italic = Default

Extension General Information (FF3, 6)

Telephone Type	Keys: ☐16 ☐22 ☐34 ☐Std. ☐SP ☑DS ☐LDS ☐DSLT
Model	VB- **4** **3** **2** **3**
Name	*M* **a** r **i** **a** n **n** e
DID Extension	

Hunt Group (FF4)

Hunt Group Member	
Hunt Group Number	*1 to 8*
Hunt Type	☑ / D / L
Transfer Extension	
Pilot Extension/Name	

Extension Programming 1 (FF3)

Forced LCR	☐Enable ☑*Disable*
Forced Verified Acct Code	☐Enable ☑*Disable*
Station Lockout Code	1 2 3 4
CO Off Hook Signal	☑Enable ☐*Disable*
Call Waiting	☑*Accept* ☐Reject
Busy Override	☑Enable ☐*Disable*
Busy Overridden	☐*Accept* ☑Reject
Prime Line Preference	☐Enable ☑*Disable*
Ringing Line Preference	☑*Enable* ☐Disable
Unsupervised Conference	☑Enable ☐*Disable*
SMDR Printout	☑Yes ☐No
Off Hook Signal Volume	1, 2, 3, ☑
Off Hook Signal Pattern	☐One ☑*Continue*
Page Group Pickup (External Paging)	00, 01, 02, 03 04, 05, 06, 07
Ringback Tone on 2nd Call	☑*B-RBT* ☐RBT ☐BT
EXT Class of Service	0, 1, 2, 3, 4, ☑6, 7, 8,
SLT Hook Flash	☐*Broker's Hold* ☑Conf
EXT Ring Pattern	0, 1, 2, ☑4, 5, 6, 7, 8, 9
DSLT Handset Volume	☐*Normal* ☑Louder
Auto Set Relocation	2 1 3 4
Permanent Call Forward Type	☐All ☐Busy/NA ☐Busy ☐NA
EXT Permanent Call Forward	1 5 8

Ringing Assignment (FF4)

CO Ring Assign.	Trunks (1 to 64)
Day	*4 to 9, 14*
Night	*1 to 14*
Day Delayed	*1 to 9, 14, 23*
Night Delayed	*1 to 14, 23*

Ext. Ring Assign.	Ext. 10 to 69 (100 to 699)
Immediate	*120, 130, 140*
Delayed	*210, 220*

Call Coverage (FF4)

Coverage Member	
Coverage Group number	*1 to 16*
Covering Extension 1	
Covering Extension 2	

Toll Restriction Class of Restriction (FF7)

DAY	Type (0 to 7)	Trunks (1 to 64)
TRS Type	*1*	*1 to 3, 14*
TRS Type	*7*	*4 to 13, 15 to 23*
TRS Type		
TRS Type		

DAY	Type (0 to 7)	Trunks (1 to 64)
TRS Type	*1*	*1 14*
TRS Type	*7*	*All others (15 to 23)*
TRS Type		
TRS Type		

Extension Summary

68

The **Key Plan** is a summary of the programming on each station for the FF3, 4, 5, 6, 7, 8, 9, and 10 keys.

Programmed data is taken from the floor plan of an installation site which, along with the **Summary Key Plan**, is the only other place cable numbers are documented.

This form is used on the final walk-through of an installation or upgrade to verify the programming on each station.

Save Your Original Forms!!!

Key Plan

DBS Account Name_____Cutover Date_____Sheet____of____

Account Address_____ Account Phone (Main List)_____

Circle or Fill in as Appropriate

Cable	Ext. No.	Ext. Port	Phone Type	Name/Department	CO-Line/FF key Button Assignment

					Ring Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
					Day																							
					Night																							

Forced LCR Mode	Forced Verified Account	TRS COR 0 1 2 3 4 5 6 7	Day Delayed																								
Night Delayed																								
Extension Delayed																								

Lockout Code			Off Hook CO Signal	Call Waiting	Busy Override	Busy Overridden	Prime Line Preference	Ringing Line Preference	CO Conference Capability

Page Zones	Hunt Groups	Call Coverage Groups	Multi-Line Keys	SMDR Print	Headset	Mount Cord	Handset Cord	Ext. COS
0 1 2 3 4 5 6 7	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16				Std Long Wall	Std Long	

SLT Hook Flash	Ext. Ring Pattern	D-SLT Handset Volume	Auto Set Relocation Code	Permanent CFWD	Ext. Permanent CFWD
Broker's Hold	Conference Call		Normal	Louder			Busy	No Ans.	Busy/No Ans.	

Program Type___

Circle or Fill in as Appropriate

Cable	Ext. No.	Ext. Port	Phone Type	Name/Department	CO-Line/FF key Button Assignment

					Ring Assignment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
					Day																							
					Night																							

Forced LCR Mode	Forced Verified Account	TRS COR 0 1 2 3 4 5 6 7	Day Delayed																								
Night Delayed																								
Extension Delayed																								

Lockout Code			Off Hook CO Signal	Call Waiting	Busy Override	Busy Overridden	Prime Line Preference	Ringing Line Preference	CO Conference Capability

Page Zones	Hunt Groups	Call Coverage Groups	Multi-Line Keys	SMDR Print	Headset	Mount Cord	Handset Cord	Ext. COS
0 1 2 3 4 5 6 7	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16				Std Long Wall	Std Long	

SLT Hook Flash	Ext. Ring Pattern	D-SLT Handset Volume	Auto Set Relocation Code	Permanent CFWD	Ext. Permanent CFWD
Broker's Hold	Conference Call		Normal	Louder			Busy	No Ans.	Busy/No Ans.	

Program Type___

The **Summary Key Plan** is a summary of the programming on the FF3, 4, 5, 6, and 7 keys for each station.

The form is for larger installations where most, but not all the details of an installation are recorded.

The floor plan, **Key Plan**, and **Summary Key Plan** are the only places where cable numbers are documented.

The **Summary Key Plan** is used by the installer/programmer and the Customer to sign off on the installation.

Save Your Original Forms!!!

DBS Account Name_____Cutover Date_____ Sheet____of____

Account Address_____Account Phone (Main List)_____

Cable	Extension (1 to 144)	Ext. Port	Name/Department	Phone Type (1 to16)	Multi-Line Keys	TRS COR (1 to 7)	Hunt Groups (1 to 8)	Call Coverage Groups (1 to16)	C/F Y/N	Class of Service	Page Groups (00 to 07)	OHVA Y/N	Busy Override Y/N	Delayed Ring Trunk/Target Extension

Comme_____

Summary Key Plan

Appendix A

ppendix A is a master list of FF key defaults. Following the master list is a *pocket-sized* version of the FF key default chart beginning on page 90.

Appendix A

FF 1 KEY - System Programming		

FF1-1#-	Default	Calendar and Time
-1#-(MMDDYY)#	-	Date (01 to 12) (01 to 31) (00 to 99)
-2#-(HHMM)#	-	Time (0000 to 2359)

FF1-2#-1#-		Timers and Displays
-1#-(0 or 1)#	1	Call duration display
-2#-(0 to 2)#	0	SMDR timer 5, 16 or 30 seconds
-3#-(0 or 1)#	0	Least-Cost Routing (LCR)
-4#-(00 to 89)#	-	TRS for SSD
-5#-(0 or 1)#	0	Display during SSD
-6#-(0 or 1)#	1	AUTO-FLASH REDIAL
-7#-(0 or 1)#	1	One-touch dialing
-8#-(0 or 1)#	1	On-hook transfer
-9#-(0 or 1)#	0	Key bank hold
-10#-(0 or 1)#	1	Non-appearance CO-line hold
-11#-(0 or 1)#	1	SLT FLASH control
-12#-(0 or 1)##	1	Sets number of extension -digits
-14#-(0 or 1)#	1	Attendant intercom
-15#-(0 or 1)#	1	Extension intercom
-16#-(0 or 1)#	1	Splash tone on a voice call
-17#-(0 or 1)#	0	Splash tone on a busy override
-18#-(0 or 1)#	1	Area code or 1+Area Code
-19#-(0 or 1)#	0	SSD display mode
-21#-(0 or 1)#	0	Voice-mail busy tone
-22#-(0 or 1 to 15)#	8	Attendant overflow
-23#-(0 or 1)#	0	Delayed-ring capability
-24#-(11 to 69/101 to 699)#	101	Second attendant
-25#-(11 to 69/101 to 699)#	-	Third attendant
-26#-(11 to 69/101 to 699)#	-	Fourth attendant
-27#-(11 to 69/101 to 699)#	-	Attendant transfer ext. number
-28#-(0 or 1)#	1	Attendant override switch
-29#-(0 or 1)#	1	Alarm LED mode
-30#-(0 or 1)#	0	BLF (extension) delayed ring
-31#-(0 to 6)#	0	Analog port transfer ring interval
-32#-(0 to 1)# (Vs. 4.0 or higher)	0	Multiple DID/DNIS
-32#-(0 or 1)# (Vs. 3.0 or higher)	0	Multiple DID
-33#-(0 or 1)#	0	Paging duration
-34#-(0 or 1)#	0	SLT DISA ringing pattern

FF1-2#-2#-		SMDR and Data
-1#-(0 or 1)#	1	SMDR parity check
-2#-(0 or 1)#	1	SMDR parity type
-3#-(1 to 4)#	(A)2 & 4(B)	SMDR baud rate
-4#-(1 to 3)#	1	SMDR stop-bit length
-5#-(1 to 4)#	4	SMDR data length
-6#-(0 or 1)#	1	SMDR printing mode 1
-7#-(0 or 1)#	1	SMDR printing mode 2 (long/local)
-8#-(0 or 1)#	0	SMDR printing mode 3 (title)

Appendix A

FF 1 KEY - System Programming		
FF1-2#-2#-	**Default**	**SMDR and Data**
-9#-(0 or 1)#	0	Dump data mode (Xon/Xoff)
-10#-(0 or 1)#	1	RAI baud rate switch
FF1-2#-3#-		**PBX Access and Pauses**
-(1 to 8)#-(00 to 99) or (0k to 9k)#	-	PBX access code (00 to 99) or (0k to 9k)
-(9 to 18)#-(1 to 3)# **See FF2-13#**	-	Automatic pause after dialing (0 to 9)
FF1-2#-4#-		**UNA and EPI**
-1#-(0 or 1)# **See FF4-1#. 2#**	0	Universal Night Answer (UNA) ring pattern
-(2 to 9)#-(0 or 1)#	0	External Page Interface (EPI) groups (00 to 07)
FF1-2#-5#-		**COS**
-(1 to 8)#-(1 to 20)#-(0 or 1)#	0	Class of Service setting
FF1-2#-6#-		**Account Codes**
-(1 to 100)#-1#-(0001-9999)#	-	Verified Forced Account Codes
-(1 to 100)#-2#-(0 to 7)#	0	Verified Forced Account Code toll restriction
FF1-3#-		**System Timers/Night Switch/Conf.**
-1#-(0000 to 2359)#	-	Automatic switch to night mode
-2#-(0 or 1 to 12)#	1	Attendant HOLD-recall timer
-3#-(0 or 1 to 12)#	7	Extension HOLD-recall timer
-4#-(0 or 1 to 12)#	1	Attendant transfer-recall timer
-5#-(0 or 1 to 12)#	7	Extension transfer-recall timer
-6#-(0 or 1 to 12)#	1	Attendant Hunt-Group recall timer
-7#-(0 or 1 to 12)#	7	Extension Hunt-Group recall timer
-8#-(0 or 1 to 12)#	1	Attendant park-hold recall timer
-9#-(0 or 1 to 12)#	7	Extension park-hold recall timer
-10#-(0 or 1 to 12)#	9	Attendant reversion timer
-11#-(0 or 1 to 15)#	2	Unsupervised conference talk time
-12#-(0 or 1 to 15)#	7	Automatic pause timer
-13#-(0 or 1 to 10)#	9	CO-line FLASH timer
-14#-(0 or 1 to 6)#	4	SLT on-hook FLASH
-15#-(0 to 3)#	1	Incoming ring timer
-16#-(0 or 1 to 15)#	7	Ring signal delay timer
-17#-(0 to 15)#	1	Dial pause timer
-18#-(0 or 1 to 10)#	7	PBX FLASH timer
-19#-(0 to 15)#	2	Call forward/no answer timer
-20#-(0 or 1 to 8)#	4	Outbound ground detection timer
-21#-(0 or 1 to 8)#	4	Incoming ground detection timer
-22#-(0 or 1 to 12)#	1	Attendant intercom HOLD-recall timer

Appendix A

FF1-3#-	Default	System Timers/Night Switch/Conf.
-23#-(0 or 1 to 12)#	7	Extension intercom HOLD-recall timer
-24#-(0 or 1 to 12)#	1	Attendant intercom transfer-recall timer
-25#-(0 or 1 to 12)#	7	Extension intercom transfer-recall timer
-26#-(0 to 15)#	2	CO delayed ringing timer
-27#-(0 to 15)#	2	EXT. delayed ringing timer
-28#-(0 to 15)#	2	Hunt Group no answer
-29#-(HHMM)#	-	Auto Day Mode

FF1-4#-		Remote Maintenance Code
-(4 digits)#	9999	Set four digits Also used with DISA

FF1-5#-		DISA ID Code
-(4 digits)#	-	Set four digits See FF2-11#, 19#, 20#

FF1-6#-		DISA Code for Outgoing Calls
-1#-(0000 to 9999)#	1111	Code 1, set four digits **See FF2-11#,19#,20#**
-2#-(0000 to 9999)#	9999	Code 2, set four digits **See FF2-11#,19#,20#**

FF1-7#-		System Programming ID Code
-(4 digits)#	9999	Set four digits

FF1-8#-1#		DID
-(0 or 1)#	0	DID reset
-(0 to 1)#	0	DID/T1 reset

FF1-8#-2#		DID Confirm
-(0 or 1)#	0	Confirmation of DID reset

FF1-8#-4#		Sync sources/System Timers
-1#-1#-(0 to 8)#	0	System size
-1#-2#-(1 to 3)#	3	Sync setting for first sync source
-1#-3#-(0 to 3)#	0	Sync setting for second sync source
-1#-4#-(0 to 3)#	0	Sync setting for third sync source
-2#-1#-(0 to 25)#	25	Network sync source recovery timer
-2#-2#-(0 to 15)#	1	Disconnect timer

Appendix A

FF 1 KEY - System Programming		
FF1-8#-4#	**Default**	**Sync sources/System Timers**
-2#-3#-(0 to 15)#	3	Guard timer
-2#-4#-(0 to 15)#	9	Release acknowledge timer
-2#-5#-(0 to 8)#	2	Outpulse delay timer
-2#-6#-(0 to 15)#	15	Wink signal start detection timer
-2#-7#-(0 to 15)#	7	Incoming Detection timer
-2#-8#-(0 to 8)#	3	Answer Supervision timer
-2#-9#-(0 to 15)#	3	Glare timer - immediate start
-2#-10#-(0 to 15)#	3	Glare timer - wink start
-3#-(1 to 8)#-(1 to 8)#-(0 to 30)#	-	Digital pads (loss/gain settings)
-4#-1#-1#-(0 to 1)#	0	Trunk class (Master Cabinet)
-4#-1#-2#-(0 to 24)#	0	Number of channels used (Master Cabinet)
-4#-1#-3#-(0 to 1)#	1	Frame format (Master Cabinet)
-4#-1#-4#-(0 to 1)#	0	Clear Channel format (Master Cabinet)
-4#-1#-5#-(0 to 1)#	0	Failure Mode (Master Cab)
-4#-1#-6#-(0 to 1)#	0	Remote loopback detection (Master Cabinet)
-4#-1#-7#-(0 to 1)#	1	Yellow alarm send (Master Cabinet)
-4#-2#-1#-(0 to 15)#	1	Red alarm detection timer (Master Cabinet)
-4#-2#-2#-(0 to 15)#	1	Red alarm recovery det timer (Master Cabinet)
-4#-2#-3#-(0 to 15)#	1	Yellow alarm detection timer (Master Cabinet)
-4#-2#-4#-(0 to 15)#	1	Yellow alarm recov det timer (Master Cabinet)
-4#-2#-5#-(0 to 15)#	1	Other alarms detection timer (Master Cabinet)
-4#-2#-6#-(0 to 15)#	1	Other alarms recov det timer (Master Cabinet)
-4#-3#-1#-(0 to 9000)#	9000	Frame loss counter (Master Cabinet)
-4#-3#-2#-(0 to 9000)#	9000	Slip counter (Master Cabinet)
-4#-3#-3#-(0 to 1)#	1	Red alarm counter (Master Cabinet)
-4#-3#-4#-(0 to 9000)#	9000	Loss Signal counter (Master Cabinet)
-4#-3#-5#-(0 to 9000)#	9000	Sync-loss counter (Master Cabinet)
-4#-3#-6#-(0 to 9000)#	9000	Yellow alarm counter (Master Cabinet)
-(4 or 5)#-4#-1#-(0 to 1)#	0	Yellow alarm relay control
-(4 or 5)#-4#-2#-(0 to 1)#	0	Red alarm relay control
-4#-4#-3#-(0 to 1)#	0	Loss relay (Master Cabinet)
-(4 or 5)#-4#-4#-(0 to 1)#	0	Frame loss
-(4 or 5)#-4#-5#-(0 to 1)#	0	AIS relay
-4#-4#-6#-(0 to 1)#	0	Alarm relay reset (Master Cabinet)
-5#-1#-1#-(0 to 1)#	0	Trunk class (Slave Cabinet)
-5#-1#-2#-(0 to 24)#	0	Number of channels used (Slave Cabinet)
-5#-1#-3#-(0 to 1)#	1	Frame format (Slave Cabinet)

Appendix A

FF 1 KEY - System Programming		
FF1-8#-4#	**Default**	**Sync sources/System Timers**
-5#-1#-4#-(0 to 1)#	0	Clear channel format (Slave Cabinet)
-5#-1#-5#-(0 to 1)#	0	Failure mode (Slave Cabinet)
-5#-1#-6#-(0 to 1)#	0	Remote loopback detection (Slave Cabinet)
-5#-1#-7#-(0 to 1)#	1	Yellow alarm notification (Slave Cabinet)
-5#-2#-1#-(0 to 15)#	1	Red alarm detection timer (Slave Cabinet)
-5#-2#-2#-(0 to 15)#	1	Red alarm recovery det timer (Slave Cabinet)
-5#-2#-3#-(0 to 15)#	1	Yellow alarm detection timer (Slave Cabinet)
-5#-2#-4#-(0 to 15)#	1	Yellow alarm recov det timer (Slave Cabinet)
-5#-2#-5#-(0 to 15)#	1	Other alarms detection timer (Slave Cabinet)
-5#-2#-6#-(0 to 15)#	1	Other alarms recov det timer (Slave Cabinet)
-5#-3#-1#-(0 to 9000)#	**9000**	Frame loss counter (Slave Cabinet)
-5#-3#-2#-(0 to 9000)#	**9000**	Slip counter (Slave Cabinet)
-5#-3#-3#-(0 to 1)#	1	Red alarm notification (Slave Cabinet)
-5#-3#-4#-(0 to 9000)#	**9000**	Loss signal counter (Slave Cabinet)
-5#-3#-5#-(0 to 9000)#	**9000**	Sync-loss counter (Slave Cabinet)
-5#-3#-6#-(0 to 9000)#	**9000**	Yellow alarm counter (Slave Cabinet)
-5#-4#-3#-(0 to 1)#	0	Loss relay (Slave Cabinet)
-5#-4#-6#-(0 to 1)#	0	Alarm relay reset (Slave Cabinet)
-6#-(1 to 64)#-1#-(0 to 3)#	3	Trunk type
-6#-(1 to 64)#-2#-(0 to 2)#	0	DID/DNIS settings
-6#-(1 to 64)#-3#-(0 to 2)#	0	Outgoing type
-6#-(1 to 64)#-4#-(0 to 1)#	0	Incoming type
-6#-(1 to 64)#-5#-(0 to 2)#	0	Trunk mode
-6#-(1 to 64)#-6#-(0 to 1)#	1	Robbing bit setting
-6#-(1 to 64)#-7#-(0 to 1)#	1	Incoming dialing method
-6#-(1 to 64)#-8#-(0 to 1)#	0	Dial tone transmission
-6#-(1 to 64)#-9#-(0 to 1)#	0	Busy tone transmission
-6#-(1 to 64)#-10#-(0 to 1)#	0	Dial tone generation
-6#-(1 to 64)#-11#-(0 to 1)#	0	Ringback transmission
-7#-(0 to 9999)#-(10 to 69 or 100 to 699)#	-	DNIS number setting
FF1-8#-5#		**Alarm Counter**
-3#-3#-(0 to 9000)#	**9000**	Red alarm counter
FF1-8#-8#		**Dialing Assignment**
-7#-(0 to 9999)#-(10 to 69 or 100 to 699)#	0	DID dialing assignment

Appendix A

FF2 KEY - Trunk Programming		
FF2-(01-64)#-	**Default**	**Trunk Programming**
-1#-(0 or 1)#	0	Denies trunk use
-2#-(0 or 1)#	0	Pulse or DTMF dial type
-3#-(0 or 1)#	1	Pooled-trunk-group access 9
-(4 to 9)#-(0 or 1)#	0	Pooled-trunk-group access 81 to 86
-10#-(1 or 2)#	1	Trunk type
-11#-(0 or 1)#	0	Enables DISA
-12#-(001 to 144)#	-	Private-line port number
-13#-(0 or 1)#	1	Automatic pause
-14#-(0 or 1)#	0	Dial-tone detection
-15#-(1 to 3)#	1	DTMF signal sending time
-16#-(0 or 1)#	0	Unsupervised conference (trunk capability)
-17#-(0 or 1 to 9)#	0	Incoming ring signal pattern
-18#-(0 or 1 to 15)#	7	Trunk disconnect timer
-19#-(HHMM)	-	DISA start time
-20#-(HHMM)	-	DISA end time
-21#-(0 to 2)#	0	Loop-start, ground-start or DID trunk card
-21#-(0 to 3)#	0	Trunk selection
-22#-(0 or 1)#	0	DID - Immediate or Wink start
-23#-(0 to 15)#	3	Wink-start timer
-24#-(0 or 1 to 15)#	4	Digit dial time-out
-25#-(0 to 15)#	5	DID interdigit dial time-out
-26#-(4 to 6 or 13)#	-	T1 port class - trunk

Appendix A

FF3 Key - Extension Programming		

FF3-(OO1-144)#-	Default	Extension Port Specifications
-1#-(10 to 69/100 to 699)#	100 to 699	Extension number
-2#-(0 or 1 to 19)#	-	Telephone types
-3#-(001 to 144)#	-	EM/24 console station port number
-4#-(0 or 1)#	0	Forced LCR restriction
-5#-(0 or 1)#	0	Forced verified account code
-6#-(0000 to 9999)#	-	Station lockout code
-7#-(0 or 1)# **Ports 1 -** **Ports 2 to 144 -**	1 0	CO-line off-hook signal for off-hook voice announce
-8#-(0 or 1)#	1	Call waiting
-9#-(0 or 1)#	0	Busy override
-10#-(0 or 1)#	1	Busy overridden
-11#-(0 or 1)#	0	Prime-line pick up
-12#-(0 or 1)#	1	Automatic pickup for a ringing line
-13#-(0 or 1)#	0	Unsupervised conference (ext. capability)
-14#-(0 or 1)#	1	SMDR printout by incoming call
-15#-(0 or 1 to 4)#	2	CO off-hook signal volume
-16#-(0 or 1)#	0	CO off-hook signal pattern
-17#-(0 or 1)#	0	PSD name large-screen display (5 or 10)
-(18 to 25)#-(0 or 1)#	0	Sets extensions to page groups (00 to 07)
-26#-(0 or 1 to 24)#	0	Idle screen on the large-display phone
-27#-(0 or 1 to 24)#	0	IDT display on the large-screen phone
-28#-(0 or 1 to 24)#	0	IDT display on the large-screen phone
-29#-(0 or 1 to 24)#	0	CO-line display on display while dialing
-30#-(0 or 1 to 24)#	0	CO-line-call on large-screen after dialing
-31#-(0 or 1 to 24)#	0	Page-call display on large-screen phone
-32#-(0 or 1 to 24)#	0	Call-wait display on large-screen phone
-33#-(0 or 1 to 24)#	0	Intercom-busy-tone display on large- screen phone
-34#-(0 or 1)#	0	Extension-directory display on the large-screen phone (5 or 10 names)
-35#-(0000 to 9999)#	0000	DID outside extension number
-36#-(0 to 2)#	0	Ringback tone with busy signal
-37#-(1 to 3 or 7 to 13)#	-	T1 port class station
-38#-(0 or 1)#	0	SLT hook flash
-39#-(0 to 9)#	0	Extension ring pattern
-40#-(0 or 1)#	0	D-SLT handset volume level
-41#-(0001 to 9999)#	-	Auto set relocation codes
-42#-(0 to 3)#	0	Permanent call forward
-43#-(NN(N))	-	Permanent call forward extension
-44#-(0 or 1)#	-	ML/MCO Separation

80

Appendix A

FF4 KEY - Ring Assignment and Hunt Groups		

FF4-1#-	**Default**	**Incoming Ring Assignment**
-(001 to 144)#-(01 to 64)#-(0 or 1)#		Daytime ring
Ports 1 & 2-	1	
Ports 3 to 144-	0	

FF4-1#-		**Hunt-Group Day Ring Tables**
-(151 to 158)#-(01 to 64)#-(0 or 1)#	0	Ring signal for pilot number and CO line

FF4-2#-		**Incoming CO-Line Call Table**
-(001 to 144)#-(01 to 64)#-(0 or 1)#		Nighttime ring
Ports 1 & 2-	1	
Ports 3 to 144-	0	

FF4-2#-		**Hunt-Group Night Tables**
-(151 to 158)#-(01 to 64)#-(0 or 1)#	0	Ring signal for pilot number and CO line

FF4-3#-(1 to 8)#-		**Hunt Groups**
-1#-(11 to 69/101 to 699)#	–	Pilot extension number
-2#-(0 to 2)#	0	Search method
-3#-(10 to 69/100 to 699)#	000	Transfer extension number
-4#-(2 to 32)#	2	Transfer timer
-(5 to 12)#-(11 to 69/101 to 699)#	–	Hunt-group extension numbers

FF4-4#-		**Call-Coverage Groups (16)**
-1#-(1 to 8)#-(10/69 to 100/699)#	–	First covering extension
-2#-(1 to 8)#-(10/69 to 100/699)#	–	Second covering extension
-(3 to 16)#-(1 to 8)#-(10/69 to 100/699)#	–	Other covering extensions

FF4-5#-		**Day Delayed-Ring Tables**
-(001 to 145)#-(01 to 64)#-(0 or 1)#	0	Daytime delayed-ring tables

FF4-5#-		**Hunt-Group Day Delayed Ring**
-151 to 158)#-(01 to 64)#-(0 or 1)#	0	Ring signal for pilot number and CO line

Appendix A

FF4 KEY - Ring Assignment and Hunt Groups		
FF4-6#-		**Night Delayed-Ring Tables**
-(001 to 145)#-(01 to 64)#-(0 or 1)#	0	Night delayed-ring tables
FF4-6#-		**Hunt-Group Night-Delayed**
-(151 to 158)#-(01 to 64)#-(0 or 1)#	0	Signal for pilot number and CO line
FF4-7#-		**Extension Ring Tables**
-(001 to 144)#-(001 to 144)#-(0 or 1)#	0	Intercom ring signal
FF4-8#-		**Ext Delayed-Ring Tables**
-(001 to 144)#-(001 to 144)#-(0 or 1)#	0	Intercom ring signal

Reminder:

DEFAULTS	
Day/Night	**Ring**
Attendant	1
Extensions	0

Record changes to the ring default on the Extension Summary form and the Hunt group Tables form found elsewhere in this manual. An extension can only be a member of either a Hunt Group or a Coverage Group.

82

Appendix A

FF5 KEY - Flexible Feature Key Assignment

FF5-(001 to 144)#-   Extensions

-**(01 to 24)**#-CONF-**(PROG-10 to 69/100 to 699)**#   **EL keys**

OR

-**(01 to 24)**#-CONF-**(81 to 86, 89)**#   **ML keys**

FF keys - (01 to 24)	Default
01 to 24	–

- -

-(01 to 24)#-CONF-**(PROG-PROG-6 digits)**#   **Any key**

OR   **OR**

-(01 to 24)#-CONF-**(6 digits)**#   **Pre-programmed
codes**

(See FF-Key Code Chart)

FF keys - (01 to 24)	Default
01 to 24	–

Appendix A

FF5 KEY - Flexible Feature Key Assignment

FF5-(145 to 148)#-	DSS/72/BLF Consoles

-(01 to 24)#-CONF-(81 to 86, 89)#   **MCO keys**

FF keys - (01 to 24)	Default
01 to 24	–

OR

-(01 to 72)#-CONF-(PROG-10 to 69/100 to 699)#   **DSS keys**

FF keys - (01 to 72)	Default
01 to 56-	100 to 155 - Extensions
57 to 64-	7500 to 7507 - Park hold
65 to 71-	#00 to #06 - Page zones
72-	#52 - Day/Night

- -

-(01 to 72)#-CONF-(PROG-PROG-6 digits)#   **Any key**

OR   **OR**

-(01 to 72)#-CONF-(6 digits)#   **Pre-programmed codes**
                                        (See FF-Key Code Chart)

FF keys - (01 to 72)	Default
01 to 72	–

84

Appendix A

FF5 KEY - Flexible Feature Key Assignment

FF5-(149 to 152)#-	Attendant Consoles (4)

-**(01 to 08)**#-CONF-**(81 to 86, 89)**#   **MCO keys**

FF keys - (01 to 32)	Default
01 to 32	–

OR

-**(01 to 32)**#-CONF-**(PROG-10 to 69/100 to 699)**#   **DSS keys**

FF keys - (01 to 32)	Default
01 to 12	–
13 to 14	7508 to 7509 - Park hold
15 to 16	–
17 to 20	7504 to 7507 - Park hold
21 to 24	7500 to 7503 - "
25 to 28	#04 to #07 - Page zones
29 to 32	#00 to #03 - "

- -

-**(01 to 32)**#-CONF-**(PROG-PROG-6 digits)**#   **Any key**

OR   **OR**

-**(01 to 32)**#-CONF-**(6 digits)**#   **Pre-programmed codes**

(See FF-Key Code Chart)

FF keys - (01 to 32)	Default
01 to 32	–

Appendix A

FF5 KEY Flexible-Feature Key Assignment

FF-KEY CODE CHART

FEATURES	PRE-PROGRAMMED CODES	FEATURES	PRE-PROGRAMMED CODES
* Absence Message	71	Intercom Transfer	CONF
* Account Code	FF12 (#) 7	Least-Cost Routing (LCR)	89
* Alarm	FF12 (#) 4	* Meet-Me Answer	77
Answer Key	FF11 (*) 1	*# Message Waiting (Set)	2
Attendant	0	Message Waiting (Answer)	AUTO REDIAL
* Background Music (BGM)	FF12 (#) 53	Message Waiting (Cancel)	AUTO FLASH
*# Busy Override	4	Mute Key	* #
* Call Forward/All Calls	720	Night Key	FF12 (#) 52
* Call Forward/NoAns/Busy	721	* Page Groups	FF12 (#) (00 to 07)
* Call Forward/Busy	722	* Park-HOLD Key/Retrieve	75/76
Call Forward to CO Line	723	Personal Speed Dial (PSD)	AUTO (90 to 99)
* Call Forward/No Ans	724	* Pooled Trunk Access	(81 to 86, 89)
* Direct CO Access	88 (01 to 64)	Release Key	FF11(*) 2
* Direct Pick Up	79	Save/Repeat Dial	AUTO *
* Do Not Distrub (DND)	73	Save/Repeat Store	AUTO AUTO *
DTMF Signal Conversion	* or #	* Station Lockout	74
Extensions (2-digits)	PROG 10 to 69	* System Speed Dial (SSD)	AUTO (00 to 89)
Extensions (3-digits)	PROG 100 to 699	Talk-Back Key	FF11(*) 3
External Page Ringing	78	Trunk Ports (01 to 64)	(01 to 64)
* Group Pick Up	70	*# Trunk Queuing	2
Headset Mode	FF12 (#) 51	* Universal Night Answer (UNA)	78
Intercom Dial Tone On/Off	FF12 (#) 50	*# Voice Call/Tone Call	1
Intercom Key	FF12(#) 8		

* These features. in addition to **Call Waiting** and **Off-Hook Voice Announce**. can be stored on a One-Touch key.

*# These features can be stored on a One-Touch key only if the feature code is preceded by either an **extension number** or code 88. For example, to store:
  Busy Override - enter an **extension number** followed by code **4**.
  Trunk Queuing - store as **88 (01-64)** followed by code **2**.

Also:

> **Station Lockout** - If the feature code 74 is stored on a One-Touch key with the **four-digit ID code** (example: **741234**), the ID code will display *when the station is not locked out* by pressing **ON/OFF** and **CONF**.
>
> **Park HOLD** - to park a call, press the **HOLD** key plus the **One-Touch key**.

To set T1 alarm keys: ON/OFF-PROG-FF key-101#-HOLD

Feature	Setting number for master KSU T1	Setting number for slave KSU T1
Out of frame abnormality	101#	121#
SLIP abnormality	102#	122#
Red alarm error abnormality	103#	123#
LOS(S) abnormality	104#	124#
SYN abnormality	105#	125#
Yellow alarm abnormality	107#	127#

Appendix A

FF6 KEY - Name Assignment		
FF6-	**Default**	**Name/Message (DSS Console)**
-1#-(001 to 144)#-CONF-(10 char.)#	-	Extension name
-2#-(00 to 89)#-CONF-(16 characters)#	-	System speed dial name (00 to 89)
-3#-(001 to 144)#-(90 to 99)#-CONF -(16 characters)#	-	Personal speed dial name (90 to 99)
-4#-(5 to 9)#-CONF-(15 characters)#	-	Absence message numbers (5 to 9)
-5#-(01 to 64)#-CONF-(6 characters)#	-	CO-trunk-line name
-6#-(1 to 8)#-CONF-(10 characters)#	-	Hunt-group pilot name
-7#-(1 to 5)#-CONF-(15 characters)#	-	OHCA Answerback

FF7 KEY - Toll Restrictions		
FF7-1#-	**Default**	**Toll Restriction Setting**
-1#-(0 or 1)#	0	TRS for international calls
-2#-(0 or 1)#	1	Dialing restriction/incoming calls
-3#-(1 to 15)#	-	Restriction/maximum digits dialed
-4#-(0 or 1)#	0	211 restriction
-5#-(0 or 1)#	0	311 restriction
-6#-(0 or 1)#	0	411 restriction
-7#-(0 or 1)#	0	511 restriction
-8#-(0 or 1)#	0	611 restriction
-9#-(0 or 1)#	0	711 restriction
-10#-(0 or 1)#	0	811 restriction
-11#-(0 or 1)#	0	911 restriction
-(12 to 16)#-(0 or 1)#	1	7-digit dial restriction/types (2 to 6)
FF7-2#-		**Area-Code Table**
-(3 to 6)#-(000 to 999)#-(0 or 1)#	-	Area code types (3 to 6)
FF7-3#-		**Office-Code Table**
-(3 to 6)#-(000 to 999)#-(0 or 1)#	-	Office-code types (3 to 6)
FF7-4#-		**Special Area Code Table**
-(1 to 4)#-(000 to 999)#	-	Special area codes (1 to 4)
FF7-5#-		**Special Office-Code Table**
-(1 to 4)#-(000 to 999)#-(0 or 1)#	-	Office codes (1 to 4)

Appendix A

FF7 KEY - Toll Restrictions		
FF7-6#-	**Default**	**7-Digit Restriction Table**
-(1 to 50)#-(0000000 to 9999999)#	-	7-digit TRS codes (1 to 50)
FF7-7#-(001 to 144)#-		**Daytime TRS**
-(01 to 64)#-(0 to 7)#	7	Daytime TRS
-65#-(0 to 7)#	-	Daytime TRS (all extensions)
FF7-8#-(001 to 144)#-		**Nighttime TRS**
-(01 to 64)#-(0 to 7)#	7	Nighttime TRS
-65#-(0 to 7)#	-	Nighttime TRS (all extensions)
FF7-9#-		**Type Blocks for each Area Code**
-(1 to 4)#-(0 or 1)#	-	Type (3 to 6) Area Codes
-(5 to 8)#-(0 or 1)#	-	Type (3 to 6) Office Codes
-(9 to 12)#-(0 or 1)#	-	Type (3 to 6) Area/Office Codes
-(13 to 16)#-(0 or 1)#	-	Type (1 to 4) Special Area Codes for Office Codes
FF8 KEY - Least Cost Routing		
FF8-1#-	**Default**	**Area-Code Table**
-(1 to 15)#-(000 to 999)#-(0 or 1)#	-	Time priority tables (1 to 15) LCR area codes (000 to 999)
FF8-2#-		**Office-Code Table**
-(1 to 15)#-(000 to 999)#-(0 or 1)#	-	Time priority tables (1 to 15) LCR office codes (000-999)
FF8-3#-		**Special Area-Code Table**
-(1 to 4)#-(000 to 999)#	-	Special area codes tables (1 to 4) Special area codes (000 to 999)
FF8-4#-		**Special Office-Code Table**
-(1 to 4)#-(1 to 15)#-(000 to 999)#-(0 or 1)#	-	Special office codes (1 to 4) Time-priority tables (1 to 15)
FF8-5#-		**Time-Priority Tables**
-(1 to 15)#-(1 to 48)#-(1 to 8)#	-	Time-priority tables (1 to 15) Time bands (1 to 48) LCR trunk groups (1 to 8)

Appendix A

FF8 KEY - Least Cost Routing		
FF8-6#-	**Default**	**Trunk-Group Tables**
-(1 to 8)#-(1 to 8)#-(01 to 64)#	-	LCR trunk groups (1 to 8)
FF8-7#-		**Dial-Delete Table (LCR)**
-(1 to 8)#-(16 digits)#	-	Dial-delete tables (1 to 8)
FF8-8#-		**Dial-Add Table (LCR)**
-(1 to 8)#-(16 digits)#	-	Dial-add tables (1 to 8)

FF9 KEY - Copy Mode		
FF9-	**Default**	**Copy Mode**
-1#-(01 to 64)#-(01 to 64)##	-	Copy trunk mode
-2#-(001 to 144)#-(001 to 144)##	-	Copy extension mode
-3#-(001 to 144)#-(001 to 144)##	-	Copy FF key mode

FF10 KEY - System Speed Dialing		
FF10-	**Default**	**Speed Dialing**
-1#-(00 to 89)#-(16 digits)#	-	System speed dial -
-1#-(001 to 144)#-(90 to 99)#-(16 digits)#	-	Personal speed dial -

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Pocket-Sized List of Programming Addresses

FF 1 KEY - System Programming		
FF1-1#-	**Default**	**Calendar and Time**
-1#-(MMDDYY)#	-	Date (01 to 12) (01 to 31) (00 to 99)
-2#-(HHMM)#	-	Time (0000 to 2359)
FF1-2#-1#-		**Timers and Displays**
-1#-(0 or 1)#	1	Call duration display
-2#-(0 to 2)#	0	SMDR timer 5, 16 or 30 seconds
-3#-(0 or 1)#	0	Least-Cost Routing (LCR)
-4#-(00 to 89)#	-	TRS for SSD
-5#-(0 or 1)#	0	Display during SSD
-6#-(0 or 1)#	1	AUTO-FLASH REDIAL
-7#-(0 or 1)#	1	One-touch dialing
-8#-(0 or 1)#	1	On-hook transfer
-9#-(0 or 1)#	0	Key bank hold
-10#-(0 or 1)#	1	Non-appearance CO-line hold
-11#-(0 or 1)#	1	SLT FLASH control
-12#-(0 or 1)##	1	Sets number of extension -digits
-14#-(0 or 1)#	1	Attendant intercom
-15#-(0 or 1)#	1	Extension intercom
-16#-(0 or 1)#	1	Splash tone on a voice call
-17#-(0 or 1)#	0	Splash tone on a busy override
-18#-(0 or 1)#	1	Area code or 1+Area Code
-19#-(0 or 1)#	0	SSD display mode
-21#-(0 or 1)#	0	Voice-mail busy tone
-22#-(0 or 1 to 15)#	8	Attendant overflow
-23#-(0 or 1)#	0	Delayed-ring capability
-24#-(11 to 69/101 to 699)#	101	Second attendant
-25#-(11 to 69/101 to 699)#	-	Third attendant
-26#-(11 to 69/101 to 699)#	-	Fourth attendant
-27#-(11 to 69/101 to 699)#	-	Attendant transfer ext. number
-28#-(0 or 1)#	1	Attendant override switch
-29#-(0 or 1)#	1	Alarm LED mode
-30#-(0 or 1)#	0	BLF (extension) delayed ring
-31#-(0 to 6)#	0	Analog port transfer ring interval
-32#-(0 to 1)#	0	DID/DNIS emulation
-32#-(0 or 1)#	0	Multiple DID
-33#-(0 or 1)#	0	Paging duration
-34#-(0 or 1)#	0	SLT DISA ringing pattern
FF1-2#-2#-		**SMDR and Data**
-1#-(0 or 1)#	1	SMDR parity check
-2#-(0 or 1)#	1	SMDR parity type
-3#-(1 to 4)#	(A)2 & 4(B)	SMDR baud rate
-4#-(1 to 3)#	1	SMDR stop-bit length
-5#-(1 to 4)#	4	SMDR data length
-6#-(0 or 1)#	1	SMDR printing mode 1
-7#-(0 or 1)#	1	SMDR printing mode 2 (long/local)
-8#-(0 or 1)#	0	SMDR printing mode 3 (title)

Pocket-Sized List of Programming Addresses

FF 1 KEY - System Programming		
FF1-2#-2#-	**Default**	**SMDR and Data**
-9#-(0 or 1)#	0	Dump data mode (Xon/Xoff)
-10#-(0 or 1)#	1	RAI baud rate switch
FF1-2#-3#-		**PBX Access and Pauses**
-(1 to 8)#-(00 to 99) or (0k to 9k)#	-	PBX access code (00 to 99) or (0k to 9k)
-(9 to 18)#-(1 to 3)# See FF2-13#	-	Automatic pause after dialing (0 to 9)
FF1-2#-4#-		**UNA and EPI**
-1#-(0 or 1)# See FF4-1#, 2#	0	Universal Night Answer (UNA) ring pattern
-(2 to 9)#-(0 or 1)#	0	External Page Interface (EPI) groups (00 to 07)
FF1-2#-5#-		**COS**
-(1 to 8)#-(1 to 20)#-(0 or 1)#	0	Class of Service setting
FF1-2#-6#-		**Account Codes**
-(1 to 100)#-1#-(0001-9999)#	-	Verified Forced Account Codes
-(1 to 100)#-2#-(0 to 7)#	0	Verified Forced Account Code toll restriction
FF1-3#-		**System Timers/Night Switch/Conf.**
-1#-(0000 to 2359)#	-	Automatic switch to night mode
-2#-(0 or 1 to 12)#	1	Attendant HOLD-recall timer
-3#-(0 or 1 to 12)#	7	Extension HOLD-recall timer
-4#-(0 or 1 to 12)#	1	Attendant transfer-recall timer
-5#-(0 or 1 to 12)#	7	Extension transfer-recall timer
-6#-(0 or 1 to 12)#	1	Attendant Hunt-Group recall timer
-7#-(0 or 1 to 12)#	7	Extension Hunt-Group recall timer
-8#-(0 or 1 to 12)#	1	Attendant park-hold recall timer
-9#-(0 or 1 to 12)#	7	Extension park-hold recall timer
-10#-(0 or 1 to 12)#	9	Attendant reversion timer
-11#-(0 or 1 to 15)#	2	Unsupervised conference talk time
-12#-(0 or 1 to 15)#	7	Automatic pause timer
-13#-(0 or 1 to 10)#	9	CO-line FLASH timer
-14#-(0 or 1 to 6)#	4	SLT on-hook FLASH
-15#-(0 to 3)#	1	Incoming ring timer
-16#-(0 or 1 to 15)#	7	Ring signal delay timer
-17#-(0 to 15)#	1	Dial pause timer
-18#-(0 or 1 to 10)#	7	PBX FLASH timer
-19#-(0 to 15)#	2	Call forward/no answer timer
-20#-(0 or 1 to 8)#	4	Outbound ground detection timer
-21#-(0 or 1 to 8)#	4	Incoming ground detection timer
-22#-(0 or 1 to 12)#	1	Attendant intercom HOLD-recall timer

Pocket-Sized List of Programming Addresses

FF 1 KEY - System Programming		
FF1-3#-	**Default**	**System Timers/Night Switch/Conf.**
-23#-(0 or 1 to 12)#	7	Extension intercom HOLD-recall timer
-24#-(0 or 1 to 12)#	1	Attendant intercom transfer-recall timer
-25#-(0 or 1 to 12)#	7	Extension intercom transfer-recall timer
-26#-(0 to 15)#	2	CO delayed ringing timer
-27#-(0 to 15)#	2	EXT. delayed ringing timer
-28#-(0 to 15)#	2	Hunt Group no answer
-29#-(HHMM)#	-	Auto Day Mode
FF1-4#-		**Remote Maintenance Code**
-(4 digits)#	9999	Set four digits Also used with DISA
FF1-5#-		**DISA ID Code**
-(4 digits)#	-	Set four digits See FF2-11#, 19#, 20#
FF1-6#-		**DISA Code for Outgoing Calls**
-1#-(0000 to 9999)#	1111	Code 1, set four digits See FF2-11#,19#,20#
-2#-(0000 to 9999)#	9999	Code 2, set four digits See FF2-11#,19#,20#
FF1-7#-		**System Programming ID Code**
-(4 digits)#	9999	Set four digits
FF1-8#-1#		**DID**
-(0 or 1)#	0	DID reset
-(0 to 1)#	0	DID/T1 reset
FF1-8#-2#		**DID Confirm**
-(0 or 1)#	0	Confirmation of DID reset
FF1-8#-4#		**Sync sources/System Timers**
-1#-1#-(0 to 8)#	0	System size
-1#-2#-(1 to 3)#	3	Sync setting for first sync source
-1#-3#-(0 to 3)#	0	Sync setting for second sync source
-1#-4#-(0 to 3)#	0	Sync setting for third sync source
-2#-1#-(0 to 25)#	25	Network sync source recovery timer
-2#-2#-(0 to 15)#	1	Disconnect timer

92

Pocket-Sized List of Programming Addresses

FF 1 KEY - System Programming		
FF1-8#-4#	**Default**	**Sync sources/System Timers**
-2#-3#-(0 to 15)#	3	Guard timer
-2#-4#-(0 to 15)#	9	Release acknowledge timer
-2#-5#-(0 to 15)#	2	Outpulse delay timer
-2#-6#-(0 to 15)#	16	Wink signal start detection timer
-2#-7#-(0 to 15)#	7	Debounce timer
-2#-8#-(0 to 15)#	11	Incoming detection timer
-2#-9#-(0 to 15)#	14	Glare timer - immediate start
-2#-10#-(0 to 15)#	14	Glare timer - wink start
-3#-3#-(0 to 9000)#	9000	Red alarm counter (Master Cabinet)
-3#-(1 to 8)#-(1 to 8)#-(0 to 30)#	-	Digital pads (loss/gain settings)
-4#-1#-1#-(0 to 1)#	0	Trunk class (Master Cabinet)
-4#-1#-2#-(0 to 24)#	0	Number of channels used (Master Cabinet)
-4#-1#-3#-(0 to 1)#	1	Framing format (Master Cabinet)
-4#-1#-4#-(0 to 1)#	0	Line coding format (Master Cabinet)
-4#-1#-5#-(0 to 1)#	0	Oper mode during alarm cond (Master Cab)
-4#-1#-6#-(0 to 1)#	0	Remote loopback detection (Master Cabinet)
-4#-1#-7#-(0 to 1)#	1	Yellow alarm notification (Master Cabinet)
-4#-2#-1#-(0 to 15)#	1	Red alarm detection timer (Master Cabinet)
-4#-2#-2#-(0 to 15)#	1	Red alarm recovery det timer (Master Cabinet)
-4#-2#-3#-(0 to 15)#	1	Yellow alarm detection timer (Master Cabinet)
-4#-2#-4#-(0 to 15)#	1	Yellow alarm recov det timer (Master Cabinet)
-4#-2#-5#-(0 to 15)#	1	Other alarms detection timer (Master Cabinet)
-4#-2#-6#-(0 to 15)#	1	Other alarms recov det timer (Master Cabinet)
-4#-3#-1#-(0 to 9000)#	9000	Frame loss counter (Master Cabinet)
-4#-3#-2#-(0 to 9000)#	9000	Slip counter (Master Cabinet)
-4#-3#-3#-(0 to 1)#	1	Red alarm notification (Master Cabinet)
-4#-3#-4#-(0 to 9000)#	9000	Signal loss counter (Master Cabinet)
-4#-3#-5#-(0 to 9000)#	9000	Sync-loss counter (Master Cabinet)
-4#-3#-6#-(0 to 9000)#	9000	Yellow alarm counter (Master Cabinet)
-(4 or 5)#-4#-1#-(0 to 1)#	0	Yellow alarm relay control
-(4 or 5)#-4#-2#-(0 to 1)#	0	Red alarm relay control
-4#-4#-3#-(0 to 1)#	0	Out of sync (Master Cabinet)
-(4 or 5)#-4#-4#-(0 to 1)#	0	Frame loss
-(4 or 5)#-4#-5#-(0 to 1)#	0	Alarm indication signal detection
-4#-4#-6#-(0 to 1)#	0	Alarm relay recovery mode (Master Cabinet)
-5#-1#-1#-(0 to 1)#	0	Trunk class (Slave Cabinet)
-5#-1#-2#-(0 to 24)#	0	Number of channels used (Slave Cabinet)
-5#-1#-3#-(0 to 1)#	1	Framing format (Slave Cabinet)

Pocket-Sized List of Programming Addresses

FF 1 KEY - System Programming		
FF1-8#-4#	**Default**	**Sync sources/System Timers**
-5#-1#-4#-(0 to 1)#	0	Line coding format (Slave Cabinet)
-5#-1#-5#-(0 to 1)#	0	Oper mode during alarm cond (Slave Cabinet)
-5#-1#-6#-(0 to 1)#	0	Remote loopback detection (Slave Cabinet)
-5#-1#-7#-(0 to 1)#	1	Yellow alarm notification (Slave Cabinet)
-5#-2#-1#-(0 to 15)#	1	Red alarm detection timer (Slave Cabinet)
-5#-2#-2#-(0 to 15)#	1	Red alarm recovery det timer (Slave Cabinet)
-5#-2#-3#-(0 to 15)#	1	Yellow alarm detection timer (Slave Cabinet)
-5#-2#-4#-(0 to 15)#	1	Yellow alarm recov det timer (Slave Cabinet)
-5#-2#-5#-(0 to 15)#	1	Other alarms detection timer (Slave Cabinet)
-5#-2#-6#-(0 to 15)#	1	Other alarms recov det timer (Slave Cabinet)
-5#-3#-1#-(0 to 9000)#	9000	Frame loss counter (Slave Cabinet)
-5#-3#-2#-(0 to 9000)#	9000	Slip counter (Slave Cabinet)
-5#-3#-3#-(0 to 1)#	1	Red alarm notification (Slave Cabinet)
-5#-3#-4#-(0 to 9000)#	9000	Signal loss counter (Slave Cabinet)
-5#-3#-5#-(0 to 9000)#	9000	Sync-loss counter (Slave Cabinet)
-5#-3#-6#-(0 to 9000)#	9000	Yellow alarm counter (Slave Cabinet)
-5#-4#-3#-(0 to 1)#	0	Out of sync (Slave Cabinet)
-5#-4#-6#-(0 to 1)#	0	Alarm recovery mode (Slave Cabinet)
-6#-(1 to 64)#-1#-(0 to 3)#	3	Trunk type
-6#-(1 to 64)#-2#-(0 to 2)#	0	DID/DNIS settings
-6#-(1 to 64)#-3#-(0 to 2)#	0	Outgoing signaling class
-6#-(1 to 64)#-4#-(0 to 1)#	0	Incoming signaling class
-6#-(1 to 64)#-5#-(0 to 2)#	0	Trunk mode
-6#-(1 to 64)#-6#-(0 to 1)#	1	ABCD inband signaling
-6#-(1 to 64)#-7#-(0 to 1)#	1	Incoming dialing method
-6#-(1 to 64)#-8#-(0 to 1)#	0	Dial tone transmission
-6#-(1 to 64)#-9#-(0 to 1)#	0	Busy tone transmission
-6#-(1 to 64)#-10#-(0 to 1)#	0	Dial tone generation
-6#-(1 to 64)#-11#-(0 to 1)#	0	Ringback transmission
-7#-(0 to 9999)#-(10 to 69 or 100 to 699)#	-	DNIS dialing assignment
FF1-8#-5#		**Alarm Counter**
-3#-3#-(0 to 9000)#	9000	Red alarm counter
FF1-8#-8#		**Dialing Assignment**
-7#-(0 to 9999)#-(10 to 69 or 100 to 699)#	0	DID dialing assignment

Pocket-Sized List of Programming Addresses

FF2 KEY - Trunk Programming		
FF2-(01-64)#-	**Default**	**Trunk Programming**
-1#-(0 or 1)#	0	Denies trunk use
-2#-(0 or 1)#	0	Pulse or DTMF dial type
-3#-(0 or 1)#	1	Pooled-trunk-group access 9
-(4 to 9)#-(0 or 1)#	0	Pooled-trunk-group access 81 to 86
-10#-(1 or 2)#	1	Trunk type
-11#-(0 or 1)#	0	Enables DISA
-12#-(001 to 144)#	-	Private-line port number
-13#-(0 or 1)#	1	Automatic pause
-14#-(0 or 1)#	0	Dial-tone detection
-15#-(1 to 3)#	1	DTMF signal sending time
-16#-(0 or 1)#	0	Unsupervised conference (trunk capability)
-17#-(0 or 1 to 9)#	0	Incoming ring signal pattern
-18#-(0 or 1 to 15)#	7	Trunk disconnect timer
-19#-(HHMM)	-	DISA start time
-20#-(HHMM)	-	DISA end time
-21#-(0 to 2)#	0	Loop-start, ground-start or DID trunk card
-21#-(0 to 3)#	0	Trunk selection
-22#-(0 or 1)#	0	DID - Immediate or Wink start
-23#-(0 to 15)#	3	Wink-start timer
-24#-(0 or 1 to 15)#	4	Digit dial time-out
-25#-(0 to 15)#	5	DID interdigit dial time-out
-28#-(4 to 6 or 13)#	-	T1 port class - trunk

Pocket-Sized List of Programming Addresses

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FF3 Key - Extension Programming		
FF3-(001-144)#-	**Default**	**Extension Port Specifications**
-1#-(10 to 69/100 to 699)#	100 to 699	Extension number
-2#-(0 or 1 to 19)#	-	Telephone types
-3#-(001 to 144)#	-	EM/24 console station port number
-4#-(0 or 1)#	0	Forced LCR restriction
-5#-(0 or 1)#	0	Forced verified account code
-6#-(0000 to 9999)#	-	Station lockout code
-7#-(0 or 1)# Ports 1 -	1	CO-line off-hook signal for off-hook
Ports 2 to 144 -	0	voice announce
-8#-(0 or 1)#	1	Call waiting
-9#-(0 or 1)#	0	Busy override
-10#-(0 or 1)#	1	Busy overridden
-11#-(0 or 1)#	0	Prime-line pick up
-12#-(0 or 1)#	1	Automatic pickup for a ringing line
-13#-(0 or 1)#	0	Unsupervised conference (ext. capability)
-14#-(0 or 1)#	1	SMDR printout by incoming call
-15#-(0 or 1 to 4)#	2	CO off-hook signal volume
-16#-(0 or 1)#	0	CO off-hook signal pattern
-17#-(0 or 1)#	0	PSD name large-screen display (5 or 10)
-(18 to 25)#-(0 or 1)#	0	Sets extensions to page groups (00 to 07)
-26#-(0 or 1 to 24)#	0	Idle screen on the large-display phone
-27#-(0 or 1 to 24)#	0	IDT display on the large-screen phone
-28#-(0 or 1 to 24)#	0	IDT display on the large-screen phone
-29#-(0 or 1 to 24)#	0	CO-line display on display while dialing
-30#-(0 or 1 to 24)#	0	CO-line-call on large-screen after dialing
-31#-(0 or 1 to 24)#	0	Page-call display on large-screen phone
-32#-(0 or 1 to 24)#	0	Call-wait display on large-screen phone
-33#-(0 or 1 to 24)#	0	Intercom-busy-tone display on large-screen phone
-34#-(0 or 1)#	0	Extension-directory display on the large-screen phone (5 or 10 names)
-35#-(0000 to 9999)#	0000	DID outside extension number
-36#-(0 to 2)#	0	Ringback tone with busy signal
-37#-(1 to 3 or 7 to 13)#	-	T1 port class station
-38#-(0 or 1)#	0	SLT hook flash
-39#-(0 to 9)#	0	Extension ring pattern
-40#-(0 or 1)#	0	D-SLT handset volume level
-41#-(0001 to 9999)#	-	Auto set relocation codes
-42#-(0 to 3)#	0	Permanent call forward
-43#-(NN(N))	-	Permanent call forward extension
-44#-(0 or 1)#	-	ML/MCO Separation

96

Pocket-Sized List of Programming Addresses

FF4 KEY - Ring Assignment and Hunt Groups		
FF4-1#-	**Default**	**Incoming Ring Assignment**
-(001 to 144)#-(01 to 64)#-(0 or 1)# Ports 1 & 2- Ports 3 to 144-	1 0	Daytime ring
FF4-1#-		**Hunt-Group Day Ring Tables**
-(151 to 158)#-(01 to 64)#-(0 or 1)#	0	Ring signal for pilot number and CO line
FF4-2#-		**Incoming CO-Line Call Table**
-(001 to 144)#-(01 to 64)#-(0 or 1)# Ports 1 & 2- Ports 3 to 144-	1 0	Nighttime ring
FF4-2#-		**Hunt-Group Night Tables**
-(151 to 158)#-(01 to 64)#-(0 or 1)#	0	Ring signal for pilot number and CO line
FF4-3#-(1 to 8)#-		**Hunt Groups**
-1#-(11 to 69/101 to 699)#	–	Pilot extension number
-2#-(0 to 2)#	0	Search method
-3#-(10 to 69/100 to 699)#	000	Transfer extension number
-4#-(2 to 32)#	2	Transfer timer
-(5 to 12)#-(11 to 69/101 to 699)#	–	Hunt-group extension numbers
FF4-4#-		**Call-Coverage Groups (16)**
-1#-(1 to 8)#-(10/69 to 100/699)#	–	First covering extension
-2#-(1 to 8)#-(10/69 to 100/699)#	–	Second covering extension
-(3 to 16)#-(1 to 8)#-(10/69 to 100/699)#	–	Other covering extensions
FF4-5#-		**Day Delayed-Ring Tables**
-(001 to 145)#-(01 to 64)#-(0 or 1)#	0	Daytime delayed-ring tables
FF4-5#-		**Hunt-Group Day Delayed Ring**
-151 to 158)#-(01 to 64)#-(0 or 1)#	0	Ring signal for pilot number and CO line

97

Pocket-Sized List of Programming Addresses

FF4 KEY - Ring Assignment and Hunt Groups		
FF4-6#-		**Night Delayed-Ring Tables**
-(001 to 145)#-(01 to 64)#-(0 or 1)#	0	Night delayed-ring tables
FF4-6#-		**Hunt-Group Night-Delayed**
-(151 to 158)#-(01 to 64)#-(0 or 1)#	0	Signal for pilot number and CO line
FF4-7#-		**Extension Ring Tables**
-(001 to 144)#-(001 to 144)#-(0 or 1)#	0	Intercom ring signal
FF4-8#-		**Ext Delayed-Ring Tables**
-(001 to 144)#-(001 to 144)#-(0 or 1)#	0	Intercom ring signal

Reminder:

DEFAULTS	
Day/Night	**Ring**
Attendant	1
Extensions	0

Record changes to the ring default on the Extension
Summary form and the Hunt group Tables form found
elsewhere in this manual. An extension can only be a
member of either a Hunt Group or a Coverage Group.

Pocket-Sized List of Programming Addresses

FF5 KEY - Flexible Feature Key Assignment	

FF5-(001 to 144)#-	Extensions

-(01 to 24)#-CONF-(PROG-10 to 69/100 to 699)#   **EL keys**

OR

-(01 to 24)#-CONF-(81 to 86, 89)#   **ML keys**

FF keys - (01 to 24)	Default
01 to 24	-

-(01 to 24)#-CONF-(PROG-PROG-6 digits)#   **Any key**

OR   **OR**

-(01 to 24)#-CONF-(6 digits)#   **Pre-programmed codes**
(See FF-Key Code Chart)

FF keys - (01 to 24)	Default
01 to 24	-

Pocket-Sized List of Programming Addresses

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FF5 KEY - Flexible Feature Key Assignment

FF5-(145 to 148)#-   **DSS/72/BLF Consoles**

-(01 to 24)#-CONF-(81 to 86, 89)#   **MCO keys**

FF keys - (01 to 24)	Default
01 to 24	-

OR

-(01 to 72)#-CONF-(PROG-10 to 69/100 to 699)#   **DSS keys**

FF keys - (01 to 72)	Default
01 to 56-	100 to 155 - Extensions
57 to 64-	7500 to 7507 - Park hold
65 to 71-	#00 to #06 - Page zones
72-	#52 - Day/Night

-(01 to 72)#-CONF-(PROG-PROG-6 digits)#   **Any key**

OR   **OR**

-(01 to 72)#-CONF-(6 digits)#   **Pre-programmed
codes**
(See FF-Key Code Chart)

FF keys - (01 to 72)	Default
01 to 72	-

Pocket-Sized List of Programming Addresses

FF5 KEY - Flexible Feature Key Assignment

FF5-(149 to 152)#-   **Attendant Consoles (4)**

-(01 to 08)#-CONF-(81 to 86, 89)#   **MCO keys**

FF keys - (01 to 32)	Default
01 to 32	–

OR

-(01 to 32)#-CONF-(PROG-10 to 69/100 to 699)#   **DSS keys**

FF keys - (01 to 32)	Default
01 to 12	
13 to 14	7508 to 7509 Park hold
15 to 16	–
17 to 20	7504 to 7507 Park hold
21 to 24	7500 to 7503 - "
25 to 28	#04 to #07 - Page zones
29 to 32	#00 to #03 - "

-(01 to 32)#-CONF-(PROG-PROG-6 digits)#   **Any key**

OR   **OR**

-(01 to 32)#-CONF-(6 digits)#   **Pre-programmed codes**

                                 (See FF-Key Code Chart)

FF keys - (01 to 32)	Default
01 to 32	–

Pocket-Sized List of Programming Addresses

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FF5 KEY Flexible-Feature Key Assignment			
FF-KEY CODE CHART			
FEATURES	PRE-PROGRAMMED CODES	FEATURES	PRE-PROGRAMMED CODES
✳ Absence Message	71	Intercom Transfer	CONF
✳ Account Code	FF12 (#) 7	Least-Cost Routing (LCR)	89
✳ Alarm	FF12 (#) 4	✳ Meet-Me Answer	77
Answer Key	FF11 (*) 1	✳# Message Waiting (Set)	2
Attendant	0	Message Waiting (Answer)	AUTO REDIAL
✳ Background Music (BGM)	FF12 (#) 53	Message Waiting (Cancel)	AUTO FLASH
✳# Busy Override	4	Mute Key	* #
✳ Call Forward/All Calls	720	Night Key	FF12 (#) 52
✳ Call Forward/NoAns/Busy	721	✳ Page Groups	FF12 (#) (00 to 07)
✳ Call Forward/Busy	722	✳ Park-HOLD Key/Retrieve	75/76
Call Forward to CO Line	723	Personal Speed Dial (PSD)	AUTO (90 to 99)
✳ Call Forward/No Ans	724	✳ Pooled Trunk Access	(81 to 86, 89)
✳ Direct CO Access	88 (01 to 64)	Release Key	FF11(*) 2
✳ Direct Pick Up	79	Save/Repeat Dial	AUTO *
✳ Do Not Disturb (DND)	73	Save/Repeat Store	AUTO AUTO *
DTMF Signal Conversion	* or #	✳ Station Lockout	74
Extensions (2-digits)	PROG 10 to 69	✳ System Speed Dial (SSD)	AUTO (00 to 89)
Extensions (3-digits)	PROG 100 to 699	Talk-Back Key	FF11(*) 3
External Page Ringing	78	Trunk Ports (01 to 64)	(01 to 64)
✳ Group Pick Up	70	✳# Trunk Queuing	2
Headset Mode	FF12 (#) 51	✳ Universal Night Answer (UNA)	78
Intercom Dial Tone On/Off	FF12 (#) 50	✳# Voice Call/Tone Call	1
Intercom Key	FF12(#) 6		

✳ These features, in addition to Call Waiting and Off-Hook Voice Announce, can be stored on a One-Touch key.

✳# These features can be stored on a One-Touch key only if the feature code is preceded by either an extension number or code 88
For example, to store
Busy Override - enter an extension number followed by code 4
Trunk Queuing - store as 88 (81-64) followed by code 2

Also: Station Lockout - if the feature code 74 is stored on a One-Touch key with the four-digit ID code
(example 741234). The ID code will display when the station is not locked out
by pressing ON/OFF and CONF

Park HOLD - to park a call, press the HOLD key plus the One-Touch key

To set T1 alarm keys: ON/OFF-PROG-FF key-101#-HOLD

Feature	Setting number for master KSU T1	Setting number for slave KSU T1
Out of frame abnormality	101#	121#
SLIP abnormality	102#	122#
Red alarm error abnormality	103#	123#
LOS(S) abnormality	104#	124#
SYN abnormality	105#	125#
Yellow alarm abnormality	107#	127#

Pocket-Sized List of Programming Addresses

FF6 KEY - Name Assignment		
FF6-	**Default**	**Name/Message (DSS Console)**
-1#-(001 to 144)#-CONF-(10 char.)#	-	Extension name
-2#-(00 to 89)#-CONF-(16 characters)#	-	System speed dial name (00 to 89)
-3#-(001 to 144)#-(90 to 99)#-CONF -(16 characters)#	-	Personal speed dial name (90 to 99)
-4#-(5 to 9)#-CONF-(15 characters)#	-	Absence message numbers (5 to 9)
-5#-(01 to 64)#-CONF-(6 characters)#	-	CO-trunk-line name
-6#-(1 to 8)#-CONF-(10 characters)#	-	Hunt-group pilot name
-7#-(1 to 5)#-CONF-(15 characters)#	-	OHCA Answerback

FF7 KEY - Toll Restrictions		
FF7-1#-	**Default**	**Toll Restriction Setting**
-1#-(0 or 1)#	0	TRS for international calls
-2#-(0 or 1)#	1	Dialing restriction/incoming calls
-3#-(1 to 15)#	-	Restriction/maximum digits dialed
-4#-(0 or 1)#	0	211 restriction
-5#-(0 or 1)#	0	311 restriction
-6#-(0 or 1)#	0	411 restriction
-7#-(0 or 1)#	0	511 restriction
-8#-(0 or 1)#	0	611 restriction
-9#-(0 or 1)#	0	711 restriction
-10#-(0 or 1)#	0	811 restriction
-11#-(0 or 1)#	0	911 restriction
-(12 to 16)#-(0 or 1)#	1	7-digit dial restriction/types (2 to 6)
FF7-2#-		**Area-Code Table**
-(3 to 6)#-(000 to 999)#-(0 or 1)#	-	Area code types (3 to 6)
FF7-3#-		**Office-Code Table**
-(3 to 6)#-(000 to 999)#-(0 or 1)#	-	Office-code types (3 to 6)
FF7-4#-		**Special Area Code Table**
-(1 to 4)#-(000 to 999)#	-	Special area codes (1 to 4)
FF7-5#-		**Special Office-Code Table**
-(1 to 4)#-(000 to 999)#-(0 or 1)#	-	Office codes (1 to 4)

Pocket-Sized List of Programming Addresses

FF7 KEY - Toll Restrictions		
FF7-6#-	Default	**7-Digit Restriction Table**
-(1 to 50)#-(0000000 to 9999999)#	-	7-digit TRS codes (1 to 50)
FF7-7#-(001 to 144)#-		**Daytime TRS**
-(01 to 64)#-(0 to 7)#	7	Daytime TRS
-65#-(0 to 7)#	-	Daytime TRS (all extensions)
FF7-8#-(001 to 144)#-		**Nighttime TRS**
-(01 to 64)#-(0 to 7)#	7	Nighttime TRS
-65#-(0 to 7)#	-	Nighttime TRS (all extensions)
FF7-9#-		**Type Blocks for each Area Code**
-(1 to 4)#-(0 or 1)#	-	Type (3 to 6) Area Codes
-(5 to 8)#-(0 or 1)#	-	Type (3 to 6) Office Codes
-(9 to 12)#-(0 or 1)#	-	Type (3 to 6) Area/Office Codes
-(13 to 16)#-(0 or 1)#	-	Type (1 to 4) Special Area Codes for Office Codes
FF8 KEY - Least Cost Routing		
FF8-1#-	Default	**Area-Code Table**
-(1 to 15)#-(000 to 999)#-(0 or 1)#	-	Time priority tables (1 to 15) LCR area codes (000 to 999)
FF8-2#-		**Office-Code Table**
-(1 to 15)#-(000 to 999)#-(0 or 1)#	-	Time priority tables (1 to 15) LCR office codes (000-999)
FF8-3#-		**Special Area-Code Table**
-(1 to 4)#-(000 to 999)#	-	Special area codes tables (1 to 4) Special area codes (000 to 999)
FF8-4#-		**Special Office-Code Table**
-(1 to 4)#-(1 to 15)#-(000 to 999)#-(0 or 1)#	-	Special office codes (1 to 4) Time-priority tables (1 to 15)
FF8-5#-		**Time-Priority Tables**
-(1 to 15)#-(1 to 48)#-(1 to 8)#	-	Time-priority tables (1 to 15) Time bands (1 to 48) LCR trunk groups (1 to 8)

104

Pocket-Sized List of Programming Addresses

FF8 KEY - Least Cost Routing		
FF8-6#-	Default	**Trunk-Group Tables**
-(1 to 8)#-(1 to 8)#-(01 to 64)#	-	LCR trunk groups (1 to 8)
FF8-7#-		**Dial-Delete Table (LCR)**
-(1 to 8)#-(16 digits)#	-	Dial-delete tables (1 to 8)
FF8-8#-		**Dial-Add Table (LCR)**
-(1 to 8)#-(16 digits)#	-	Dial-add tables (1 to 8)

FF9 KEY - Copy Mode		
FF9-	Default	**Copy Mode**
-1#-(01 to 64)#-(01 to 64)##	-	Copy trunk mode
-2#-(001 to 144)#-(001 to 144)##	-	Copy extension mode
-3#-(001 to 144)#-(001 to 144)##	-	Copy FF key mode

FF10 KEY - System Speed Dialing		
FF10-	Default	**Speed Dialing**
-1#-(00 to 89)#-(16 digits)#	-	System speed dial -
-1#-(001 to 144)#-(90 to 99)#-(16 digits)#	-	Personal speed dial -

105

F CC Rules and Regulations

FCC RULES AND REGULATIONS (Part 68)

In compliance with the requirements of Part 68 of the FCC Rules and Regulations for connection of Terminal equipment to the telephone network, and for your convenience, the following information is presented.

Notifying the Telephone Company

When connecting or disconnecting Terminal equipment to the telephone network, notify the telephone company of the following: connection line(s), FCC registration number, and ringer equivalence number of the registered Terminal equipment.

FCC Registration Numbers

Model Numbers	Key System	Hybrid System
VB-42010 (DBS308)	ACKUSA-61853-KF-E	ACKUSA-61855-MF-E
VB-42020 (DBS616)	ACKUSA-61854-KF-E	ACKUSA-61856-MF-E

When enabling Pooled Trunk Access, inform the telephone company or a Panasonic service center of the MF-E FCC Registration number. According to FCC rules, Pooled Trunk Access is regarded as one of the distinguishing features of a PBX as opposed to a key telephone system.

Ringer Equivalence Number (REN) 0.5 B

The REN determines the number of devices you may connect to your telephone line and still have all those devices ring when your telephone number is called. In most, but not all areas, the total RENs of all devices connected to one line should not exceed five (5.0). Contact your local telephone company to determine the maximum REN for your calling area.

Service order code	9.0F
Network address signaling code	E
Facility interface code	02LS2 (2 wire/Loop start)
Required network interface code	RT25C

B

Connection to a Party Line or Coin-Operated Telephone Line

DIRECT CONNECTION TO A PARTY LINE OR COIN-OPERATED TELEPHONE LINE IS PROHIBITED

If you are on a party line, please check with your local telephone company for further information.

Incidence of Harm to the Telephone Lines

Should Terminal equipment cause harm to the telephone network. the telephone company shall. where practical, notify the customer that service may be temporarily discontinued. However, where prior notice is not practical, the telephone company may temporarily discontinue service forthwith, if such action is reasonable in the circumstances. In case of un-notified temporary discontinuance of service, the telephone company shall:

(A)   Promptly notify the customer of such temporary discontinuance of service.

(B)   Afford the customer the opportunity to correct the situation which gave rise
        to the temporary discontinuance.

(C)   Inform the customer of the right to bring a complaint to the Commission
        pursuant to the procedures set out in Part 68 of the FCC Rules and Regulations.

Compatibility of the Telephone Network and Terminal Equipment

(A)   Availability of telephone information:

        Technical information on interface parameters and specifications not set by FCC Rules,
        including the number of ringers which may be connected to a particular telephone line
        to permit Terminal equipment to operate in a manner compatible with telephone
        company communications facilities, shall be provided by the telephone company upon
        customer's request.

(B)   Changes in telephone company communications facilities, equipment, operations
        and procedures:

        The telephone company may make changes in its communications facilities. equip-
        ment. operations or procedures. where such action is reasonably required in the
        operation of its business and is not inconsistent with the rules and regulations in FCC
        Part 68. If such changes can be reasonably expected to render any customer's Terminal
        equipment incompatible with telephone company communications facilities or require
        modification or alteration of such Terminal equipment or otherwise materially affect its
        use or performance. the customer shall be given adequate notice, in writing, to allow
        the customer an opportunity to maintain un-interrupted service.

B

Hearing Aid Compatibility

This system is hearing-aid compatible.

Automatic Dialers

WHEN PROGRAMMING EMERGENCY NUMBERS OR MAKING TEST CALLS TO EMERGENCY NUMBERS:

(A)   Remain on the line and briefly explain to the dispatcher the reason for the call.

(B)   Program or test emergency numbers only in off-peak hours; these are usually in the early morning or late evening.

Responsibility of Grantee (Manufacturer) of Registered Equipment

THE GRANTEE OR ITS AGENT SHALL PROVIDE THE USER OF THE REGISTERED EQUIPMENT WITH THE FOLLOWING INFORMATION:

(A)   installation. operation and repair procedures. where applicable.

(B)   Registered Terminal equipment may not be used with party lines or coin lines.

(C)   When a malfunction is indicated the customer shall disconnect the registered equipment from the telephone line to determine the problem. Until the problem is corrected, disconnect all equipment.

(D)   If connections other than RJ25C are needed. contact the local telephone company.

B

Product Safety

PLEASE OBSERVE THE FOLLOWING GUIDELINES TO ASSURE THE SAFE USE OF YOUR TELEPHONE

(A)   This product is an electrical device and can be hazardous if immersed in water.

(B)   To avoid the risk of electrical shock. do not use this unit while in the bathtub. shower. or when wet. If you accidently drop the unit into water. unplug it first. then retrieve it by pulling the cord.

(C)   The telephone should not be exposed to heat sources, direct sunlight. extreme temperatures. moisture, strong vibrations or greasy or dusty environments.

(D)   Never attempt to insert wires, pins or similar objects in the vents or openings of the telephone.

(E)   Never clean the telephone with benzol, paint thinner or other solvent materials.

(F)   Never install telephone wiring during a lightning storm.

(G)   Never install telephone jacks in a wet area unless they are specifically designed for that purpose.

(H)   Never touch un-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

Radio Interference (Part 15)

Warning - This unit generates, uses, and can radiate radio frequency energy. And if not installed and used in accordance with the instructions manual. may cause radio interference. The Unit 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 harmful interference in which case the user at his own expense will be required to take whatever measures are necessary to correct the interference.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

<u>Something about Interference</u>

This booklet is available locally from FCC regional offices.

Index

I

I

I

I

I

I

I

programming   28-33
setting   3
types (CO line/PBX line)   31, 76, 92
use   31, 76, 92
TTY data   5, 74, 90

U

UNA (Universal Night Answer)   7, 75, 91
Unattended (unsupervised) conference   2,
13, 31, 35, 67, 68, 75, 76, 91, 92
Universal Night Answer (UNA) ring pattern
7, 75, 91
Unsupervised conference
extension capability   35, 75, 91
talk-time   2, 13, 75, 91
trunk capability   2, 31, 76, 92

V

Verified Account Codes   8, 75, 91
Verified Account Code Toll Restriction   8,
75, 91
Voice call   3, 74, 86, 90, 102
Voice mail (busy tone)   4, 74, 90

W

Wink signal start detection timer   22, 77, 93
Wink start timer (DID)   32, 79, 95

I

X, Y

Yellow alarm counter   25, 26, 77, 78, 93, 94
Yellow alarm detection timer   24, 26, 77, 78,
93, 94
Yellow alarm notification   24, 26, 77, 78, 93,
94
Yellow alarm recovery detection timer   24,
26, 77, 78, 93, 94
Yellow alarm relay control   25, 77, 93
Year   3, 74, 90

DBS
Digital Business System
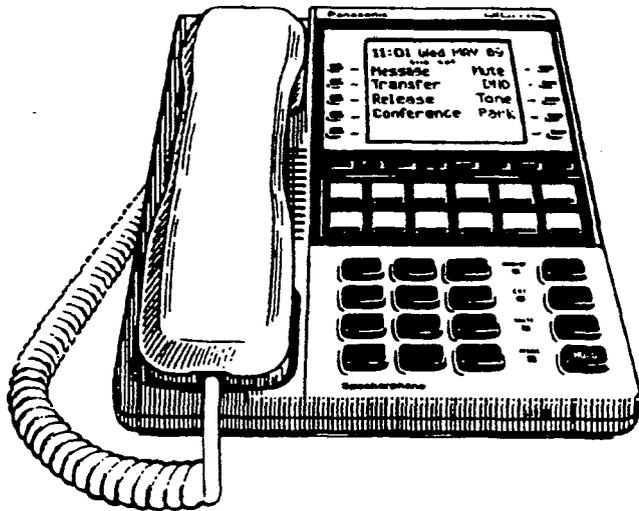
Feature Operation

Section 700

Panasonic
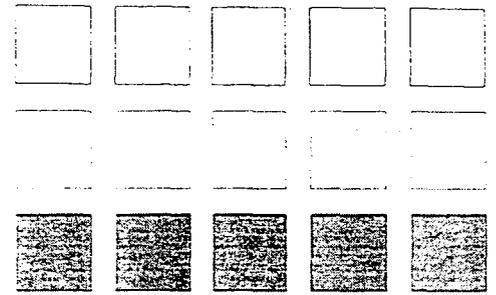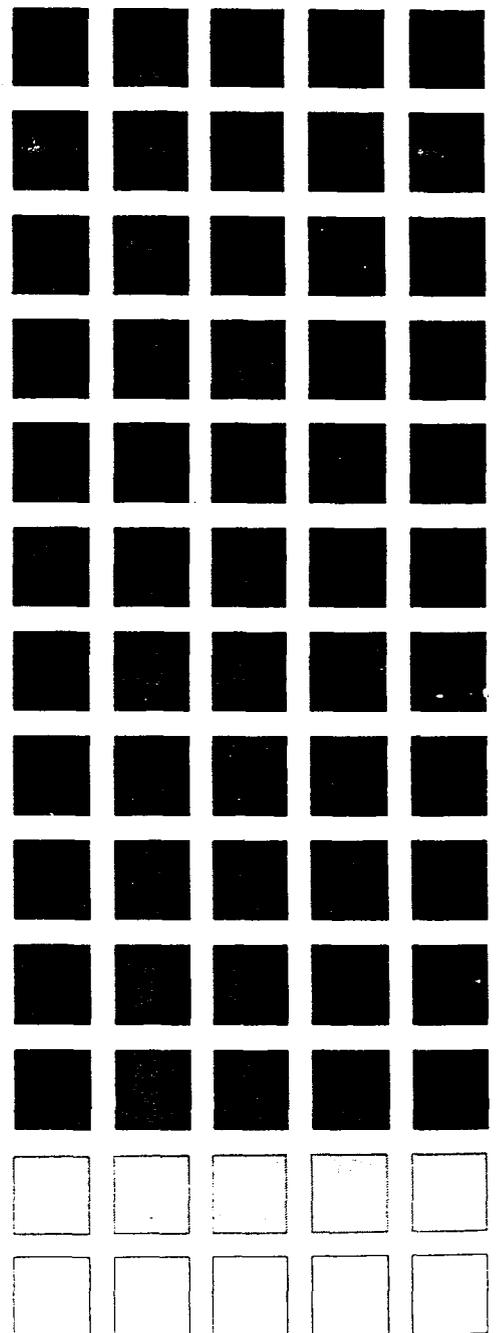
FCC Warning

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.

About This Manual

Software Versions Covered by This Manual

This manual covers all versions of CPC-A and CPC-B software through CPC-B Version 4.0.

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 Requirements	This section lists any special hardware that is required to use the feature.
Related Programming	The Related Programming section lists the programming subsystems associated with the feature.
Considerations	This section provides details on feature interactions and limitations.

Table of Contents

System Features

Attendant Features

Key Telephone Features

DSLT Features

SLT Features

Chapter 1. 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.

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 then printed for each account in the SMDR record.

Non-Verified Account Codes

(CPC-A and CPC-B Versions Prior to 3.1)

Description

In CPC-A and CPC-B Versions prior to 3.1, account codes are not verified. 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 account codes 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.

    • You will hear the intercom dial tone from the speaker.

    • The **ON/OFF** LED will light.

2. Press the **AUTO** key, then press "#."

    • "Enter Account #" will appear on the display.

    • If you are using a Single Line Telephone (SLT), dial "#7."

3. Enter the Account Code (up to 10 digits).

4. Press "#."

    • "Entered Account #" will appear 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 #" will appear on the display.

3. Enter the Account Code (up to 10 digits).

   • The Account Code entered will appear 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-B, Version 3.1 or higher)

Description

Extensions with the Verified Account Codes feature *enabled* are restricted from making outside calls without 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, a valid Verified Account Code can be entered to upgrade the TRS type assigned to the extension.

Operation

1. Pick up the handset.

You will hear the intercom dial tone from the handset.

2. Dial "#11."

3. Enter the four-digit Account Code.

4. Press "#."

You will hear intercom dial tone.

5. Press an available CO key or dial a trunk access code.

You will hear outside dial tone.

6. Dial the telephone number.

The Verified Account Code TRS type will remain 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 Restriction Settings

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-B Version 3.1 or higher, 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 or higher.

Auto Day Mode
(CPC-B Version 4.0 or 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 1-22).

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): Auto Day Mode Start Timer

- FF1 (System): Auto Night Mode Start Timer

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 Set Relocation

(CPC-B Version 3.1 or higher)

Description

With Auto Set Relocation, the program settings of one extension can be relocated to another extension.

Auto Set Relocation is commonly used when extension users want to "trade" work areas. For example, if Extensions "A" and "B" are going to switch office locations, auto set relocation enables them to also switch telephone settings without re-programming.

Operation

Before a phone can be relocated, it must be assigned an auto set relocation code. See "Programming Requirements" for the associated program address.

The following example illustrates how the program settings for extensions 200 and 300 could be switched.

To Transfer Extension Settings from 200 to 300:

1. At extension 200, pick up the handset.

2. Press "#10."

3. Dial extension number 300.

4. Enter the four-digit auto set relocation code assigned to extension 300.

5. Replace the handset.

    • All programmed station features, TRS, and LCR settings from 200 will be transferred to 300.

    • Extension 300 will be placed out of service.

To Reactivate Extension 300:

1. Unplug the extension cable from 300.

2. Reconnect the cable.

   Extension 300 will now assume all station features, TRS, and LCR settings that were initially assigned to 200.

Related Programming

- FF3 (Extension): Auto Set Relocation Code

Considerations

- The following types of data can be transferred using this feature:

  - TRS type settings

  - Ring settings (trunk line, remote ringing, day/night, DID)

  - FF key data

  - Extension numbers and names

  - Absence messages

  - Call forward settings

  - Message waiting

  - All settings and data defined by programming.

- Settings may not be transferred between extensions of different types. In other words, an SLT and a KTEL cannot exchange program settings.

- Attendant 1 is excluded from this feature.

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 will stop and the phone will ring. Background Music will also be 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 1-21 for more information on Music-on-Hold.)

Operation

To turn Background Music on:

1. Press the **ON/OFF** key.

   • You will hear the intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "#53."

   "BGM ON" will appear on the display.

3. Press the **ON/OFF** key.

   The **ON/OFF** LED will go off.

To turn Background Music off:

1. Press the **ON/OFF** key.

   • You will hear the intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "#53."

   "BGM OFF" will appear on the display.

3. Press the **ON/OFF** key.

- The **ON/OFF** LED will go off.

- The date and time will appear on the display.

Related Programming

- FF1 (System) Station Class of Service (CPC-B 3.1 or higher)

- FF3 (Extension) Class of Service (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.

- The input impedance for the music source is 10k ohms.

- The maximum input level is 10 dB.

Call Forward ID Code for Voice Mail

(CPC-A Version 3.1; 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 1.0, you can only set the ID Code from the phone that will be forwarded. Beginning with CPC-B Version 2.0, ID Codes can be set from any key phone.

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-B Version 2.0 or later, enter the extension number that will be forwarded. If you are using CPC-A or CPC-B Version 1.0, go to Step 5.

5. Enter up to 16 digits (0 ~ 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.

Centrex/PBX Compatibility

(CPC-A Version 3.2 or higher; CPC-B Version 2.1 or higher)

Description

Centrex 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

- FF2 (Trunks): Central Office Line Type

- FF8 (Least Cost Routing): Add Table

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 a station to have a dedicated direct number. The dedicated number allows the calls to be made directly to the station, without the caller going through the attendant.

Prior to CPC-B Version 3.1, only one DID number could be assigned to a station. Beginning with CPC-B Version 3.1, one DID number can be assigned to several stations, and one station can have more than one DID number.

If a DID number is assigned to more than one station, incoming calls to the DID number ring at all the assigned stations simultaneously.

Related Programming

- FF1 (System): Multiple DID (CPC-B Version 3.1 or higher)

- FF3 (Extension): Extension DID Number (CPC-B Version 2.0 to 2.16)

Hardware Requirements

- The DID trunk card is required. Each DID truck card provides 8 ports.

- The DID trunk card requires an external 48V power supply. See *Installation (Section 300)* for instructions.

Considerations

- The DBS supports 4-digit, dial-pulse 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.

Direct Inward System Access (DISA)

(All Versions)

Description

Direct Inward System Access (DISA) allows off-site users dial-in access to the DBS. Users access DISA by dialing a 7-digit number assigned to a DISA trunk.

For security reasons, one incoming DISA code and two outgoing DISA codes can be assigned. If assigned, the incoming code must be entered as soon as the DISA trunk answers. If an outgoing code(s) is assigned, the outgoing code(s) must be entered before the user dials an outgoing call.

Operation

1. Dial the DISA trunk number.

2. Once you hear dial tone from the DBS, enter the 4-digit DISA code.

   If the incoming DISA code is not programmed, you can proceed to the next step.

3. If you're dialing an extension within the DBS, dial the extension number. If you're dialing an outside number, go to the next step.

4. Dial #7 plus the 4-digit Outgoing DISA Code(s).

   Up to two outgoing DISA codes can be assigned for security purposes. However, the outgoing codes are optional, so you may not be required to dial a code after the #7.

5. Dial the trunk group number you want to use (81-86 or 9).

6. Dial the desired telephone number.

Related Programming

- FF1 (System): DISA ID Setting

- FF1 (System): DISA Outgoing Code 1

- FF1 (System): DISA Outgoing Code 2

- FF2 (Trunk): DISA Port Enable

- 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.

   - You will hear the intercom dial tone from the speaker.

   - The **ON/OFF** LED will light.

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 will go off.

Hardware 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 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-B Versions 2.0 to 2.1, DISA calls cannot access hunt groups.

Distinctive Ringing

(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. This 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 will ring 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 Phone

(All Versions)

Description

The DBS can control a door phone through an extension, making it possible for you to identify callers without leaving your seat.

The Door Opener can be controlled from any extension. The Door Opener only operates during Intercom Calls with the Door Phone extension.

Operation

1. Answer the door phone.

2. Press "3" while connected to the Door Phone extension.

   The door will open automatically.

Related Programming

- FF4 (Ringing and Hunt Groups): Ringing Assignments

Hardware Requirements

- The Door Phone requires a door box adaptor (VB-43701), door box (VA-43705), door opener, and door sensor. The door opener and door sensor can be purchased from an electronics dealer.

- Up to two door phones can be connected to a Door Box Adaptor.

- Each door phone uses one trunk port.

- The Door Phone 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 Phone cannot be answered.

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): Dial Send Type

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.

Independent Timers

(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 the 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): CO Line Delayed Ring Timer

- FF1 (System): Extension Delayed Ring Timer

- FF1 (System): Hunt Group No Answer Timer

Least Cost Routing (LCR)

(All Versions)

Description

Least cost routing (LCR) automatically selects the least expensive route available when making toll calls.

LCR is accessed by dialing "9" before placing a call.

Related Programming

Primary Program Areas:

- FF1 (System): LCR Access

- FF3 (Extension): Forced LCR

- FF8 (LCR): Time Priority Tables

- FF8 (LCR): Trunk Group Tables

- FF8 (LCR): Area Code Tables

- FF8 (LCR): Office Code Tables

Other Program Areas:

- FF8 (LCR): Dial Add Table Storage

- FF8 (LCR): Dial Delete Table Storage

- FF8 (LCR): Special Area Code Table Storage

- FF8 (LCR): Special Office Code Table Storage

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 1-9 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.

- The input impedance for the music source is 10k ohms.

- The maximum input level is 10 dB.

Night Service
(All Versions)

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 switch between night and day modes automatically. (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 1-43 for information on setting a UNA point.

See "Auto Day Mode" (page 1-6) for information on a CPC-B Version 4 enhancement that allows automatic switching between day and night modes.

Operation

To switch to Night Mode:

1. Press the **ON/OFF** key.

   • You will hear the intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "#52."

3. Press the **ON/OFF** key.

   • The **ON/OFF** LED will go off.

   • "NIGHT MODE" will appear on the display.

To switch to Day Mode:

1. Press the **ON/OFF** key.

   • You will hear the intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "#52."

3. Press the **ON/OFF** key.

   • The **ON/OFF** LED will go off.

   • "DAY MODE" will appear on the display.

Related Programming

   • FF1 (System): Extension Class of Service

   • FF1 (System): Ring Patterns for UNA Terminals

   • FF3 (Extension): Class of Service

   • FF4 (Ringing and Hunt Groups): Central Office Day Ring Assignment

   • FF4 (Ringing and Hunt Groups): Central Office Night Ring Assignment

Hardware Requirements

   • Calls during Night Mode are often directed to 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

   • By assigning "#52" to an FF key on an attendant phone, one-touch switching between Day and Night Modes is possible. 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."

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 stations is the same as for local SLTs connected to the DBS.

Related Programming

- FF3 (Extension): Telephone Type

Hardware Requirements

- One OPX Adaptor (VB-43702) is required for each OPX station.

- 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.

Considerations

- Up to 6 OPX stations can be connected to a system.

- The DBS side of the OPX Adaptor is connected to a *digital* extension 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 will light.

3. Make your announcement.

4. Replace the handset.

Related Programming

   • FF1 (System): Paging timer (CPC-B Version 3.1 or higher)

   • FF1 (System): External Page Interface Control for Paging Groups

   • FF3 (Extension): Extension Page Groups

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, paging can be done 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.

- Additional pages cannot be sent when someone is paging group 00. In fact, if you page group 00 while other extensions are paging groups 01 ~ 07, the latter operations will be terminated, and "Page Overridden" will appear on your display.

- Paging cannot be heard at busy extensions or at extensions for which the Do Not Disturb, Call Forwarding, or Absence Message feature is activated.

- Paging can be answered from an idle extension by dialing the Meet-Me Answer code ("77").

- The Meet-Me Answer feature cannot be used at an extension that is off-hook at the time of the Paging Call, even if the extension's status is later changed to onhook.

- The Meet-Me Answer feature cannot be used with Paging Group 00.

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 stations 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.

  The backup batteries typically last up to 30 minutes.

Station Class of Service

(CPC-B Version 3.1 or higher)

Description

Eight station classes of service are available. Twenty system features can be allowed or denied for each class of service. Class of service "0" allows all features and is the default for all extensions. Attempts to access denied features will result in busy tone.

The following features are available for each class of service:

Table 1.   Station Classes of Service

Feature	Access Code
Dial Tone On/Off	#50
Head/Hand Set Exchange	#51
BGM On/Off	#53
Absence Message Set/Reset	71
Call Forwarding Set/Reset	72
Do-Not-Disturb Set/Reset	73
Station Lockout	74
Park Access	75
Park Pickup	76
Meet-Me Answer	77
UNA Pickup	78
Direct Pickup	79
Group Pickup	70
Tone/Voice Mode	1 (after dialing number)
Message Waiting Set	2
Busy Override	4
Call Waiting	3
Off Hook Voice Announce	5
CO Call Queuing	2
SLT Transfer	8

Related Programming

- FF1 (System): Extension COS Set

- FF3 (Extension): Class of Service

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 station in a hunt group, the call automatically transfers to another station within the group. If the second station 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 all the members of the original group be busy.

A pilot number may be designated as the first extension in a terminal hunt group. A pilot number is a fictitious station 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

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 stations 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 a 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 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.

Station Hunting (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-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 resister required for a pilot number in CPC-A and CPC-B Versions prior to 2.0.

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 set, a call to the pilot number will search hunt group members, repeatedly, until the Transfer Timer expires. If none of the members is free when the timer expires, the call can be transferred to the transfer extension.

Distributed Hunt Groups

When the Distributed method is used, 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, then continues, in sequence, repeatedly, until the Transfer Timer expires. If none of the members is free when the timer expires, the call can be 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 can be transferred to the transfer extension.

Related Programming

- FF4 (Ringing and Hunt Groups): Hunt Group Search Method

- FF4 (Ringing and Hunt Groups): Pilot Extension Number

- FF4 (Ringing and Hunt Groups): 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 Ringing Assignment for Hunt Group Pilot Numbers

- FF4 (Ringing and Hunt Groups): Central Office Night Ringing Assignment for Hunt Group Pilot Numbers

- FF4 (Ringing and Hunt Groups): Ringing Assignments

- FF1 (System): Hunt Group No Answer Timer (CPC-B Version 3.1 or higher)

Considerations

- Eight Station Hunt Groups can be programmed; a single Hunt Group can contain up to eight extensions, 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 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.

- 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.

- Beginning with CPC-B Version 4.0, when a call comes to the pilot number of a hunt group, the call 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 calls

  - 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 1 shows the SMDR format for CPC-A and CPC-B Versions prior to 3.1. Figure 2 shows the SMDR format for CPC-B Version 3.1 or higher.

Figure 1. **SMDR Format for CPC-A and CPC-B Versions Prior to 3.1**

```
     0          1          2          3          4          5          6          7
     0123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

       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 0-9 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 (0-9)                                #01-#64=DISA numbers
  MM=minutes
  X=1/10th of a minute (0-9)               8=Account code
                                             A=digits 0-9 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 (<).
```

Figure 2.   SMDR Format for CPC-B Version 3.1 or higher

```
0         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 DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD 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
  T=Transfer (See Note 1.)   DD=digits 0-9 or symbols * or #
  N=DNIS   (See Note 2.)
  D=DID
  P=Intercom calls   7=Account code
                                                 A=0-9999999999
2=Date
  MM=month   8=Verified account code or walking
  DD=day   COS code
                                                 V0000-V9999=verified account codes
3=Call start time   W0000-W9999=walking COS codes
  HH=hours
  MM=minutes   9=Trunk Number
  SS=seconds   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.
```

## Related Programming

- FF1 (System): SMDR Display Start Timer

- FF1 (System): SMDR Printing Mode 1

- FF1 (System): SMDR Printing Mode 2

- FF1 (System): SMDR Printing Mode 3

- FF3 (Extension) 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, thereby doubling 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

  -

- FF1 (System): T1 Settings

- FF2 (Trunks): Trunk Type

- FF2 (Trunks): T1 Port Class

- FF3 (Extension): Extension Port Class

## Hardware Requirements

- The following hardware is required to install a T1 in a single cabinet:

  - 1 T1 Trunk Card (VB-43561

  - 1 T1 MDF Card (VB-43562)

  - 1 Sync Card (VB-43563)

  In addition, the following hardware is required to install a T1 in a double cabinet if the T1 card is located in the slave cabinet:

  - 1 T1 Cable (VB-43564)

  To install two T1s in a double cabinet, you must have 2 T1 Trunk Cards and 2 T1 MDF Cards.

- 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.

## Considerations

- *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. Furthermore,

the number of analog trunks that can be used are always decremented in quantities of 8.

For instance, if you're 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).

However, because 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.)

- The current version of the T1 supports voice communications only. Data can be transmitted only if it reaches the T1 in analog form. Examples of analog data that can be transmitted over the T1 include fax transmissions or PC files that have been converted into analog form using a modem.

# 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.   Toll Restriction Types*

| Toll Restriction Type | Characteristics |
|---|---|
| 0 | • Restriction of outbound dialing.<br>• Restriction of inbound ringing on all trunks.<br>• Inbound ringing trunks can be answered by or transferred to Type 0 extensions.<br>• Intercom calls are allowed. |
| 1 | • Full restriction of outbound dialing.<br>• Inbound ringing on all trunks.<br>• Intercom calls are allowed. |
| 2 | • 1-800 calls allowed<br>• Inbound trunk calls can be answered and transferred from a Type 2 phone.<br>• Full restriction of international calls.<br>• Full restriction of operator calls.<br>• Speed dial number selectable restriction.<br>• N11 code selectable restriction.<br>• Restriction of up to 50 seven-digit numbers.<br>• Inter-digit timing is set to 6 seconds. |
| 3 | • 1-800 calls allowed.<br>• Full restriction of operator calls.<br>• Selectable restriction of international calls.<br>• Selectable restriction of N11 codes (211-911).<br>• Speed dial number selectable restriction.<br>• Restriction of up to 50 seven-digit numbers.<br>• Trunk calls can be answered and transferred.<br>• Defaulted to full restriction of area-code dialing (but up to four codes can be permitted).<br>• Defaulted to full restriction of office-code dialing (but up to four codes can be permitted).<br>• Inter-digit timing is set to 6 seconds. |
| 4 | • Identical to Type 3, except that office-code dialing is allowed by default. |
| 5 | • Programmable TRS Type; defaulted to no restrictions. |
| 6 | • Programmable TRS Type; defaulted to no restrictions. |
| 7 | • No restriction of outbound dialing. |

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) Station Lockout

- FF7 (Toll Restriction): Toll Restriction Settings

## *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 Toll Restrictions.

# Trunk Name Assignment

(CPC-B Version 2.0 or higher)

## Description

You can display a name, number, or message up to six characters long 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 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): CO Line Name Assignment

## Considerations

- Trunk names can be assigned with a DSS or an attendant phone.

- 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.

   You will hear a busy tone from the speaker.

3. Press "2."

   "In CO Queuing" will appear 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.

- You will immediately access the outside line.

- You will hear dial tone.

- "CO TALK #XX" will appear on the display.

## Related Programming

- FF1 (System): Extension Class of Service

- FF3 (Extension): Class of Service

## 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 SLTs.

# Universal Night Answer

(All Versions)

## Description

Universal Night Answer (UNA) sends incoming calls during night mode 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.

   You will hear the intercom dial tone.

2. Dial "78."

   "CO TALK #01" will appear on the display if the call is on line 1.

## Related Programming

- FF1 (System): Extension Class of Service

- FF1 (System): Ring Patterns for UNA Terminals

- FF3 (Extension): Class of Service

- FF4 (Ringing and Hunt Groups): Central Office Day Ring Assignment

- FF4 (Ringing and Hunt Groups): Central Office Night Ring Assignment

## Hardware 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, 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 interface.

# Voice Mail Ringing

(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 Distinctive Ringing

# Walking TRS Class of Service

(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 for each extension that wants to use dialing privileges at another extension.

## Operation

### To enter a Walking Class of Service code:

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

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.

   You will hear intercom dial tone from the handset.

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).

   You will hear the outside dial tone from the handset.

7. Dial the telephone number.

   The Walking Class of Service will remain in effect until you replace the handset.

## To clear a Walking Class of Service code:

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

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.

   You will hear the intercom dial tone from the handset.

2. Press the **CONF** key.

3. Dial "#12."

4. Enter the extension number.

   The Walking Class of Service code for that extension will appear on the display.

## Considerations

- Walking Class of Service can be used by KTELs, DSLTs, and SLTs.

- A Walking Class of Service code can be used on more than one extension.

- If a station is locked out, the Walking Class of Service feature will override the lockout.

- LCR and TRS dialing privileges follow the Walking Class of Service.

# Chapter 2. 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.

# 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.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the **PROG** key.

   "F" will appear on the display.

3. Press **AUTO**.

   "FA" will appear on the display.

4. Enter the Speed Dial code (00-89).

   "Enter SSD 01" will appear on the display if number is to be stored for System Speed Dial code 01.

5. Dial the telephone number to be stored.

   The number will appear on the display.

6. Press the **HOLD** key.

   "SSD 01" and the stored telephone number will appear on the display if the number was stored on Speed Dial code 01.

7. Repeat steps 2 ~6 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**.

- Storing names for System Speed Dialing can also be done using a DSS console connected to the attendant phone.

# Attendant Busy Override

(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 already in progress. An alert tone is first heard by the busy party called, then the call becomes a three-party conference.

Attendant Busy Override can break into an extension, even if the extension has "Busy Override Reject" enabled. (The extension feature "Busy Override" cannot break into an extension that has "Busy Override Reject" enabled.)

## Operation

**To override a busy extension:**

Press "4."

"CONF 135 157" will appear on the display if extensions 135 and 157 were engaged in the call you interrupted.

## Related Programming

- FF1 (System): Attendant Override

## 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). By programming a Call Park key into a FF key of a telephone or a DSS console, one-touch Call Park is possible.

## Operation

**To park an outside call:**

1. Press the **HOLD** key.

   • The outside call will be placed on hold.

   • "CO HOLD #03" will appear on the display if the call arrived on line 3.

2. Dial "75."

   "PARK HOLD" will appear on the display.

3. Enter desired Park Number (00 ~ 09).

   "PARK HOLD 01" will appear on the display if you selected Park Number 01.

**To release a parked call (after receiving the Park Number from the Attendant):**

1. Pick up the handset.

   You will hear intercom dial tone.

2. Dial "76."

3. Enter the Park Number assigned to the call.

   "PARK PICK 01" will appear if 01 was the assigned Park Number, then "CO TALK #03" will appear if the call arrived on line 3.

## Related Programming

- FF1 (System): Attendant Park Hold Recall Timer

## Considerations

- With CPC-A and CPC-B Versions prior to 3.1, if Call Park is assigned to an FF key, the FF key does not indicate when a call is parked. Beginning with CPC-B Version 3.1, the FF key does indicate when a call is parked.

- If a parked call is not answered before the Attendant Park Hold Recall Timer expires, the parked call will recall to the attendant.

# 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.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the **CONF** key.

3. Dial the extension number.

4. Press "*."

5. Press the **ON/OFF** key.

   The **ON/OFF** LED will go 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 the use of a DSS/72 and without entering the programming mode.

Text is assigned through the dialpad 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.

5. Press **AUTO** to backspace and erase the existing name.

6. Use the dialpad sequences shown in Table 3 on page 57 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**.

### 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 on page 57 to enter letters and/or numbers.

   Press **FLASH** after each letter.

   Press **CONF** to switch between numbers and letters.

8. To store your entry, press **HOLD**.

## To assign text to Call Waiting/OHVA Text Replies (CPC-B Version 4.0 or higher):

1. Pick up the handset or press **ON/OFF**.

2. Press **PROG**.

3. Dial #5

4. Dial 1 ~ 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 on page 57 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. 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 Groups

(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, a call will be 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 Position

## Considerations

- If all four phones are busy, the call will be 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.

# 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.

   - You will hear the intercom dial tone from the speaker.

   - The **ON/OFF** LED will light.

2. Press "**#50.**"

3. Press the **ON/OFF** key.

   The **ON/OFF** LED will go 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.

Simplified Call Transfer is possible by pressing a DSS key while connected to an outside line. The outside line will be placed on hold and the extension dialed automatically.

When the attendant is placed in the programming mode, the DSS functions as a typewriter for inputting text names. Figure 3 shows which keys are pressed for text input.

*Figure 3.   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.

As Figure 4 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 4.   VB-43225 with a DSS/72 configured as an Attendant Console*



## Related Programming

- FF1 (System): Attendant Feature Package Settings

- 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.

## Considerations

- Up to two DSS/72s can be assigned to a single attendant phone. However, only one of the DSS/72s can be assigned as an Attendant Console.

- 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, Call Waiting, or DND is activated.

- Pressing a DSS key while connected to an outside line places the line on hold.

- The "Attendant Feature Package" is available with CPC-B Versions 2.0 or higher.

# Headset Operation

(All Versions)

## Description

A headset can be connected to attendant or non-attendant phones. (Dial tone is normally turned off when using the headset.)

## Operation

**To use a headset:**

1. Connect a headset to the desired telephone.

2. Press the **ON/OFF** key.

3. Press "#51."

   The **ON/OFF** LED will remain lit.

**To stop using a headset:**

> Repeat the preceding steps.

## *Hardware Requirements*

> • Headsets are not provided with the DBS; they must be purchased separately.
>
> • Most commercially available headsets (with ECM mike transducers) can be used.

# 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.
>
>    • You will hear the intercom dial tone from the speaker.
>
>    • The **ON/OFF** LED will light.
>
> 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 1357" will appear on the display if key code 1357 was entered.

7. Press the **ON/OFF** key.

The **ON/OFF** LED will go 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 is set from an attendant phone.

## Operation

**To set the date and time:**

1. Press the **ON/OFF** key.

   - You will hear intercom dial tone.

   - The current date and time will be displayed on your LCD.

2. Press the **PROG** key.

   "F" will appear on the display.

3. Dial "##."

   "Program Mode: MAIN MODE" will appear on the first and second lines of the display.

4. Press the FF1 key.

   "SELECT SUB MODE" will appear on the second line of the display.

5. Dial "1#."

   "1:DATE 2:TIME" will appear.

6. Dial "1#."

   "MONTH/DAY/YEAR" will appear.

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"will appear on the display.

9. Enter four digits for hours and minutes (24-hr. time).

   For example, for 11:00 a.m., enter "1100."

10. Press #.

11. Press the **ON/OFF** key.

   The new date and time will 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.

   • You will hear intercom dial tone.

   • The **ON/OFF** LED will light.

2. Press the **PROG** key.

   "F" will appear on the display.

3. Dial "#4."

"Time Adjusted" will appear on the display.

4. Press the **ON/OFF** key.

The **ON/OFF** LED will go off.

## Considerations

- The month is entered in numeric form, but it 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 determine the number of outgoing calls made on an outside line:

1. Press the **ON/OFF** key.

   - You will hear intercom dial tone.

   - The **ON/OFF** LED will light.

2. Press the **CONF** key.

"C" will appear on the display.

3. Dial "#90," then enter the number of the outside line you want to check.

If 1234 outgoing calls have been made on line 01, "Outgoing01 1234" will appear on the display.

Pressing the # key steps through the trunk numbers and system speed dial numbers.

4. Press the **ON/OFF** key.

The **ON/OFF** LED will go off.

## To check other usage rates:

Replace "#90" in Step 3 with one of the following codes:

*Table 4. Traffic measurement options*

| Operation | Code | Display |
|---|---|---|
| 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:**<br>NN = CO line number (01 ~ 64)<br>SS = System Speed Dial number (00 ~ 89) | | |

## Considerations

• Usage data cannot be cleared item by item.

• All data is retained until it is deleted or until 65,536 entries are made (at which point the figures are reset to zero).

• A backup battery protects memory contents in case of power failure.

# Walking COS Confirmation

(CPC-B Version 3.1 or higher)

## Description

The attendant can check the Walking Class of Service ID code of any extension.

## Operation

1. Press **ON/OFF**.

2. Press **CONF.**

3. Dial #12 plus the extension number.

   The Walking Class of Service ID code will appear on the display.

# Chapter 3. 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.

Figure 5 illustrates the DBS key phone VB-43225. The VB-43225 provides a large display that includes one-touch access to speed dial numbers, telephone features, and help screens.

*Figure 5.   VB-43225 key phone*

# Absence Message

(All Versions)

## Description

Extension users can leave text messages on their phone when they are away.

When the unattended extension is dialed, the text message will display 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 5. 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. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "71."

   "Enter Msg Code" will appear on the display.

3. Enter a message code between 0 and 9 (See Table 5.).

"Enter Parameter" will appear on the display.

4. Enter the time you will return (optional). See Table 6 for examples.

5. Press the **ON/OFF** key.

- The **DND/CF** LED will light.

- "At Lunch" will appear on the display if you selected message code 1.

## To cancel an Absence Message

1. Press the **ON/OFF** key.

- You will hear intercom dial tone from the speaker.

- The **ON/OFF** LED will light.

2. Dial "71."

"Enter Msg Code" will appear on the display.

3. Press the **ON/OFF** key.

- The **ON/OFF** LED will go off.

- The **DND/CF** LED will go off, and the message will disappear from the display.

## *Related Programming*

- FF1 (System) Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension) Class of Service (CPC-B Version 3.1 or higher)

- FF6 (Names and Messages): Absence Message

## Considerations

- Calling parties without a display get a busy signal, rather than the Absence Message.

- If a message code number that has not been programmed when a message is selected, "Absence," followed by the code number, will appear on the display.

- Absence Message return times can be input as shown in the following table:

*Table 6.   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).

- Setting an Absence Message cancels DND and Call Forwarding features.

- When an Absence Message is set on a DID station, incoming DID calls are routed according to the ringing assignment programmed for the incoming trunk.

- Callback to an incoming CO call on a Private Line is available if the Absence Message feature is activated.

# 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 Calls.

## Operation

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Dial the extension number.

3. When you hear busy tone, dial "4."

   • An alert tone will sound to both phones (system programming required).

   • The EXT LED will light.

## Related Programming

• FF1 (System): Alert Tone for Busy Override and Offhook Voice Announce

• FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

• FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

• FF3 (Extension): Busy Override Send

• FF3 (Extension): Busy Override Receive

• FF3 (Extension): Extension Paging Groups

## 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 will be 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.

## *Related Programming*

- FF3 (Extension): Offhook Signaling

- 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) can be a member of a coverage group, but it 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 cover. Only tone intercom calls can activate call coverage.

# Call Forwarding

(All Versions)

Call Forwarding allows users to send their calls to another extension, an outside line, or 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 7.* *DBS Call Forwarding features*

| *Feature* | *Availability* |
|---|---|
| Call Forwarding--All Calls | All versions |
| Call Forwarding--No Answer | CPC-A Version 3.1 or higher<br>CPC-B Version 2.0 or higher |
| Call Forwarding--Busy | All versions |
| Call Forwarding--Busy/No Answer | All versions |
| Call Forwarding--External | All versions |
| Permanent Call Forwarding | 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 forwarded immediately.

**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 will be 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.** When Call Forwarding-External is activated, all incoming intercom calls to an extension will be forwarded to an outside number. In order to forward to an outside number, the number must first be entered as a system or personal speed dial number.

Any system speed dial number (00-89) 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-B Versions higher than 2.0, any of personal speed dial numbers (90-99) can be used.

**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:

1. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "72."

   "ENTER FWD CODE" will appear on the display.

3. Dial the appropriate call forwarding code.

| Call Forward Type | Code |
|-------------------|------|
| All               | 0    |
| Busy/no answer    | 1    |
| Busy              | 2    |
| Outside           | 3    |
| No answer         | 4    |

"ENTER FWD EXT#" will appear on the display.

4. If you're forwarding to an internal number, enter the number of the extension you want to receive your calls. If you're forwarding to an outside number, press **AUTO** plus the appropriate speed dial number.

   **Note:** To forward to an outside number, the number must 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. Beginning with CPC-B, you can forward to any speed dial number (system or personal).

5. Press the **ON/OFF** key.

   • The **DND/CF** LED will light.

   • "FWD-EXT 135" will appear on the 2nd line of the display if extension 135 was selected. If a name was assigned to the extension, the name will appear instead of the extension number.

**To cancel Call Forwarding**

1. Press **ON/OFF**.

2. Dial "72."

3. Hang up.

## Related Programming

   • FF1 (System): Call Forward No Answer Timer

   • FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

   • FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

   • FF3 (Extension): Permanent Call Forward Type (CPC-B Version 3.1 or higher)

   • FF3 (Extension): Permanent Call Forward Extension (CPC-B Version 3.1 or higher)

   • FF10 (System and Personal Speed Dial): System Speed Dial Numbers

   • FF10 (System and Personal 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" 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.

- DND and Absence Messages cancel Call Forwarding.

- 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 (a system other than the DBS Voice Mail) by using the "Call Forward ID Code" described on page 10.

# Call Hold

(All Versions)

The DBS provides both Exclusive and System Hold.

## Exclusive Hold

### Description

With Exclusive Hold, only the station 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 will flash green and you will hear intercom dial tone.

"Hold TRK #01" will appear on the display if outside line 1 is placed on hold.

**To retrieve a call from Exclusive Hold:**

Press the line key on which the call was placed on hold.

The line LED will stop flashing and remain green.

"CO TALK TRK #01" will appear on the display if a held call on outside line 1 was released.

### Related Programming

- FF1 (System): Attendant Hold Recall Timer

- FF1 (System): Extension Hold Recall Timer

- FF1 (System): Central Office Line Automatic Hold

- FF1 (System): Non-appearance CO 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, 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 #01" will appear on the display if a call on outside line 1 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, you have placed an outside call on hold, and then you make an Intercom Call, you must 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** will release the extension.)

- The DBS can provide music-on-hold to callers placed on hold. See "Music-On-Hold" (page 21) 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 which was being used for the call will flash green.

- You will hear intercom dial tone.

- "Hold TRK #01" will appear on the display if the call was on outside line 1.

**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 will stop flashing and remain lit.

- "CO TALK #01" will appear on the display if the call was on outside line 1.

**To release a call placed on System Trunk Hold from a different extension:**

Press the line key that is flashing red.

- The line LED will turn green and stop flashing.

- "CO TALK TRK #01" will appear on the display if the call was on outside line 1.

## Related Programming

- FF1 (System): Attendant Hold Recall Timer

- FF1 (System): Extension Hold Recall Timer

- FF1 (System): Central Office 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, 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 #01" will appear on the display if a call on outside line 1 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, you have placed an outside call on hold, and then you make an Intercom Call, you must 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 will sound at the Attendant Phone (extension 100 or 10). However, no tone will sound at an Attendant Phone if Night Service is activated or if the call is on a Private Line.

- An error tone will sound 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 21) 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, then page the person you want to transfer to. 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."

"Park Hold" will appear on the display.

**To retrieve a parked call:**

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Dial "76."

3. Dial the number of the extension that parked the call.

   "CO TALK TRK #1" will appear on the display if the call was parked on line 1.

## Related Programming

- FF1 (System): Park Recall Timer

## Considerations

- An alarm tone will sound 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 at from other extension using the Direct Call Pickup feature. The Direct Call Pickup feature can also be programmed into a One-Touch key.

### Operation

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Dial "79."

3. Enter the number of the ringing extension.

   • The extension number or the outside line number of the caller will appear on the display.

   • The **EXT** LED will light or the MCO or ML key.

4. Speak when your call is answered.

5. Replace the handset.

   The **EXT** LED will go off.

### Related Programming

   • FF1 (System): Extension Class of Service (CPC-B 3.1 or higher)

   • FF3 (Extension): Class of Service (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 arrived 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 within your Paging Group without entering the number of the extension that is ringing. Group Call Pickup can also be programmed into an FF key.

## Operation

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Dial "70."

   - The extension number or the outside line number of the caller will appear on the display.

   - The **EXT** LED will light.

3. Speak when your call is answered.

4. Replace the handset.

   The **EXT** LED will go off.

## Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (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 will flash green.

   - You will hear intercom dial tone from the handset.

   - "Hold #01" will appear on the display if the call is on line 1.

2. Dial the extension number to which the call is to be transferred.

   "Call-EXT 135" will appear on the display if you dialed extension 135.

3. Replace the handset before the other party answers.

   - You can also replace the handset after the third party answers.

   - The line LED for the original outside line will turn red when the call has been transferred.

   - "Transf 135 #01" will appear on the display if a call on line 1 is transferred to extension 135.

   - The third party need only pick up the handset to speak to the outside line.

## Related Programming

- FF1 (System): Onhook Transfer

- FF1 (System): Extension Transfer Recall Timer

- FF1 (System): Attendant Transfer Recall Timer

## Considerations

- In order to transfer a call 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**, then going onhook.

- In Onhook Transfer is enabled, calls can also be transferred 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 then 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 will flash green.

    • You will hear intercom dial tone from the handset.

    • "Hold TRK #01" will appear on the display if the call is on outside line 1.

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 will stop flashing and remain lit.

    • "Talk-EXT 135" will appear on the display if extension 135 answered.

4. Hang up the handset.

    • The line LED for the original outside line will turn 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 will flash green.

    • You will hear intercom dial tone from the handset.

    • "Hold TRK #01" will appear on the display if the call is on line 1.

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 will stop flashing and remain lit.

- "Talk-EXT 135" will appear on the display if extension 135 answered.

4. Press the **PROG** key or dial "8."

- The line LED for the original outside line will turn red.

- "TRF 135 TRK #01" will appear on the display if a call on line 1 is transferred to extension 135.

- The third party need only pick up the handset to speak to the outside line.

5. Hang up to complete the transfer.

## Related Programming

- FF1 (System): Onhook Transfer

- FF1 (System): Extension Transfer Recall Timer

- FF1 (System): Attendant Transfer Recall Timer

## 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 will sound at your extension after Transfer Recall Timer expires. The other extension's number and the number of the transferred CO line or extension will then appear on your display and the call will be 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 8.* *Call Waiting Text Messages*

| Message Code | Message |
|---|---|
| 5 | "Visitor Here" |
| 6 | "Need Help" |
| 7 | "Important" |
| 8 | "Urgent" |
| 9 | "Emergency" |

Message codes 0 ~ 4 cannot be used.

With 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 95.

## *Operation*

**To set Call Waiting:**

1. Press the **ON/OFF** key.

2. Dial the extension number.

   You will hear a busy tone from the speaker.

3. Press "3."

   • The **EXT** LED will flash.

   • "Call Wait 157" will appear on the display if you called extension 157.

4. If you want to send a text message, dial the desired message code (5 ~ 9).

   The corresponding message will display on the called party's phone. (If the called party does not have a display, he or she will continue to hear a call waiting indication.)

5. Remain on the line until the called party picks up.

**To answer Call Waiting:**

1. The **EXT** LED will flash, indicating Call Waiting has been sent.

2. "Call Wait 135" will appear on the display if extension 135 sent the Call Waiting.

3. Replace the handset.

   • The current call will be disconnected.

   • "Call Wait-100" will appear on the display.

4. Pick up the handset.

   • You will automatically be connected to the extension sending the Call Waiting.

   • "Talk-EXT 100" will appear 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 connected to the waiting party immediately.

**To answer Call Waiting using the Talk Back key:**

A "Talk Back" key 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 will flash red, indicating Call Waiting has been sent.

2. Press the Talk Back key to answer Call Waiting.

   • The LED of the Talk Back key will flash green.

   • The current call will be held automatically.

3. Press the Talk Back key again to return to the original call.

   The LED of the Talk Back key will go off.

## Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Call Waiting Notification Tone

- FF3 (Extension): Call Waiting (Receive)

- FF5 (FF Key Settings): FF Key Assignments for Extensions

## Considerations

- When using an SLT, message code 8 cannot be used. (The digit "8" is used to transfer calls on SLTs.)

- Call Waiting can be used without entering a message code.

- Call Waiting is cancelled when the sender replaces the handset.

- If the extension called 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 programmed and an outside line is placed on hold to answer Call Waiting, make sure you 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-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 talking on a call and receive an indication of a incoming intercom call, press CONF then dial 1-5.

The following table shows the default text associated with messages 1 to 5.

| Message Number | Message Definition |
|---|---|
| 1 | Take A Message |
| 2 | Please Hold |
| 3 | Will Call Back |
| 4 | Transfer |
| 5 | Unavailable |

Messages 1-5 can be changed through system programming.

## Programming

- FF6 (Names and Messages): Call Waiting/OHVA Text Reply

## Considerations

- Text messages 1-5 can be changed from an attendant phone or a DSS/72.

# 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.

   You will hear a busy tone if the extension is busy.

3. Press "3."

   - You will hear ringback tone.

   - If the Camp-on feature cannot be set, you will continue to hear a busy tone.

4. Replace the handset after you hear the ringback tone.

5. Wait for the station callback ring.

**To answer the callback ring:**

1. Pick up the handset when you hear the callback ring.

   • "Camp-on Call" will appear on the display.

   • The **EXT** LED will flash.

   • The system will automatically dial the called extension.

2. Speak when your call is answered.

## Related Programming

   • FF3 (Extension): Call Waiting Notification Tone/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.

   • The callback ring cannot be accepted by a station 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.

# 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.

   • You will hear the outside dial tone.

   • The line LED will light green.

   • "CO TALK #01" will appear on the display if you are using CO line 1.

2. Dial the telephone number.

   The dialed number will appear on the display.

3. Pick up the handset and speak when the call is answered.

4. Replace the handset.

   • The line LED will change from green to red and then go off.

   • The time and date will reappear on the display.

## Related Programming

   • FF1 (System): SMDR Display Start Timer for Central Office Calls

   • FF5 (FF Keys): FF Key Assignments for Extensions

## Considerations

- The duration of a call is shown on the display while the call is in progress.

- In CPC-A and CPC-B Versions prior to 3.1, the SMDR Display Start Timer can be set to start after 16 seconds or 30 seconds after the last digit of the telephone number is dialed.

  In 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 will appear on the display.

2. Press an unlit line key or dial the number of the extension you wish to add to the call.

   - The line LED will light green.

- You will hear the outside dial tone from the handset.

- "CO TALK #01" will appear on the display if you chose CO line 1.

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 will appear on the display.

4. Press the CONF key when your call is answered.

   If you are now conducting a three-way Conference Call involving outside line 2, CO 1, and CO 2, "CONF #01 #02" will appear on the display.

5. Repeat steps 1 ~ 4 to add a fourth party to a three-party Conference Call.

## To add an extension to an outside call:

1. Press the CONF key during the outside call.

2. The party at the extension who wishes to join the call must pick up the handset.

3. The party joining the call must press the line key of the call in progress. (The line key LED will be lit red.)

   Steps 2 and 3 must be completed within five seconds of each other.

4. Pick up the handset.

   The three parties will now be able to speak to one another.

5. Repeat steps 1 ~ 4 to add another extension to a three-party Conference Call.

## *Considerations*

- 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.

# 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 will go to Attendant "1" first. If attendant "1" is busy, the call will then go to Attendant "2." The call will continue to transfer to the next attendant in the attendant group if necessary.

With CPC-A and CPC-B Version 1.0, 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**.

   You will hear intercom dial tone.

2. Press "0."

   - "Talk-EXT 100" will appear on the display if your extension is set for Voice Calling.

   - "Call-EXT 100" will appear on the display if your extension is set for Tone Calling.

## Related Programming

- FF1 (System): Second Attendant Position

- FF1 (System): Third Attendant Position

- FF1 (System): Fourth Attendant Position

- FF1 (System): Attendant Transfer Extension Position

- FF6 (Names and Messages): Extension Name

## Considerations

- If the Attendant's name has been stored, the name will appear on the display instead of the extension number.

# 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:

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "88," then enter the desired line number (01 ~ 64).

   • You will hear the outside dial tone from the speaker.

   • "CO TALK #05" will appear on the display if you chose line 5.

3. Dial the telephone number.

   The number will appear on the display.

4. Pick up the handset and speak when your call is answered.

5. Replace the handset.

## Considerations

   • You cannot use the Direct Trunk Access feature if you are holding a call that does not appear on a CO line key.

# 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:

    • You will hear intercom dial tone from the speaker.

    • The **ON/OFF** LED will light.

2. Dial "73."

    • The **DND/CF** LED will light.

    • "DND Set" will appear on the display.

3. Press the **ON/ OFF** key.

    The **ON/OFF** LED will light.

### To cancel DND:

1. Press the **ON/OFF** key:

    • You will hear intercom dial tone from the speaker.

    • The **ON/OFF** LED will light.

2. Dial "73."

    • The **DND/CF** LED will light.

    • "DND Canceled" will appear on the display.

3. Press the **ON/ OFF** key.

The **ON/OFF** LED will go off.

## Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (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.

- Setting DND automatically cancels the Call Forwarding and Absence Message features.

- 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 increases the number of FF keys by twenty-four. 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 twelve dial keys or 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 Call Forwarding-External and either a Personal Speed Dial code or a System Speed Dial code to an FF key. Or you can assign a pilot extension number as a Call Forwarding destination by storing both Call Forwarding and the pilot extension number (0, 10 ~ 69, or 100 ~ 699) in an FF key.

## *Operation*

**To assign pre-programmed codes to an FF key:**

1. Press the **ON/OFF** key:

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the **PROG** key.

   "F" will appear on the display.

3. Press the FF key to be programmed.

   "Enter Code" will appear on the display.

4. Enter the code to be programmed (see Table 9).

   The code programmed will appear on the display.

5. Press the **HOLD** key.

   "Code Stored" will appear on the display.

6. Repeat steps 2 ~ 5 to program additional keys.

7. Press the **ON/OFF** key.

   The **ON/OFF** LED will go 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" will appear on the display.

4. Press the **PROG** key.

5. Enter up to six digits.

6. Press the **HOLD** key.

**To assign Call Forwarding--External 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" will appear 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).

   **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 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" will appear 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" will appear on the display.

4. Press the **HOLD** key.

   "Code Cleared" will appear.

## To check a programmed FF key:

1. Press the **ON/OFF** key:

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the **CONF** key.

   "C" will appear in the display.

3. Press the FF key to be checked.

   The programmed data will appear on the display.

4. Press the **ON/OFF** key.

   • The **ON/OFF** LED will go off.

   • The date and time will 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:

*Table 9.   Feature access codes for FF key assignments*

| Feature | Code to be entered |
|---|---|
| Call Attendant | 0 |
| Intercom Call | Extension number (10 ~ 69) or (100 ~ 699) |
| Outside Line | 88, outside line number (01 ~ 32) |
| Pooled Trunk Access | Outside line group number (9, 81 ~ 86)<br>**Note:** "9" can used as an outside line group number if it is not used for LCR. |
| LCR | 9 |
| Paging | #, Paging Group number (00 ~ 07) |
| Call Park | 75 |
| DND Activate/ Cancel | 73 |
| Absence Message Activate/Cancel | 71 |
| Call Forwarding | 72 |
| Alarm 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 | #79, account code (max. 6 digits) |
| Account Code 2 | **AUTO**, #, account code (max. 6 digits) |
| Speed Dialing | **AUTO**, speed dial number (00 ~ 99) |
| Night Service On/ Off | #52 (Attendant only) |
| Intercom | #8 |

| Feature | Code to be entered |
|---|---|
| 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 Answer Pickup | 78 |
| Save Dial Call | AUTO, * |
| Register Save Dial | AUTO, AUTO |
| MUTE Key | *# |
| FLASH key | FLASH |

- 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" will then appear 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 making a call using the Speed Dialing feature, the FLASH key stored in Speed Dialing becomes the PBX flash feature.

# Handsfree Answerback

(All Versions)

## Description

You can answer a call without lifting the handset using the Handsfree Answerback feature. However, your extension must be programmed for Voice Calling to use this feature. If your extension 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

- Users should stay within three feet of the telephone when they speak.

- When using a large display phone, the **MUTE** feature can be selected from the Menu screen on the display. With other DBS key phones, the **MUTE** function is assigned to a fixed key.

# 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. Pick up the handset.

   You will hear intercom dial tone from the handset.

   **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 a "1."

   • "Talk-EXT 125" will appear on the display if you called extension 125. If the extension name has been stored, that name will appear on the display after "Talk" instead of "-EXT 125."

   • The EXT LED will light.

4. Speak when your call is answered.

5. Replace the handset.

   The EXT LED will go off.

**To transfer a call using Voice Calling:**

1. Press the **HOLD** key.

   • The **EXT** LED will flash.

   • "Hold-EXT 135" will appear on the display if you placed extension 135 on hold.

2. Dial the number of the extension to which the call will be transferred.

3. If the system default is tone calling, dial a "1."

   "Talk-EXT 157" will appear on the display if you are transferring the call to extension 157.

4. Replace the handset.

**To make an Tone Call:**

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

   **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 a "1."

   • "Call-EXT 125" will appear on the display if you called extension 125. If the extension name has been stored, that name will appear on the display rather than the extension number.

   • The called extension will ring and the **EXT** LED will flash.

4. Speak when your call is answered.

   "Talk-EXT 125" will appear on the display if you called extension 125. If the extension name has been stored, the name will appear on the display after "Talk" instead of "-EXT 125."

5. Replace the handset.

The **EXT** LED will go off.

**To transfer a call using Tone Calling:**

1. Press the **HOLD** key.

   • The **EXT** LED will flash.

   • "Hold-EXT 135" will appear on the display if you placed extension 135 on hold.

2. Dial the number of the extension to which the call will be transferred.

3. If the system default is voice calling, dial a "1."

   "Call-EXT 157" will appear on the display if you are transferring the call to extension 157.

4. Replace the handset.

## Related Programming

   • FF1 (System): Extension Intercom Calling

   • FF1 (System): Alert Tone for Voice Calls

   • FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

   • FF3 (Extension): Class of Service (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 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 DISA incoming calls.

   • Voice calls do not forward if Cover No Answer is turned on.

114

# 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.

   • You will hear the outside dial tone from the speaker.

   • The line LED will light green.

   • "CO TALK #01" will appear on the display if you are using CO line 1.

2. Press the **REDIAL** key.

   The last number dialed will appear on the display.

3. Pick up the handset and speak when your call is answered.

4. Replace the handset.

   The line key LED will change from green to red, then go 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. 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.

# Line Appearances

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 10. MCO and ML key definitions*

| Key | Definition |
|---|---|
| Extension Line (EL) Appearances | EL keys provide one-touch dialing, direct station selection, and busy lamp fields for extensions. |
| Direct Line (DL) Appearances | DL keys are used to originate and receive calls over specific trunk numbers. |
| Multi-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. |

## Extension Line (EL) Appearances
(CPC-B Version 2.0 or higher)

### Description

When an EL key is programmed, it automatically provides direct station selection and busy lamp field for the assigned extension number. If desired, the EL key can also provide ring monitor.

For example, you can set extension A as an EL key to extension B. When extension A rings, the LED of the EL key on extension B flashes. If extension B answers the call by pressing the EL key, the LED on extension A will go off and the call will only remain on the EL 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 EL 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 EL key on extension B will light red. If one extension has the Absence Message, Call Forwarding, or Do-Not-Disturb feature activated, the EL key will light green.

116

## *Operation*

### To assign an EL key:

    1. Press the **PROG** key.

    2. Press the FF key you want to assign the EL appearance to.

    3. Dial the extension number.

### To make an intercom call using the EL key:

    Press the idle EL key.

### To pick up a call on an EL key:

    Press the flashing EL key.

## *Related Programming*

- FF1 (System): Extension (BLF) Delayed Ring

- FF4 (Ringing and Hunt Groups): Extension Ring Assignment

- FF5 (FF Keys): FF Key Assignments for Extensions

## *Considerations*

- Ringing assignments for EL keys are assigned through system programming.

- If several calls arrive at an Extension Line key, the calls are queued and will ring on a first-in, first-out basis.

# Direct Line (DL) Appearances
(CPC-B Version 2.0 or higher)

## Description

Direct Line keys can be assigned to any one of sixty-four CO lines for making and receiving outside line calls. 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 *light* red.

## Operation

| Operation | Action |
|---|---|
| To originate a trunk call ... | Press an idle DL key.<br>The key blinks (green) as the call is made. |
| To place a call on Exclusive Trunk Hold (page 96) ... | Press the DL key. |
| To place a call on System Trunk Hold (page 81) ... | Press the **HOLD** key. |
| To transfer a call ... | Press **HOLD**, dial the destination extension, then press **PROG**. |

## Related Programming

- FF1 (System): Least Cost Routing

- FF2 (Trunks): Trunk Group Assignment

- FF3 (Extension): Forced LCR

- FF5 (Keys): FF Key Assignment

- FF8 (LCR) LCR Setting

# 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 three MCO keys. The Attendant can have up to 12 MCO keys.

An MCO key can be assigned to any of the pooled trunk groups. See "Pooled Trunk Access" on page 134 for more information.

See "ML/MCO Separation" (page 120) for information on assigning both ML and MCO keys to the same system (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 96) ... | Press the MCO key. |
| To place a call on System Trunk Hold (page 81) ... | Press the HOLD key. |
| To transfer a call ... | Press HOLD, dial the destination extension, then press PROG. |

## Related Programming

- FF1 (System): Least Cost Routing

- FF2 (Trunks): Trunk Group Assignment

- FF3 (Extension): Forced LCR

- FF5 (Keys): FF Key Assignment

- FF8 (LCR) LCR Setting

## *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-Line (ML) Appearances
(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 three Multi-Line keys. The Attendant can have up to 12 Multi-Line keys.

See "ML/MCO Separation" (page 122) for information on assigning both ML and MCO keys to the same system (CPC-B Version 4 or higher).

## *Operation*

| *Operation* | *Action* |
|---|---|
| To originate an intercom or trunk call ... | Press an idle MCO key. The key blinks (green) as the call is made. |
| To place a call on Exclusive Hold (page 96) ... | Press the MCO key. |
| To place a call on System Hold (page 81) ... | Press the **HOLD** key. |
| To transfer a call ... | Press **HOLD**, dial the destination extension, then press **PROG**. |

## Related Programming

- FF1 (System): Least Cost Routing

- FF2 (Trunks): Trunk Group Assignment

- FF3 (Extension): Forced LCR

- FF5 (Keys): FF Key Assignment

- FF8 (LCR) LCR Setting

## 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 will begin 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 will flash green and the extension will ring.

- If another phone answers an incoming trunk call, the ML LED on your extension will go off and the ringing will stop, 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 with the lowest number.

- If the CO line or held extension does not respond before the Recall Timer expires, the extension will ring and the Multi-Line key will flash 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-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 10 contains definitions of MCO and ML keys. Table 11 shows MCO/ML availability with previous releases.

*Table 11. 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-B 4.0 and above | MCO or ML |

## Related Programming

- FF3 (Extension): ML/MCO Separation

- FF5 (Keys): FF Key Assignment

## Considerations

- The initial setting for all extensions (except the first 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. Pick up the handset from any extension at which you hear the Paging call.

   You will hear intercom dial tone from the handset.

2. Press "77."

   - Paging will cease and you will be connected to the party trying to reach you.

   - The **EXT** LED will light.

3. Speak to the party that paged you.

## Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 4.0 or higher)

## Considerations

- The Meet-Me Answer feature cannot be used with Paging Group 00.

- 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 the Paging call.

- If you are at a speakerphone, you can press the **ON/OFF** key instead of picking up the handset to answer the Paging Call. 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 135," "Busy-EXT 135" or "Talk-EXT 135" will appear on the display if you attempt to call extension 135.

3. Dial "2" at the busy tone or while the telephone is still ringing.

   "Accept Message" will appear on the display.

4. Press the **ON/OFF** key.

   The Message Waiting lamp will flash at the called extension.

### To answer a Callback Request:

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Press the **AUTO** key.

3. Press the **REDIAL** key.

   - Your telephone will automatically dial the extension that left the Callback Request.

   - If extension 135 left the Callback Request and your extension is set for Tone Calling, "Call-EXT 135" will appear on the display.

- If extension 135 left the Callback Request and your extension is set for Voice Calling, "Talk-EXT 135" will appear on the display.

4. Speak when your call is answered.

The **EXT** LED will light.

The Message Waiting lamp will go 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.

- You will hear intercom dial tone from the speaker.

- The **ON/OFF** LED will light.

2. Press the **CONF** key twice.

The most recent Callback Request will appear on the display.

3. Press the **ON/OFF** key.

The **ON/OFF** LED will go off.

4. Repeat steps 2 and 3 to view other Callback Requests.

## To cancel a Callback Request:

1. Press the **ON/OFF** key.

- You will hear intercom dial tone from the speaker.

- The **ON/OFF** LED will light.

2. Press the **AUTO** key.

3. Press the **FLASH** key.

   "Call Back Cancel" will appear on the display.

4. Press the **ON/OFF** key.

   The **ON/OFF** LED will go off.

## *Related Programming*

- FF1 (System) Extension Class of Service (CPC-B Version 3.01 or higher)

- FF3 (Extension) Class of Service (CPC-B Version 3.01 or higher)

## *Considerations*

- When your extension has received several Callback Requests, the number of requests will appear 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, any Callback Requests you 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.

# Off-Hook Voice Announce (OHVA)

(All Versions)

## Description

You can interrupt a busy extension when making an Intercom Call, then make an announcement that only the called party can hear using the Off-Hook Voice Announce (OHVA) feature. 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 you will hear the busy tone.

3. Press "5."

   - "CONF131 135" will appear on the display if you called extension 135 from extension 131 while extension 135 was speaking with another extension.

   - "CONF 01 135" will appear on the display if you called extension 135 while extension 135 was speaking with an outside line.

   - The **EXT** LED will flash.

   - "Voice Announce" will appear on the called extension's display.

   - The Talk Back key will flash red.

4. Make your announcement.

**To answer an OHVA:**

1. Press the Talk Back key (must be programmed in an FF key).

   • The Talk Back key's LED will flash green.

2. Speak with the caller.

3. 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.

   You will hear a busy tone if the extension is already engaged in 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.

   If the transferred call is accepted and Onhook Transfer is enabled for your
   extension, hang up. If OnHook Transfer is not enabled, press **PROG** 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 will ring.

2. Pick up the handset.

## *Related Programming*

   • FF1 (System): Extension Class of Service (CPC-B 3.1 or higher)

   • FF3 (Extension): Class of Service (CPC-B 3.1 or higher)

   • FF3 (Extension): Call Waiting Notification Tone/Offhook Voice Announce

## 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.

   - You will hear intercom dial tone from the speaker.

   - The **ON/OFF** LED will light.

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 12.)

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.

   - You will hear intercom dial tone from the speaker.

   - The **ON/OFF** LED will light.

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 will go off.

**To assign two System Speed Dial numbers to a single One-Touch key:**

1. Press the **ON/OFF** key.

   - You will hear intercom dial tone from the speaker.

   - The **ON/OFF** LED will light.

2. Press the **PROG** key.

3. Press the One-Touch key to be programmed.

4. Press the **AUTO** key.

5. Enter the Speed Dial number for the access code.

6. Press the **REDIAL** key.

   This inserts a pause between the access code and the telephone number.

7. Press the **AUTO** key.

8. Enter the Speed Dial number for the telephone number.

9. Press the **HOLD** key.

   Both the access code and the telephone number are programmed on the One-Touch key.

10. Press the **ON/OFF** key.

    The **ON/OFF** LED will go off.

## To assign access codes to a One-Touch key:

1. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the **PROG** key.

3. Press the One-Touch key to be programmed.

4. Enter the access number.

5. Press the **REDIAL** key.

   This inserts a pause between the access code and the telephone number.

6. Press the **HOLD** key.

7. Press the **ON/OFF** key.

   The **ON/OFF** LED will go off.

**To check a programmed One-Touch key:**

1. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the **CONF** key.

   "C" will appear in the display.

3. Press the One Touch key to be checked.

   The programmed data will appear on the display.

4. Press the **ON/OFF** key.

   • The **ON/OFF** LED will go off.

   • The date and time will appear 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.

• Selection of an outside line group is made when programming a One-Touch key. A free line is then selected from that group when dialing 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 12. 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 being set.

# 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 then be divided into seven Pooled Trunk groups. If you store an FF key as an MCO or ML key, an open line from the Pooled Trunk group assigned to that key can be selected automatically.

Even if all the outside lines assigned to an extension are busy, a free line can be selected by choosing an outside line group number. Group numbers 9 and 81 ~ 86 are available.

## Operation

### To select a Pooled Trunk group using a pre-programmed FF key:

1. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Press the ML or MCO key.

   • The LED of the Pooled Trunk key will light green.

   • You will hear the outside dial tone from the speaker.

   • "CO TALK #01" will appear on the display if line 1 is accessed.

3. Dial the telephone number.

   The number will appear on the display.

4. Pick up the handset and speak when your call is answered.

5. Replace the handset.

   The LED of the ML or MCO key will go off.

**To select a Pooled Trunk group that is not assigned to an FF key:**

1. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Enter the desired group number (81 ~ 86, 9).

   • You will hear the outside dial tone from the speaker.

   • "CO TALK #05" will appear on the display if line 5 is accessed.

3. Dial the telephone number.

   The number will appear on the display.

4. Pick up the handset and speak when your call is answered.

5. Replace the handset.

## Related Programming

   • FF1 (System): Least Cost Routing

   • FF2 (Trunks): Trunk Group Assignment

   • FF3 (Extension): Forced LCR

   • FF5 (Keys): FF Key Assignment

   • FF8 (LCR) LCR Setting

## Considerations

   • The LED of the ML or MCO key will light red and you will hear a 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 will be 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. This feature can be programmed to always access a specific trunk or an entire trunk group. (Be sure to program one of the other FF keys as an intercom key.)

## Operation

1. Pick up the handset.

   - You will hear the outside dial tone.

   - The LED of line key 1 will light green if line 1 is accessed.

   - "CO TALK #01" will appear on the display if line 1 is accessed.

2. Dial the telephone number.

   The number will appear on the display.

3. Speak when your call is answered.

## Related Programming

- FF1 (System): Least Cost Routing

- FF2 (Trunks): Trunk Group Assignment

- FF3 (Extension): Forced LCR

- FF5 (Keys): FF Key Assignment

- FF3 (Extension): Prime Line Pickup

### Considerations

- To make an Intercom Call, first press the FF key programmed as an intercom key, then dial the extension number.

- This feature will only work if FF key 1 is assigned to an outside line or a Pooled Trunk Access feature.

- This feature cannot be used with a SLT.

# Private Line

(All Versions)

### Description

An outside line can be reserved for exclusive access, eliminating the need for that user to wait for a free outside line during busy periods.

### Operation

1. Press the CO line key designated as a Private Line.

   - You will hear the outside dial tone.

   - The line LED will light green.

   - "CO TALK #01" will appear on the display if the Private Line is line 1.

2. Dial the telephone number.

   The number will appear on the display.

3. Pick up the handset and speak when your call is answered.

4. Replace the handset.

   The line LED will go off.

## Related Programming

- FF2 (Trunks): Private Central Office Line

- FF1 (System): Least Cost Routing

- FF2 (Trunks): Trunk Group Assignment

- FF3 (Extension): Forced LCR

## Considerations

- Calls to a Private Line will cause an extension to ring even if the DND or the Absence Message feature is activated for that extension.

- Calls to a Private Line will not be forwarded, even if Call Forwarding is activated.

- No matter how long a call on a Private Line is on hold and even if the overtime warning tone is ignored, no warning tone will sound at the Attendant Phone.

- When a private line is assigned, the Toll Restriction assignment for the private line changes to "0" for all other extensions. Ringing assignments for all other extensions are also removed for the private line.

# Reminder Call

(All Versions)

## Description

Your telephone can remind you of important meetings, deadlines, etc., with the Reminder Call feature.

## Operation

### To set the Reminder Call feature:

1. Press the **ON/OFF** key.

    • You will hear intercom dial tone from the speaker.

    • The **ON/OFF** LED will light.

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 will go off.

    • "Alarm 03:25 PM" will appear on the display if you programmed the Reminder Call to sound at 3:25 p.m.

### To cancel the Reminder Call feature:

1. Press the **ON/OFF** key.

    • You will hear intercom dial tone from the speaker.

    • The **ON/OFF** LED will light.

2. Dial "#4."

    "Enter Time HHMM" appears on the display.

3. Press the **ON/OFF** key.

- The **ON/OFF** LED will go off.

- "Alarm 03:25 PM" will disappear from the bottom line of the display.

## Considerations

- A sixteen-second alarm tone will be sounded 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 will be 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 to store a number that will not be lost as soon as you dial a different number.

Saved Number Redial applies only to outside numbers, not 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.

   • You will hear the outside dial tone from the speaker.

   • The line LED will light green.

   • "CO TALK #01" will appear on the display if you are using CO line 1.

2. Press the **AUTO** key.

3. Press "*."

   The dialed number will appear on the display.

4. Pick up the handset and speak when your call is answered.

5. Replace the handset.

   The line LED will change from green to red, then go off.

## Considerations

   • Any previously saved number will be 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 Speed Dialing codes can be redialed.

# Speed Dialing

(All Versions)

## Personal Speed Dialing

### Description

Frequently called numbers can be stored using the Personal Speed Dial feature, saving time and avoiding wrong numbers. Personal Speed Dial numbers are programmed at each extension. Up to ten Personal Speed Dial Numbers can be stored.

It is also possible to enter names of up to sixteen characters in each of the Speed Dial numbers. Then, when using the Personal Speed Dial feature from a display phone, a programmed entry can 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 programming phone.

### Operation

**To assign Personal Speed Dialing to a One-Touch Key:**

1. Press **ON/OFF.**

2. Press **PROG.**

3. Press a One-Touch key.

4. Include a trunk access code if you like. If you include an access code, you do not have to press a line key before using the One-Touch key.

   To include an access code, press **CONF** then 9 or 1 ~6. (1 ~ 6 stands for trunk groups 81 ~ 86.)

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, you press an unlit line key before pressing the Speed Dial key.

    • You will hear outside dial tone from the speaker.

    • The line LED will light green.

    • "CO TALK #01" will appear on the display if you are using CO line 1.

2. Pick up the handset and speak when your call is answered.

3. Replace the handset.

    The line LED will change from green to red, then go off.

**To check a programmed Personal Speed Dial key:**

1. Press the **ON/OFF** key:

    • You will hear intercom dial tone from the speaker.

    • The **ON/OFF** LED will light.

2. Press the **CONF** key.

    "C" will appear in the display.

3. Press the Personal Speed Dial key to be checked.

    The programmed data will appear on the display.

4. Press the **ON/OFF** key.

    • The **ON/OFF** LED will go off.

**To assign a name to a Personal Speed Dial number:**

1. Press the ON/OFF key.

   • You will hear intercom dial tone from the speaker.

   • The ON/OFF LED will light.

2. Press the **PROG** key.

3. Press "#1."

   "Speed Dial Name" will appear on the display.

4. Press the **AUTO** key.

5. Enter the Personal Speed Dial code.

6. Press **AUTO** to backspace and erase the existing name.

7. Use the dialpad sequences shown Table 3 on page 57 to enter letters and/or numbers.

   Press **FLASH** after each letter.

   Press **CONF** to switch between numbers and letters.

8. To store your 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*

- FF7 (Toll Restrictions): Toll Restrictions

- FF10 (System and Personal Speed Dial): Personal Speed Dial Numbers

## *Considerations*

- Personal Speed Dial numbers can contain up to sixteen characters, including the "*," "#," FLASH (indicate "-"), PAUSE (REDIAL), CONF, and AUTO keys.

- A dash ("-") can be displayed in the Personal Speed Dialing number. To display a dash, press the FLASH key where you want the dash to appear.

- If you make a mistake while programming, an alarm tone will sound and "ERROR" will appear 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 also programmed using a DSS console connected to the Attendant Phone.

- If the called party's telephone number and name are stored in the One-Touch feature memory, the display will show that number and name when making the call.

- Speed Dialing cannot be checked while Station Lockout is activated.

# System Speed Dial

## Description

Frequently called numbers can be stored using the System Speed Dial feature, saving time and avoiding wrong numbers. System Speed Dial numbers are programmed from the Attendant Phone and can be used by any extension, as opposed to Personal Speed Dial numbers, which are exclusive to each individual extension. Up to 90 System Speed Dial Numbers can be stored.

## Operation

### To use a programmed System Speed Dial key:

1. Press an unlit line key.

   - You will hear the outside dial tone from the speaker.

   - The line LED will light green.

   - "CO TALK #01" will appear on the display if you are using CO line 1.

2. Press the **AUTO** key.

   "A" will appear on the display.

3. Enter the System Speed Dial code (00 ~ 89).

   The number dialed and the corresponding name will appear on the display.

4. Pick up the handset and speak when your call is answered.

5. Replace the handset.

   The line LED will change from green to red, then go off.

**To check a programmed System Speed Dial key:**

1. Press the ON/OFF key.

   • You will hear intercom dial tone from the speaker.

   • The ON/OFF LED will light.

2. Press the CONF key.

   "C" will appear in the display.

3. Press AUTO.

4. Dial the System Speed Dial key to be checked.

   The programmed data will appear on the display.

5. Press the ON/OFF key.

   • The ON/OFF LED will go off.

   • The date and time will appear on the display.

## Related Programming

   • FF1 (System): Override TRS for System Speed Dialing

   • FF10 (Speed Dialing): System Speed Dialing

## Considerations

   • If numbers do not appear on the display when the System Speed Dial code (00 ~ 89) is entered, your extension has been programmed to not show these entries.

   • 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 a Toll Restriction (2 ~ 6) is set.

   • Speed Dialing cannot be checked while Station Lockout is activated.

# Station Lockout

(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.

### To activate Station Lockout:

1. Press the **ON/OFF** key.

   • You will hear the intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "74."

   "Enter Code #" will appear on the display.

3. Dial the Station Lockout code.

4. Press the **ON/OFF** key.

   "Set Sta. Lock" will appear on the display.

### To deactivate Station Lockout:

1. Press the **ON/OFF** key.

   • You will hear intercom dial tone from the speaker.

   • The **ON/OFF** LED will light.

2. Dial "74."

   "Enter Code #" will appear on the display.

3. Dial the Station Lockout code.

4. Press the **ON/OFF** key.

   "Set Sta. Lock" will disappear from the display.

## Considerations

- A locked extension can be used for Intercom Calls.

- Station Lockout key codes can only be set from an attendant phone or a programming 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, you will hear a busy 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 will be put on hold.

   - "Hold #01" will appear on the display if line 1 is put on hold.

2. Press an unlit CO key.

   - You will hear the outside dial tone.

   - "Talk #02" will appear on the display if you chose line 2.

3. Dial the telephone number of the party which you would like to connect with your original call.

4. Speak when your call is answered.

Inform the person at the other end that you are going to connect the two lines.

5. Press the CONF key.

   • A three-party Conference Call will be initiated.

   • "Conf #01 #02" will appear on the display if you are connected to lines 1 and 2.

6. Press one of the CO keys.

   • The two outside lines will be connected.

   • "Hold #01 #02" will appear on the display if lines 1 and 2 are connected.

## Related Programming

   • FF1 (System): Unsupervised Conference Timer

   • FF2 (Trunks): Unsupervised Central Office Line Conference

   • FF3 (Extensions): Unsupervised Conference

## Considerations

   • After the Trunk-to-Trunk Transfer is completed, you can no longer add another party to initiate a three-party Conference Call.

   • When the call is finished, the conference information will disappear from the display and your extension will return to normal operation.

   • When the Unsupervised Conference Timer expires, the call will be automatically disconnected.

# Chapter 4. DSLT Features

This chapter describes features that are available with the Digital Single Line Telephone (DSLT).

Figure 6 illustrates the DSLT. For more information on DSLT operation, see the *Digital SLT User's Guide (Section 790)*.

**Note:** The DSLT can only be used with CPC-B Version 3.1 or higher.

*Figure 6. Digital Single Line Telephone (DSLT)*

# Absence Message

## Description

DSLT users can leave text messages on their phone when they are away.

When the unattended extension is dialed by a key phone, the text message will display 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 13. 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 "71."

3. Enter a message code between 0 and 9 (See Table 13.).

4. Enter the time you will return (optional). See Table 14 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 "71."

3. Replace the handset or press **ON/OFF**.

## Related Programming

- FF1 (System) Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension) Class of Service (CPC-B Version 3.1 or higher)

- FF6 (Names and Messages): Absence Message

## Considerations

- Calling parties without a display get a busy signal, rather than the Absence Message.

- If a message code number that has not been programmed when a message is selected, "Absence," followed by the code number, will appear on the caller's display.

- Absence Message return times can be input as shown in Table 14:

*Table 14.  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).

- Setting an Absence Message cancels DND and Call Forwarding features.

- When an Absence Message is set on a DID station, incoming DID calls are routed according to the ringing assignment programmed for the incoming trunk.

# Busy Override

## 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 Calls.

## Operation

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Dial the extension number.

3. When you hear busy tone, dial "4."

   • An alert tone will sound to both phones (system programming required).

## Related Programming

• FF1 (System): Alert Tone for Busy Override and Offhook Voice Announce

• FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

• FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

• FF3 (Extension): Busy Override Send

• FF3 (Extension): Busy Override Receive

• FF3 (Extension): Extension Paging Groups

## 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

Call Forwarding allows users to send their calls to another extension, an outside line, or voice mail. The following call forwarding options are available.

**Call Forwarding--All Calls**. When the Call Forwarding--All Calls feature is activated, all incoming calls to an extension are forwarded immediately.

**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 will be 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**. When Call Forwarding-External is activated, all incoming *intercom* calls to an extension will be forwarded to an outside number. In order to forward to an outside number, the number must first be entered as a system or personal speed dial number.

Any speed dial number (00-99) can be used to store an outside number for call forwarding. (00~89 are system speed dial numbers; 90 ~ 99 are personal speed dial numbers.)

**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.

## *Operation*

**To activate Call Forwarding:**

1. Lift the handset or press ON/OFF.

   • You will hear intercom dial tone from the speaker.

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    |

4. If you're forwarding to an internal number, enter the number of the extension you want to receive your calls. If you're forwarding to an outside number, press **AUTO** plus the appropriate speed dial number.

   **Note:** To forward to an outside number, the number must already be programmed into personal or system speed dialing. (See page 182 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 (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Type (CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Extension (CPC-B Version 3.1 or higher)

- FF10 (System and Personal Speed Dial): System Speed Dial Numbers

- FF10 (System and Personal Speed Dial): 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.

- DND and Absence Messages cancel Call Forwarding.

- 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.

  - 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 10.

# Call Hold

## Description

The DSLT is provided with a **HOLD** key. The **HOLD** key is used to both place calls on hold and retrieve calls from hold.

The **HOLD** key provides either exclusive or system hold, depending on system programming. With Exclusive Hold, only the station that held the call can retrieve it. With System Hold, another station 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-appearance CO Line Hold

- FF1 (System): Extension Hold Recall Timer

- FF1 (System): Central Office Line Automatic 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 will sound at the Attendant Phone. However, no tone will sound at an Attendant Phone if Night Mode is activated.

- If your system is set to onhook transfer, you have placed an outside call on hold, and then you make an Intercom Call, you must 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 will sound if you attempt to place more than one call on hold at the same time.

- The DBS can provide music-on-hold to callers placed on hold. See "Music-On-Hold" (page 21) for more information.

# Call Park

## 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, then page the person to whom you would like 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.

   You will hear intercom dial tone from the handset.

2. Dial "76."

3. Dial the number of the extension that parked the call.

### Related Programming

- FF1 (System): Park Recall Timer

### Considerations

- An alarm tone will sound if a parked call is not released before the Park 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 Park 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 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.

# Call Pickup

DSLTs can use both directed and group call pickup.

## Direct Call Pickup

### Description

A call to any extension can be answered from any other extension using 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 (CPC-B 3.1 or higher)

- FF3 (Extension): Class of Service (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 arrived 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

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 extension that is ringing.

### Operation

1. Lift the handset.

2. Dial "70."

### Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (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 a 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 a 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

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

- FF1 (System): Onhook Transfer

- FF1 (System): Extension Transfer Recall Timer

## Considerations

- In order to transfer a call by pressing **HOLD**, dialing the extension, and going onhook, the Onhook Transfer feature must be enabled in system programming.

- 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 does not answer and does not have Call Forwarding activated, the transfer will recall to your extension after the Transfer Recall Timer expires.

  (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.)

# Screened Transfer

## Description

Using the Screened Transfer feature, you can contact a third party and announce the call before the transfer.

**To use Screened Transfer when your system is set for Onhook Transfer:**

1. Press the **HOLD** key to place the call on hold.

   - You will hear intercom dial tone from the handset. -

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.

   • You will hear intercom dial tone from the handset.

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 will stop flashing and remain 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 Transfer

   • FF1 (System): Extension Transfer Recall Timer

## 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 will recall to your extension after the Transfer Recall Timer expires.

   (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.)

# Call Waiting

## 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 the message sender's extension.

The following messages can be sent using the Call Waiting feature:

*Table 15. Call Waiting Text Messages*

| Message Code | Message |
|---|---|
| 5 | "Visitor Here" |
| 6 | "Need Help" |
| 7 | "Important" |
| 9 | "Emergency" |

Message codes 0 ~ 4 cannot be used.

## Operation

### To Set Call Waiting:

1. Lift the handset.

2. Dial the extension number.

   You will hear busy tone.

3. Press "3."

4. If you wish to send a text message, dial the desired message code (5-7 or 9).

   The message will display on the called party's phone if the called party has a key phone. (If the called party does not have a display, he or she will continue to hear a call waiting indication.)

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 will be disconnected.

2. Pick up the handset.

   - You will automatically be connected to the extension sending the Call Waiting.

**To answer Call Waiting (without disconnecting the current call):**

1. Press **HOLD**.

   - The current call will be disconnected.

   - The new call will be connected automatically.

2. Press **HOLD** again to retrieve the first call.

## Related Programming

- FF1 (System) Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Call Waiting Notification Tone

- FF3 (Extension): Call Waiting (Receive)

## Considerations

- Call Waiting can be used without entering a message code.

- If the extension called 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.

- If the extension called has call forwarding activated, call waiting cannot be sent unless the called extension has an available ML key.

# Camp-on

## *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. Lift the handset.

2. Dial the desired extension number.

   You will hear a busy tone if the extension is busy.

3. Press "3."

   • You will hear ringback tone.

   • If the Camp-on feature cannot be set, you will continue to hear a busy tone.

4. Replace the handset after you hear the ringback tone.

5. Wait for the station callback ring.

### To answer the callback ring:

1. Pick up the handset when you hear the callback ring.

   • The system will automatically dial the called extension.

2. Speak when your call is answered.

## *Related Programming*

• FF3 (Extension): Call Waiting (Receive)

## 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 cannot be activated by an extension that has call forwarding turned on.

- 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.

# Conference Calls

## 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. Dial a trunk group number (81 ~ 86 or 9).

3. Dial the outside number.

4. 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

## Description

The Attendant can be called from any extension by simply pressing "0."

If multiple attendants are assigned, a dial "0" call will go to Attendant "1" first. If attendant "1" is busy, the call will then go to Attendant "2." The call will continue 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 Position

# Direct Trunk Access

## 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)

## 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. 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 (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 4.0 or higher)

## Considerations

- Callback Queuing will ring an extension in DND.

- Setting DND automatically cancels the Call Forwarding and Absence Message features.

- The DND feature cannot be activated at an extension selected to receive Call Forwarding.

# Intercom Calling

## *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 will ring.

### Related Programming

- FF1 (System): Extension Intercom Calling

- FF1 (System): Alert Tone for Voice Calls

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (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

### 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

## 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 will cease and you will be connected to the party trying to reach you.

3. Speak to the party that paged you.

## Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 4.0 or higher)

## Considerations

- The Meet-Me Answer feature cannot be used with Paging Group 00.

- 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 the Paging call.

# Message Waiting/Callback Request

## 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. 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 Callback Request:

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Press the **AUTO** key.

3. Press the **REDIAL** key.

   • Your telephone will automatically dial 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*

- FF1 (System) Extension Class of Service (CPC-B Version 3.01 or higher)

- FF3 (Extension) Class of Service (CPC-B Version 3.01 or higher)

## *Considerations*

- Up to four Callback Requests can be sent to any one extension.

- If you call the same extension a second time and the party answers, any Callback Requests you 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.

# Off-Hook Voice Announce (OHVA)

## *Description*

You can interrupt a busy extension when making an Intercom Call, then make an announcement that only the called party can hear using the Off-Hook Voice Announce (OHVA) feature. 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.

   If the extension is busy you will hear the busy tone.

3. Press "5."

**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.

   You will hear a busy tone if the extension is already engaged in 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**.

2. Speak with the announcing party.

3. Press **CONF** again to disconnect the announcing party and return to the original call.

## *Related Programming*

- FF1 (System): Onhook Transfer

- FF1 (System): Alert Tone for Busy Override and Offhook Voice Announce

- FF1 (System): Extension Class of Service (CPC-B 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B 3.1 or higher)

- FF3 (Extension): Call Waiting Notification Tone/Offhook Voice Announce

## 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 set time limit, then return to the extension sending the OHVA. (The recall time can be 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

## Description

Onhook Dialing is a standard feature for the DSLT. To dial onhook, the user simply presses the **ON/OFF** key.

The DSLT does not include a microphone, so the user must lift the handset to talk.

# Pooled Trunk Access

## Description

The DBS system is designed to accept eight to 64 outside lines. These lines can be divided into seven Pooled Trunk groups.

A free line can be selected by choosing an outside line group number. Group numbers 9 and 81 ~ 86 are available.

## Operation

1. Lift the handset.

   • You will hear intercom dial tone from the speaker.

2. Dial the desired trunk group number (81 ~ 86 or 9).

3. Dial the outside number.

## Related Programming

   • FF1 (System): Least Cost Routing

   • FF2 (Trunks): Trunk Group Assignment

   • FF3 (Extension): Forced LCR

   • FF8 (LCR) LCR Setting

## 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 turned on in system programming.

# Reminder Call

## *Description*

Your telephone can remind you of important meetings, deadlines, etc., with the Reminder Call feature.

## *Operation*

### To Set the Reminder Call feature:

1. Lift the handset or press **ON/OFF**.

   • You will hear intercom dial tone.

2. Press "#4."

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. Replace the handset or press the **ON/OFF** key.

### To Cancel the Reminder Call feature:

1. Lift the handset or press **ON/OFF**.

   • You will hear intercom dial tone from the speaker.

2. Dial "#4."

3. Replace the handset or press **ON/OFF**.

## *Considerations*

• A sixteen-second alarm tone will be sounded 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 will be sent as soon as the extension becomes available.

180

# Saved Number Redial

## 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 store a number that will not be lost as soon as you dial a different number.

Saved Number Redial applies only to outside numbers, not extension numbers.

## Operation

### To save a number:

1. Press the **AUTO** key twice before replacing the handset.

2. Press "*."

3. Replace the handset.

### To redial a saved number:

1. Lift the handset.

2. Dial a trunk access code (81 ~ 86 or 9).

3. Press the **AUTO** key.

4. Press "*."

## Considerations

- Any previously saved number will be 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 Speed Dialing codes can be redialed.

# Speed Dialing

## Personal Speed Dialing

### Description

Frequently called numbers can be stored using the Personal Speed Dial feature, saving time and avoiding wrong numbers. Personal Speed Dial numbers are programmed at each individual extension, as opposed to System Speed Dial numbers, which can be used by any extension. Up to ten Personal Speed Dial Numbers can be stored.

Extension users can program their own personal speed dial numbers, or they can be programmed from a programming 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 number (90-99).

5. Dial the number you want to store.

   You may include a trunk access code if you like. If you include an access code, you do not need to dial a trunk group before using the speed dial number.

   To include a trunk access code, press **CONF** then dial 9 or 1 ~ 6. (1 ~ 6 stands for 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).

5. Press **HOLD**.

6. Replace the handset or press **ON/OFF**.

## Related Programming

- FF7 (Toll Restrictions): Toll Restrictions

- FF10 (System and Personal Speed Dial): Personal Speed Dial Numbers

## Considerations

- The attendant phone can also enter personal speed dial numbers for DSLTs.

- 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 being set.

# System Speed Dial

## Description

Frequently called numbers can be stored using the System Speed Dial feature, saving time and avoiding wrong numbers. System Speed Dial numbers are programmed at the Attendant Phone and can be used by any extension, as opposed to Personal Speed Dial numbers, which are exclusive to each individual extension. Up to ninety System Speed Dial Numbers can be stored.

## Operation

### To dial a system speed dial number:

1. Pick up the handset.

2. Dial a trunk access code (81 to 86 or 9), if the system speed dial number does not include a trunk access code.

3. Press **AUTO**.

4. Dial the two-digit system speed dial code (00-89).

## Related Programming

- FF1 (System): Override TRS for System Speed Dialing

- FF10 (Speed Dialing): System Speed Dialing

# Chapter 5. SLT Features

This chapter describes features that are available to 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.

# Absence Message

(All Versions)

## Description

SLT users can leave text messages on their phone when they are away.

When the unattended extension is dialed by a key phone, the text message will display 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 16. 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 16.).

4. Enter the time you will return (optional). See Table 17 for examples.

5. Replace the handset.

**To Cancel an Absence Message**

1. Lift the handset.

2. Dial "71."

3. Replace the handset.

## *Related Programming*

- FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

- FF6 (Names and Messages): Absence Message

## *Considerations*

- Calling parties without a display get a busy signal, rather than the Absence Message.

- If a message code number that has not been programmed when a message is selected, "Absence," followed by the code number, will appear on the caller's display.

- Absence Message return times can be input as shown in Table 17:

*Table 17. 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).

- Setting an Absence Message cancels DND and Call Forwarding features.

- When an Absence Message is set on a DID station, 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 urgent information or to create three-party Conference Calls.

## Operation

Press "4" when you hear the busy tone.

- An alert tone will sound at both phones (system programming required).

## Related Programming

- FF1 (System): Alert Tone for Busy Override and Offhook Voice Announce

- FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Busy Override Send

- FF3 (Extension): Busy Override Receive

- FF3 (Extension): Extension Paging Groups

## 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, an outside line, or 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 18.  DBS Call Forwarding features*

| *Feature* | *Availability* |
|---|---|
| Call Forwarding--All Calls | All versions |
| Call Forwarding--No Answer | CPC-A Version 3.1 or higher<br>CPC-B Version 2.0 or higher |
| Call Forwarding--Busy | All versions |
| Call Forwarding--Busy/No Answer | All versions |
| Call Forwarding--External | All versions |
| Permanent Call Forwarding | CPC-B Version 3.1 or higher |

**Call Forwarding–All Calls.** When the Call Forwarding--All Calls feature is activated, all incoming calls to an extension are forwarded immediately.

**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 will be forwarded.

**Call Forwarding–Busy.** When Call Forwarding--Busy is activated, all incoming calls to a busy extension will be forwarded to a designated extension.

**Call Forwarding–Busy/No Answer.** When Call Forwarding--Busy/No Answer feature is activated, all incoming calls to an extension that is off-hook or does not answer will be forwarded to a designated extension. Similarly, if the extension is busy, the calls will be forwarded to the designated extension.

**Call Forwarding–External.** When Call Forwarding-External is activated, all incoming *intercom* calls to an extension will be forwarded to an outside number. In order to forward to an outside number, the number must first be entered as a system or personal speed dial number.

Any speed dial number (00-99) can be used to store an outside number for call forwarding. (00~89 are system speed dial numbers; 90 ~ 99 are personal speed dial numbers.)

**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.

## Operation

### To activate Call Forwarding:

1. Lift the handset.

   • You will hear intercom dial tone from the speaker.

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    |

4. If you're forwarding to an internal number, enter the number of the extension you want to receive your calls. If you're forwarding to an outside number, dial "0" 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, 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 (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Type (CPC-B Version 3.1 or higher)

- FF3 (Extension): Permanent Call Forward Extension (CPC-B Version 3.1 or higher)

- FF10 (System and Personal Speed Dial): System Speed Dial Numbers

- FF10 (System and Personal 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" 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.

- DND and Absence Messages cancel Call Forwarding.

- Voice calls do not forward when Call Forwarding--No Answer is used.

- Extensions for which Call Forwarding-External has been set cannot:

191

- 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 10.

# Call Hold

(All Versions)

## Description

Call Hold provides either exclusive or system hold, depending on system programming. With Exclusive Hold, only the station that held the call can retrieve it. With System Hold, another station 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): Non-appearance CO Line Hold

- FF1 (System): Extension Hold Recall Timer

- FF1 (System): SLT Onhook Flash Timer

## 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, the call will transfer to the Attendant Phone. However, no tone will sound at an Attendant Phone if Night Mode is activated.

- If you flash the switchhook during a conference call, the flash will be ignored.

- If your system is set to onhook transfer and you have placed an outside call on hold, and then you make an intercom call, you must 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 21) 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, then page the person to whom you would like 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.

   You will hear intercom dial tone from the handset.

2. Dial "76."

3. Dial the number of the extension that parked the call.

### Related Programming

- FF1 (System): Park Recall Timer

### Considerations

- The parked call will recall if it is not retrieved before the Recall Timer expires. 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 Park Recall Timer expires, the call will revert 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" a call is recalled automatically in three minutes.

# Call Pickup

(All Versions)

SLTs can use both directed and group call pickup.

## Direct Call Pickup

### Description

A call to any extension can be answered from any other extension using 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 (CPC-B 3.1 or higher)

- FF3 (Extension): Class of Service (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 arrived 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

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 extension that is ringing.

### Operation

1. Lift the handset.

2. Dial "70."

### Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension): Class of Service (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. 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.

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 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

- FF1 (System): Onhook Transfer

- FF1 (System): Extension Transfer Recall Timer

## Considerations

- In order to transfer a call by flashing the switchhook, dialing the extension, and going onhook, the Onhook Transfer feature must be enabled in system programming.

- 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 to your extension after the Transfer Recall Timer expires.

  (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.)

# 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.

   • You will hear intercom dial tone from the handset.

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.

   • You will hear intercom dial tone from the handset.

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 will stop flashing and remain 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 Transfer

- FF1 (System): Extension Transfer Recall Timer

## 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 call tone will sound at your extension after Transfer Recall Timer expires.

  (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.)

# 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 the message sender's extension.

The following messages can be sent using the Call Waiting feature:

*Table 19. Call Waiting Text Messages*

| Message Code | Message |
|--------------|------------|
| 5 | "Visitor Here" |
| 6 | "Need Help" |
| 7 | "Important" |
| 9 | "Emergency" |

Message codes 0 ~ 4 cannot be used.

## Operation

### To Set Call Waiting:

1. Lift the handset.

2. Dial the extension number.

   You will hear busy tone.

3. Press "3."

4. If you wish to send a text message, dial the desired message code (5-7 or 9).

   The message will display on the called party's phone if the called party has a key phone. (If the called party does not have a display, he or she will continue to hear a call waiting indication.)

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 will be disconnected.

2. Pick up the handset.

   • You will 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 will be disconnected.

   • The new call will be connected automatically.

1. Flash the switchhook again to retrieve the original call.

## Related Programming

• FF1 (System) Extension Class of Service (CPC-B Version 3.1 or higher)

• FF3 (Extension): Class of Service (CPC-B Version 3.1 or higher)

• FF3 (Extension): Call Waiting Notification Tone

• FF3 (Extension): Call Waiting (Receive)

## Considerations

• Call Waiting can be used without entering a message code.

• If the extension called 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.

• Call Waiting cannot be sent to an ML key.

# Camp-on

(CPC-A 3.1 or higher; All Versions of CPC-B)

## 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. Lift the handset.

2. Dial the desired extension number.

   You will hear a busy tone if the extension is busy.

3. Press "3."

   • You will hear ringback tone.

   • If the Camp-on feature cannot be set, you will continue to hear a busy tone.

4. Replace the handset after you hear the ringback tone.

5. Wait for the station callback ring.

### To answer the callback ring:

1. Pick up the handset when you hear the callback ring.

   • The system will automatically dial the called extension.

2. Speak when your call is answered.

## Related Programming

   • FF3 (Extension): Call Waiting (Receive)

202

## 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 cannot be activated by an extension that has call forwarding turned on.

- 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.

# Conference Calls

(All Versions)

## Description

Conference Calls allow an extension user 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-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-B Version 3.1 or higher):**

1. Flash the switchhook to place the current call on hold.

2. Dial a trunk group number (81 ~ 86 or 9).

3. Dial the outside number.

4. Flash the switchhook when your call is answered.

## Related Programming

- FF3 (Extension): SLT Hookflash

## Considerations

- Call Waiting cannot be received during conference calls.

- 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-B Version 2.0 or higher)

## Description

The Attendant can be called from any extension by simply pressing "0."

If multiple attendants are assigned, a dial "0" call will go to Attendant "1" first. If attendant "1" is busy, the call will then go to Attendant "2." The call will continue 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 Position

# 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)

## 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. Lift the handset.

2. Dial "73."

3. Replace the handset.

**To cancel DND:**

1. Lift the handset.

2. Dial "73."

3. Replace the handset.

## *Related Programming*

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 4.0 or higher)

## *Considerations*

- Callback Queuing will ring an extension in DND.

- Setting DND automatically cancels the Call Forwarding and Absence Message features.

- 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 will ring.

## Related Programming

- FF1 (System): Extension Intercom Calling

- FF1 (System): Alert Tone for Voice Calls

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (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.

## 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 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 will cease and you will be connected to the party trying to reach you.

3. Speak to the party that paged you.

### Related Programming

- FF1 (System): Extension Class of Service (CPC-B Version 4.0 or higher)

- FF3 (Extension): Class of Service (CPC-B Version 4.0 or higher)

### Considerations

- The Meet-Me Answer feature cannot be used with Paging Group 00.

- 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 the 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 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 Callback Request (CPC-B only):

1. Pick up the handset.

   You will hear intercom dial tone from the handset.

2. Dial "##.".

   • Your telephone will automatically dial the extension that left the Callback Request.

### To cancel a Callback Request (CPC-B only):

1. Lift the handset.

2. Dial "##.".

3. Replace the handset.

## Related Programming

- FF1 (System) Extension Class of Service (CPC-B Version 3.1 or higher)

- FF3 (Extension) Class of Service (CPC-B Version 3.1 or higher)

## Considerations

- With CPC-A, SLTs cannot receive callback requests.

- Up to four Callback Requests can be sent to any one extension.

- If you call the same extension a second time and the party answers, any Callback Requests you 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.

# Off-Hook Voice Announce (OHVA)

(CPC-B Version 3.1; All Versions of CPC-B)

## Description

You can interrupt a busy extension when making an Intercom Call, then make an announcement that only the called party can hear using the Off-Hook Voice Announce (OHVA) feature.

## Operation

**To make an OHVA:**

1. Lift the handset.

2. Dial the desired extension number.

   If the extension is busy you will hear the busy tone.

3. Press "5."

## Related Programming

- FF1 (System): Onhook Transfer

- FF1 (System): Alert Tone for Busy Override and Offhook Voice Announce

- FF1 (System): Extension Class of Service (CPC-B 3.1 or higher)

- FF3 (Extension): Class of Service (CPC-B 3.1 or higher)

- FF3 (Extension): Call Waiting Notification Tone/Offhook Voice Announce

## 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 during an OHVA.

- Offhook Voice Announcements should not be made to SLTs. The SLT user will hear the announcement through the handset, but so will the other party.

# Pooled Trunk Access

(All Versions)

## Description

The DBS system is designed to accept eight to 64 outside lines. These lines can be divided into seven Pooled Trunk groups.

A free line can be selected by choosing an outside line group number. Group numbers 9 and 81 ~ 86 are available.

## Operation

1. Lift the handset.

   • You will hear intercom dial tone from the speaker.

2. Dial the desired trunk group number (81 to 86 or 9).

3. Dial the outside number.

## Related Programming

   • FF1 (System): Least Cost Routing

   • FF2 (Trunks): Trunk Group Assignment

   • FF3 (Extension): Forced LCR

   • FF8 (LCR) LCR Setting

## 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 turned on in system programming.

# Speed Dialing

(All Versions)

## Personal Speed Dialing

### Description

Frequently called numbers can be stored using the Personal Speed Dial feature, saving time and avoiding wrong numbers. Personal speed dial numbers are assigned from the attendant or programming phone to each SLT.

### Operation

**To dial a Personal Speed Dial number:**

1. Pick up the handset.

2. Dial a trunk access code (81 to 86 or 9), if the system speed dial number does not include a trunk access code.

3. Dial "80.".

4. Dial the two-digit personal speed dial code (90-99).

## System Speed Dial

### Description

Frequently called numbers can be stored using the System Speed Dial feature, saving time and avoiding wrong numbers. System Speed Dial numbers are programmed at the Attendant Phone and can be used by any extension, as opposed to Personal Speed Dial numbers, which are exclusive to each individual extension. Up to ninety System Speed Dial Numbers can be stored.

## *Operation*

**To dial a system speed dial number:**

1. Pick up the handset.

2. Dial a trunk access code (81 to 86 or 9), if the system speed dial number does not include a trunk access code.

3. Dial "80.".

4. Dial the two-digit system speed dial code (00-89).

## *Related Programming*

- FF1 (System): Override TRS for System Speed Dialing

- FF10 (Speed Dialing): System Speed Dialing

Section 700B

CPC - B

# ADDENDUM

to the

*DBS OPERATING INSTRUCTIONS*

Issue 1

August 1991

# Panasonic®

# TABLE OF CONTENTS

# CPC-B

# V1.0 and V2.0

# Contents

# TABLE
# OF
# CONTENTS

# V1.0

**CPC-B - VERSION 1.0 (Enhanced DBS)**

# Contents

# OPERATION

# EXTENSIONS

# V1.0

## 1. CAMP-ON CALL BACK

After making an intercom call to a busy station, the system will notify you when the extension becomes free. Pick up the receiver to automatically dial the extension.

### 1.1. Set Camp-On Call Back

1. Pick up the receiver

2. Enter an extension number.
   Listen for a busy signal.

3. Press **3**
   Listen for the ringback tone.
   If camp-on call back cannot be set, you will continue to hear a busy signal.

4. Hang up during the ringback tone.

5. Wait for the station call-back ring.

### 1.2. Answer Camp-On Call Back

1. Your station will ring when the called station is no longer busy.
   If you have a display telephone, [Camp-on Call] appears on the display and the EXT LED will blink. Pick up the receiver. The system automatically dials the called extension. Listen for a ringback tone.

   **NOTES:** The call back must be answered within 16 seconds or it is canceled.

   Camp-on call back is accepted only after call waitng status.
   System programming must be set to accept both camp-on call back and call waiting. *See your dealer for more information.*

   Call back cannot be accepted by a station that is set for either call forward or another call-back request. If you hear a busy signal after pressing **3**, there is a possibility that the called station is set for one of these features.

## 2. OFF-HOOK VOICE ANNOUNCE (OHVA)

When making an intercom call to a busy extension, you can interrupt the call and make an announcement that can only be heard by the called extension.

### 2.1. Make an OHVA

1. Pick up the receiver

2. Enter an extension number

3. Press **5** at the sound of the busy signal.

**If You Have a Display Telephone:**

**Your Display**

**If the called number is speaking with another extension:**
[CONF] plus your extension number and the called extension number appears on your display. The EXT LED will blink.

**If the called number is speaking with an outside line:**
[CONF] plus the trunk line number and the called extension number appears on your display. The EXT LED will blink.

**The Called Extension's Display**

[Voice Announce] appears on the called extension display.

4. Make announcement

### 2.2. Answer an OHVA    *(Assign a Talk-back key *3 to an FF key.)*

1. Press the talk-back key to answer a voice announcement.
   The LED of the talk-back key does not light.
   The ongoing call is temporarily shut off.

2. Press the talk-back key a seond time to return to the previous call.

   **NOTES:** Because this feature functions in the same way as the conference feature, the voice path may not always be available and the call may not be accepted. If this is the case, you will hear a busy signal.

   During OHVA you cannot toggle back and forth between two calls. Toggling is available as in call waiting. See Section 700, DBS Operating Instructions for more information on the call waiting feature.

## 3. CALL FORWARD ID CODE FOR VOICE MAIL

Sets a call-forward ID code for voice mail on your extension only. This feature is for CPC-A and CPC-B version 1.0.

1. **PROG**

2. **AUTO**

3. **\***

4. Enter up to 16 digits (0-9) for ID code. Use the REDIAL key to insert a pause.

5. **HOLD**

# OPERATION

# SINGLE-LINE
# TELEPHONES

# V1.0

## 1. RESPONDING TO CALL WAITING ON AN SLT

A tone signal, indicating that a second call is waiting on the line, can be heard through the receiver of an SLT.

**There are two ways of responding to a call-waiting tone:**

1. To disconnect the current call, hang up.
   The station will ring.

2. Pick up the receiver.

## 2. ANSWERING MESSAGE WAITING

Message Waiting can be activated on an SLT by any station in the system by entering a code.

### 2.1. Answer a Call-Back Request

1.    Pick up the receiver
Listen for the Message-Waiting confirmation tone ( four beeps followed by a steady intercom dial tone.)

2.    Press # twice

### 2.2. Cancel Message Waiting

1.    Pick up the receiver

2.    Press # and *

# INTRODUCTION

# V2.0

## CPC-B - VERSION 2.0   (DBS III)

### I. Introduction

DBS III has many new or improved features that affect name assignment, hunt groups, call forward, flexible feature keys, transfer, ring tables, line keys, attendant features, large-screen display telephones, SLT features and includes Direct-in Dial and an Attendant Feature Package (AFP) for the Attendant Console, a combination of a large-screen display telephone, VB-43225, and an optional pre-configured 72 key, DSS Console VB-43320.

CPC-B, Version 2.0, (DBS III), is an upgrade to CPC-B, Version 1.0, (Enhanced DBS).

## CO Name Assignment

You can use up to six characters to assign names to Central Office (CO) lines.

## Improved Hunting

Pilot or lead extension numbers have been added to Hunt Groups and three new search methods, terminal, distributed and longest idle, have been created. (Circular hunting is no longer available.)

## Improved Call Forward

A fifth call-forward setting, No Ans, allows an incoming call to queue for a set time before transferring to the CF extension. Enhncements to the CF feature now enable you to forward your calls to an extension already set for CF. In addition, the attendant can forward calls to a Single-Line Telephone or a Voice-Mail port.

## DID Trunk Line

Direct-in Dial (DID) allows you to route DID numbers to extensions in the DBS system. The feature works with the new, extension ring tables. (Requires optional DID trunk card VB-43541 and -48V power supply.)

## Improved On-Hook Transfer

On-hook transfer is always available to the attendant with DBS III, even if the feature is disabled system wide.

## Improved Off-Hook Signaling - SLT

On the SLT, off-hook signaling announces a second call and then allows you to put the current call on hold and pick up the new call at the same time by hook flashing.

## Improved Large-Screen Display Feature Key

The new cancel key on the large-screen display telephones will cancel do-not-disturb, call forward or absence message.

## Improved FF Key Capability

The storing capacity of the FF keys has doubled. You can store any of one to six digits in a single FF key. For example, it is now possible to store one-digit codes for features such as camp-on call or message waiting.

## Improved Line Keys

The line keys are extensively overhauled and come in three types: Extension line, (EL), Direct line (DL) and Multi-line (ML). EL keys allow other extensions to appear on your telephone with or without a ring assignment. DL keys have access to any one of 64 CO lines. ML keys have both CO lines and intercom lines in one key.

## Attendant Position

New attendant features include four attendant positions, three of which can be assigned to any port or any extension with the exception of port 1 and extension 100 which are reserved for the first attendant. The new features also include the capability to disable the Attendant Override through a system-wide setting and an attendant group with a Pilot Number set to 0 (operator call). Calls to the attendant group do not queue, they are immediately forwarded to a destination.

## Attendant Feature Package

The Attendant Feature Package (AFP) VB-43330 works with the Attendant Console. The optional DSS Console has pre-configured Z 0-7 (Paging Zone) keys, P 0-9 (Park keys), a 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. The 12 line or loop keys on the large-screen display telephone are multi-line and can also be assigned as FF keys. There are also 26 search keys for extensions and two arrow keys. Requires optional AFP software package. *See Attendant Feature Package manual, Section 760.*

> **NOTE:** The Attendant Feature Package is an optional software package. It works only with CPC-B, Version 2.0.

# FEATURES

# CO-TRUNK-LINE
# NAME ASSIGNMENT

# V2.0

# FEATURES

# FLEXIBLE FEATURE KEY ASSIGNMENT

# V2.0

## 2.1. LINE KEY FEATURES

There are three types of line keys, **Direct Line (DL)**, **Multi-Line (ML)** and **Extension Line (EL)**.

### 2.1.1. DIRECT-LINE KEY

**DL** keys can be assigned to any one of **64 CO lines** for making and receiving outside-line calls. **DL** keys have priority over **Multi-Line** keys for outgoing and incoming outside-line calls.

On a **DL** key, the LED blinks *green* if the CO line is set to ring. If not set to ring, the LED blinks *red*. If another telephone answers the call, the LED on your telephone will also *light* red.

The **DL** key functions in the same way as the CO-line key found in earlier versions of **DBS**.

### 2.1.2. MULTI-LINE KEY (ML)

You can make and receive both CO-line *and* intercom calls on the **ML** key. Each station telephone can have up to **three ML keys**. *See your dealer for more information.*

> **NOTE:** The attendant can assign the 12 multi-line keys.

### Ringing

The **ML** key will ring for incoming CO, intercom, recall and call-forward calls. When a CO or intercom call comes in, a search begins for an **ML** key which is not in use. The *lower number FF keys* are serched first. When a free **ML** key is found, the LED will blink green and ring.

### Response to a Ring Signal

If another telephone responds to the ring, the **ML**-key LED on your telephone will go out and the ringing will stop, indicating that the **ML** key on your telephone is no longer in use.

### Intercom Dialing

When dialing an intercom number, the system, automatically, selects a free **ML** key with the **lowest** number. The LED will blink green. To dial an intercom number, pick up the receiver or press ON/OFF and then dial. If you press an **ML** key, you will access a CO line.

## 2.1. LINE KEY FEATURES

### 2.1.2. MULTI-LINE KEY (ML)

**CO Dialing**

To access a CO line, press a free **ML** key. The LED will blink green.

**Multi-Line Key Hold**

Pressing the **ML** key will put the call on Exclusive hold. Pressing the **HOLD** key wil put the call on System hold.

**Transfer**

Put the call on **HOLD**, dial an extension and proceed with the On-Hook Transfer operation. *See your dealer for more information.* The transfer is complete when the person on **HOLD** begins talking to the extension.

**Transfer-Recall Ring**

If the dialed extension doesn't respond after a time which has been set in the Transfer Recall Timer, a recall ring will sound from the telephone speaker. Pick up and tell the caller the extension is not available or try the transfer again. *See your dealer for more information.*

**HOLD-Recall Ring**

If the CO or intercom line on **HOLD** doesn't respond after a time which has been preset in the Recall Timer, the **ML** key will ring and blink green. *See your dealer for more information.*

> **NOTE:** The **ML** key is an enhancement to the MCO key found in earlier versions of **DBS**.

## 2.1. LINE KEY FEATURES

### 2.1.3. EXTENSION-LINE KEY (EL)

The **EL** key on one telephone is set with another **EL** key on a second telephone. *See your dealer for more information.*

Set telephone A as an **EL** key to telephone B. When telephone A rings, the LED of the **EL** key on telephone B also blinks. If telephone B answers the call by pressing the **EL** key, the LED on telephone A will go out and the call will remain only on the **ML** key of telephone B.

Ringing can be set on either one or both telephones. If the telephones are not set for ringing, the LED of the **EL** key will blink red. If the telephones are set for ringing, the LED will blink green.

If the **EL** key of telephone A is in use, the LED of the **EL** key on telephone B will light red. If one telephone is set for absence message, call forward or do-not-disturb, the **EL** keys on both telephones will stay green.

**Special Conditions for the EL Key**

If several calls come in to an **EL** key, the calls are queued and ring on the **EL** key on a first-in, first-out basis.

## 2.2. MORE FLEXIBILITY FOR FF KEYS

Up to **six** digits can be stored in an FF key. *(The LED of the FF key will not light with this feature setting.)*

### 2.2.1. Dial Keys and Features

*You can store a **combination** of 12 dial keys for speed dialing on an FF key. The combination cannot begin with * or #.*

> **(0-9)**
> **＊**
> **#**

*You can also store the following features:*

**PROG**
**CONF**
**AUTO**
**REDIAL** (for redialing only, not for inserting a pause.)
**FLASH**

> **NOTE:** You cannot use the *programming mode* to assign the **FLASH** and **CONF** features to an FF key. See below for instructions on how to assign features to an FF key.

### 2.2.2. Assign any digits(Any Key) to an FF key     OR     2.2.3. Assign pre-programmed codes

| | 2.2.2. | | | 2.2.3. | |
|---|---|---|---|---|---|
| 1. | Press **ON/OFF** | – | 1. | Press **ON/OFF** |
| 2. | **PROG** | | 2. | **PROG** |
| 3. | FF key - [Enter Code] will appear on the display. | | 3. | FF key |
| 4. | **PROG** | | 4. | Code    (See Section 700) |
| 5. | Enter up to **6** digits | | 5. | **HOLD** |
| 6. | **HOLD** | | | |

> **NOTE:** To erase a code stored in an FF key, press the HOLD key when the diaplay reads [Enter Code]. [Code Cleared] will appear.

## 2.2.  MORE FLEXIBILITY FOR FF KEYS

**Call Forward - Outside Line**

You can set CF/Outside Line and either a Personal or System Speed dial code in an FF key.

### 2.2.4.  Set Call Forward-Outside Line to an FF key

1.      Press **ON/OFF**

2.      **PROG**

3.      FF key

4.      Enter **72**

5.      Enter **3**

6.      **AUTO**

7.      Speed-dial code  -  **(Assign CO-line telephone number as: CONF 9
        plus up to 16 digits in code (SSD 00-89 or PSD 90-99)**

8.      **HOLD**

NOTE:   Only intercom calls <u>will</u> forward.  CO incoming calls and
        transferred CO calls <u>will not</u> forward to an outside line.

## 2.2. MORE FLEXIBILITY FOR FF KEYS

### 2.2.5. Call Forward - Hunt-Group Pilot-Extension Number or Extension Number

You can set a pilot number as a call-forward destination, by storing CF and the pilot-extension number (0, 10-69, 100-699) in an FF key.

**Set Hunt-Group Pilot Extension Number or Extension Number to an FF key**

| | |
|---|---|
| **1.** | Press **ON/OFF** |
| **2.** | **PROG** |
| **3.** | FF key |
| **4.** | Enter **72** |
| **5.** | Enter call-forward code **(0, 1, 2 or 4)** |
| **6.** | Enter hunt-group pilot-extension number or extension number |
| **7.** | **HOLD** |

# OPERATION

# EXTENSIONS

# V2.0

## III. OPERATION

### 1. TRANSFERRING CALLS

#### 1.1. Transfer with Off-Hook Voice Announce (OHVA)

To transfer a held call to a busy extension, dial the extension number and at the sound of the busy tone, hang up. The call will transfer and camp on until answered or recalled after a time set in the Transfer Recall Timer.

If you wish, you may announce (OHVA) a held call to a busy extension before transferring it. Only the person you called will hear your announcement.

In order to speak with you, the called extension must press the talk-back key *(Programming May Be Required)*. Again, communication is only possible between the announcer and the person on the called extension. Anyone else on the line can continue speaking, but will not be able to hear your conversation.

The held call is transferred when the announcer hangs up.

If the call is not picked up immediately, it will queue for a set time and then return to the announcer. The time for recall can be set in the Transfer-Recall timer.

When receiving an Off-Hook Voice Announcement, the talk-back key LED flashes red. When you press the talk-back key to answer an OHVA, the LED blinks green.

#### 1.1.1. Transfer a call

##### *On-hook* transfer disabled

1.          Press **HOLD** to put the call on hold

2.          Enter the transfer extension number.
            Listen for a busy tone.

3.          Press **5** and make an announcement

4.          Press **PROG**

5.          Hang up

            **OR**

            Press **RELEASE** on the Attendant Console

NOTE:       The system must be set to accept Busy Override.

# 1. TRANSFERRING CALLS

## 1.1. Transfer with Off-Hook Voice Announce (OHVA)

### 1.1.1 Transfer a call

*On-hook* **transfer enable**

1.        Press **HOLD** to put the call on hold.

2.        Enter the transfer extension number
          Listen for a busy signal.

3.        Press **5** and make an announcement

4.        ˙ Hang up.

          **OR**

          Press **RELEASE** on the Attendant Console

**NOTE:**  To transfer a call from a Single-Line Telephone
          with the OHVA feature, on-hook transfer must
          be set to *enable.*

### 1.1.2 Answer the call after it has been announced

1.        Hang up

2.        The telephone will ring

3.        Pick up the receiver

**NOTE:**  <u>Call Waiting</u>    You cannot receive a call-waiting message (See Section 700,
                         DBS Operating Instructions) during an OHVA.
                         A **[DENIED]** message will appear on the LCD of the extension
                         trying to send a call-waiting message.

## 1. TRANSFERRING CALLS

### 1.1. Transfer with Off-Hook Voice Announce (OHVA)

### 1.1.3 Cancel a Transfer

    **1.**       Press **HOLD** to put the call on hold.

    **2.**       Enter the transfer extension number
             Listen for busy signal.

    **3.**       Press **5** to make an announcement

    **4.**       Transfer call is not accepted by the transfer extension

    **5.**       Press **FLASH** to cancel the transfer.

    **6.**       Press line key to speak to the call on hold.

# 1. TRANSFERRING CALLS

## 1.2. Enhancement to On-Hook Transfer

### 1.2.1. Attendant Transfer

This upgrade of the On-Hook transfer feature allows the *attendant* to transfer calls while the receiver is in place (On-Hook), even if set for *disable* system-wide.

### 1.2.2. Extension Transfer

On-Hook transfer from an *extension* is not affected by this enhancement. Calls can only be transferred "on hook" if the On-Hook feature is set to *enable*.

### 1.2.3. PROG Key Transfer

You can transfer calls with the **[PROG]** key from either the attendant or an extension. The On-Hook feature can be set to either *enable* or *disable*.

## 1. TRANSFERRING CALLS

### 1.3. Call Forward

Call-Forward/No Answer (CF/No Ans) is the *fifth* DBS System Call-Forwarding feature.

### 1.3.1.

| Cod | Call Forward Setting | Call | NO ANS | BUSY |
|---|---|---|---|---|
| 72-0 | All Calls | Intercom | CF | CF |
| | | CO | CF | CF |
| 72-1 | Busy/No Answer | Intercom | *See note below | CF |
| | | CO | Timed/CF | CF |
| 72-2 | Busy | Intercom | Rings/Queues | CF |
| | | CO | Rings/Queues | CF |
| 72-3 | Outside Line | Intercom | CF | CF |
| | | CO | Rings/Queues | Rings/Queues |
| 72-4 | No Answer (New) | Intercom | *See note below | Busy |
| | | CO | Timed/CF | Rings/Queues |

When you set CF/No Answer, your call will queue for a set time at a busy extension before it transfers to the extension set for CF/No Answer. If several calls come in to the extension number at the same time, all of the calls are queued. The timing for each call begins with the first ring signal.

The expiration time is set in the CF/No Answer timer. *See your dealer for more information.*

NOTE:       Intercom call [No Answer]  *See page 24.*

| System Setting | |
|---|---|
| Voice Call | Tone Call |
| No Call Forwarding | Timed Call Forward |

## 1. TRANSFERRING CALLS

### 1.3. Call Forward

**CF/No Answer**

**1.3.2.**          **Set**

1.          Pick up receive

2.          Enter **72**

3.          Enter **4**

4.          Enter the extension number for the
            call-forwarding destination.

5.          Hang up

**NOTE:**     When you set CF/No Answer, Voice calls will only
              transfer if your extension is not busy.

**1.3.3.**          **Reset**

*From a key telephone or an SLT*

1.          Pick up receiver

2.          Enter **72**

3.          Hang up

*From a large LCD display*

1.          Pick up receiver

2.          Press [FUNCTION] on large LCD display

3.          Press [CANCEL]

4.          Hang up

## 1. TRANSFERRING CALLS

### 1.3.4. Call Forward ID Code for Voice Mail

Sets a call forward ID code for voice mail from any extension for any other extension. This feature is for CPC-B version 2.0 only.

1.    **PROG**

2.    **AUTO**

3.    **＊**

4.    Enter mail box extension number

5.    Enter up to 16 digits (0-9) for the mail box ID code. Use REDIAL key to insert a pause.

6.    **HOLD**

## 1. TRANSFERRING CALLS

### 1.3.5. Call Forward to an Outside Line

With this feature, you can set an outside-line number in any speed dialing code (00-99).

1.    **72**

2.    **3**

3.    **AUTO**

4.    Store a telephone number of up to 16 digits in speed dialing code (SSD 00-89 or PSD    90-99).

5.    Hang up

NOTE:        Only intercom calls <u>will</u> forward to an outside line.
CO incoming calls and transferred CO calls <u>will not</u> forward to an outside line.

## 1. TRANSFERRING CALLS

### 1.4. Enhancement to Call Forward

**There are three new enhancements to Call Forward:**

1.  You can forward calls to an extension that may already be set for Call Forward.

2.  The attendant can forward calls to another key telephone, a single-line telephone or single-line device such as an answering machine or Voice Mail.

3.  In addition to the original Call Forward settings **All Calls, Busy/No Answer, Busy** and **Outside Line**, there is a new, *fifth* setting available, **CF/No Answer.**

    In order to forward **intercom** calls with the CF/No Answer or the CF/Busy/No Answer setting when the telephone is idle, the system must be set for Tone calls. If the system is programmed for Voice calls, you will not be able to forward calls with the No Answer or Busy/No Answer feature.

    Transferred CO-line calls and direct CO-line calls will forward regardless of the setting for tone or voice. *See your dealer for more information.*

    **NOTE:** See page 20.

# OPERATION

# ATTENDANT

# V2.0

## III. OPERATION

### Attendant

## 1. Attendant Group

The DBS system can accommodate up to four attendant positions. The first attendant is fixed at Port 1 and extension 100. The second, third and fourth attendants can be set at any port or extension.

When there are several units in a system, it is possible to create an attendant group with a Pilot number of **0**.

When all the multi-line keys on the first attendant's telephone are busy, a call will go to the second, third and fourth attendants in sequence.

If all four attendant telephones are busy, the call will transfer to a preset destination which must be a real extension number, for example, a voice-mail port or answering machine. This extension number should be decided by the customer administrator. The call forward destination cannot be the pilot number of a hunt group.

## 2. Attendant Override Disable * *Programming Required*

It is now possible to disable the Attendant Override feature through a *system-wide setting.*

If the attendant tries to override, once the system is set for Attendant Override Disable, a busy tone will sound.

*See your dealer for more information.*

>   **NOTE:**      The **Attendant Overflow** feature is no longer available.

# OPERATION

# SINGLE-LINE
# TELEPHONES

# V2.0

### III. OPERATION

### 1. Off-Hook Signaling

### 1.1. SLT Off-Hook Signal (Camp-on tone)

During conversation, a single-line telephone will hear an off-hook signal through the receiver if there is another incoming call.

The signal will sound if CO-line, CO-line transfer, CO-line recall, intercom-recall or intercom-transfer calls are waiting.

### 1.2. Answer an SLT Off-Hook Signal

1. Hook flashing once will put the current call on HOLD and at the same time pick up the waiting call.

2. Hook flash a second time to return to the held call and to disconnect the second call.

**NOTE:** If you have a previous call on hold, you *cannot* answer the off-hook signal.

## 2. CALL FORWARD TO AN OUTSIDE LINE ON AN SLT

With this feature, you can set an outside-line number in any speed dialing code (00-99).

1.  **72**

2.  **3**

3.  **0**

4.  Store a telephone number of up to 16 digits in speed dialing code (SSD 00-89 or PSD 90--99).

# INDEX

# Index

Section 700B

**CPC-B**

# ADDENDUM

to the

*DBS OPERATING INSTRUCTIONS*

Issue 2

March 1993

# Panasonic ®

# TABLE OF CONTENTS

# CPC-B

# V1.0, V2.0, and V3.1

# Contents

# TABLE
# OF
# CONTENTS

# V3.1

CPC-B - VERSION 3.1

# Contents

# INTRODUCTION

# V3.1

## CPC-B - Version 3.1

### I. Introduction

## Station Class of Service ( COS )

Feature restrictions can be placed on individual phones. There are up to 8 definable classes of service. If no COS is assigned, all features are available.

## Independent Timer

This enhancement provides separate timers for Call Forward No Answer ( CFNA ), CO Delayed Ring, Extension Delayed Ring, and Hunt Group No Answer Timers.

## Permanent CFWD

A permanent call forward destination can be assigned to each extension. Call Forwarding, Do Not Disturb, and Absent Messages set from the extension will override the permanent call forward assignment.

## Extension Distinctive Ringing for CO Incoming (SCC-B required)

This function allows distinctive trunk call ringing patterns to be set up for each extension. A distinctive ring pattern will be sent to the extension when a trunk assigned to ring at the extension rings in.

## Multiple DID

This function allows a DID number to ring on more than one phone. Also, one phone may have more than one DID number assigned.

## Page Timeout

The page feature can now be programmed to time out after 60 seconds.

## Verified Account

The system can store up to 100 account codes with TRS type data. By entering a verified account code from an extension, a user can temporarily use the TRS type assigned to the account code.

## Walking COS

By entering a code number from an extension, this function allows that extension to <u>temporarily</u> have trunk access capabilities defined by the TRS data of another extension. When the extension goes ON-HOOK it will return to its normal TRS type.

## Auto Set Relocation

Program settings for one extension may be transferred to another extension by dialing a relocation code from the destination extension. This allows end users to move extensions around without programming or making wiring changes.

## CO Conference by SLT

Allows two CO calls and an SLT phone to conference for simultaneous conversation.

## Busy Override (Modified)

Allows a user to initiate a busy override without any indication on the overridden party's phone.

## DBS Voice Mail/ACD Ringing (SCC-B required)

When a voice mail port calls another port, the call will ring with the same ringing tone as a CO call.

This feature is available only when using Panasonic DBS Voice Mail/Automated Attendant or ACD.

# FEATURES

# V3.1

## II. Features

### 1. Station Class of Service (COS)   (Programming required)

Eight user-definable station classes of service are now available. Twenty system features can be allowed or denied for each class of service. Class of service "0" allows all features and is the default for all stations. Attempts to access denied features will result in a busy tone. The following features are available to each class of service.

**Features**

1- Dial Tone On/Off  (#50)
2- Head/Hand Set Exchange  (#51)
3- BGM On/Off  (#53)
4- Absence Message Set/Reset  (71)
5- Call Forward Set/Reset  (72)
6- Do Not Disturb Set/Reset  (73)
7- Station Lockout  (74)
8- Park Access  (75)
9- Park Pick Up  (76)
10- Meet Me Answer  (77)
11- UNA Pick Up  (78)
12- Direct Pick Up  (79)
13- Group Pick Up  (70)
14- Tone/Voice Mode  (1)
15- Message Waiting Set  (2)
16- Busy Override  (4)
17- Call Waiting  (3)
18- Off Hook Voice Announcement  (5)
19- CO Call Queuing  (2)
20- SLT transfer  (8)

## 2. Independent Timers (Programming required)

This enhancement provides separate timers for Call Forward No Answer ( CFNA ), CO Delayed Ring, Extension Delayed Ring, and Hunt Group No Answer. These timers were previously all controlled by the Call Forward No Answer Timer.

### Call Forward No Answer (CFNA)

Sets the length of time a call will ring an extension before forwarding.

### CO Delayed Ring & Extension Delayed Ring

Sets the length of time a call will ring an extension before ringing other extensions assigned delayed ringing.

### Hunt Group No Answer

Sets the length of time a call will ring an idle member of a hunt group before hunting to the next idle member of the group.

### 3. Permanent Call Forwarding (Programming required)

A permanent call forwarding destination can be assigned to each extension. Three types of Permanent Call Forwarding are available :

- Busy/No Answer
- Busy
- No Answer

When Permanent Call Forwarding is assigned to an extension :

- DSS and/or BLF keys on other extensions are not lit green.
- The DND/CF led is off.
- The second line on LCD display phones does not display the call forward assignment.
- SLTs, OPXs, and D-SLTs hear normal dial tone when OFF-HOOK.

Temporary Call Forwarding, DND, and Absent Mode from the telephone will override the permanent call forward setting.

## 4. Extension Distinctive Ringing for CO Incoming
### (Programming and SCC-B required)

This function allows distinctive trunk call ringing patterns to be set up for each extension. This allows users to determine which extension is ringing when several phones are located close together in the same area.

If no distinctive ringing is programmed, the extension will ring based on the incoming ring pattern assigned to the trunk.

## 5. Multiple DID  (Programming required)

This feature allows a DID number to ring more than one extension and or a single extension ring on multiple DID numbers. A maximum of 500 DID/extension settings are allowed. DID numbers must be between 0000 and 9999.

### 6. Page Timeout (Programming required)

The paging function can be programmed to time out after 60 seconds.
When a page call times out, a busy tone is sent to the extension that
initiated the page.

## 7. DBS Voice Mail/ACD Ringing
### (Programming and SCC-B required)

This feature allows calls from a DBS Automated Attendant or 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 the Extension Distinctive Ringing is not specified, the ringing pattern will be 2 seconds on / 2 seconds off.

This feature is available only when using Panasonic DBS Voice Mail/Automated Attendant or ACD.

# OPERATION

# EXTENSIONS

# V3.1

### III. Operation (Extensions)

## 1. VERIFIED ACCOUNT (Programming required)

### 1.1 Operating Modes

This feature has two operating modes.

Stations with Verified Account Codes <u>enabled</u> are restricted from making outside calls without first entering a valid account code. After a valid account code is entered, the TRS type assigned to the account code is substituted for the station TRS type allowing outside calls based on the new TRS type.

Stations with Verified Account Codes <u>disabled</u> can place outside calls based on the TRS type assigned to the station. If a user wants to place a call that is normally restricted, a valid Verified Account Code can be entered to upgrade the TRS type assigned to the station.

### 1.2 Using Verified Account Codes

To use Verified Account Codes:

1. Pick up handset (or press on/off key). Hear intercom dial tone.

2. Dial #11XXXX# (XXXX = 4 digit account code).

    If account code is valid, intercom dial tone is heard. Go to step 3.

    If account code is not valid, a busy tone is heard. Hang up.

3. Dial trunk access code. (88XX, 9, 81-86) Hear CO dial tone.

4. Dial outside number.

The verified account code TRS type will remain in effect until the extension is placed on hook or the on/off key is pressed.

## 2. WALKING CLASS OF SERVICE (Programming required)

### 2.1 WCOS Code

Before the Walking Class of Service feature can be used, a WCOS code must be entered for each station that wants to use their dialing privileges at another extension.

### 2.2 Entering a WCOS Code

To enter a Walking Class of Service code:

1. Pick up handset (or press on/off key). Hear intercom dial tone.

2. Dial #12XXXX# (XXXX = 4 digit WCOS code 0001-9999).

3. Hang up.

### 2.3 Using a WCOS Code

To use a Walking Class of Service code:

Extension 105 has unlimited dialing privileges and has stored 8888 as a WCOS code. Extension 110 is restricted from placing outside calls.

At extension 110:

1. Pick up handset (or press on/off key). Hear intercom dial tone.

2. Dial #13 105 8888 #. Hear intercom dial tone.

3. Dial trunk access code. (88XX, 9, 81-86) Hear CO dial tone.

4. Dial outside number.

The walking class of service will remain in effect until extension 110 is placed on hook or the on/off key is pressed.

## 2. WALKING CLASS OF SERVICE ( Programming required )

### 2.4 Clearing a WCOS Code

To clear a Walking Class of Service code:

1. Pick up handset (or press on/off key). Hear intercom dial tone.

2. Dial #12XXXX# (XXXX = original 4-digit WCOS code).

3. Hang up.

### 2.5 Confirming a WCOS Code (Attendant Only)

To confirm a Walking Class of Service Code:

1. Pick up handset (or press on/off key). Hear intercom dial tone.

2. Dial CONF #12NN(N) [NN(N) = extension number]. WCOS ID code will be shown on the LCD display.

### NOTES :

1. WCOS code can be used on more than one extension.

2. If a station is locked out the WCOS feature will override it.

3. LCR and TRS dialing privileges will follow WCOS.

### 3. AUTO SET RELOCATION ( Programming required )

### 3.1 Program Settings

Program settings for one extension may be relocated to another
extension by dialing a relocation code from the destination phone.

### 3.2 Example of Settings

| STA-A | STA-B |
|---|---|
| PORT 15 | PORT 20 |
| EXT 120 | EXT 130 |
| RID : 1010 | RID : 1050 |

Station A and Station B want to swap locations.

From STA-A :

1. Pick up handset (or press ON/OFF key).

2. Dial **#10 130 1050**.

3. Hang up.

All programmed station features, TRS, and LCR settings from STA-B
will be transferred to STA-A. STA-B will be placed out of service. To
reactivate STA-B simply unplug and reconnect station cable. STA-B
will now assume all station features, TRS, and LCR settings previously
assigned to STA-A.

## 3. AUTO SET RELOCATION (Programming required)

**NOTES :**

1. This function allows all the following types of data to be transferred:

   - TRS type settings
   - Ring settings (trunk line, BLF, remote ringing, day/night, DID)
   - FF key data
   - Extension numbers and names
   - Absent, transfer
   - Message waiting
     (All settings and data for any phone that has program settings)

2. Settings may not be transferred between extensions of different types.

   Example:         KTEL -- SLT
                    KTEL -- DSS
                    KTEL -- OPX

3. Any data that is changed during relocate time will be retained after this function releases.

4. Attendant 1 is excluded from this function.

5. Phone must be in idle status in order to perform function.

## 4. BUSY OVERRIDE (Modified)    (Programming required)

### 4.1 Modification

The busy override feature has been modified to allow a user to initiate a busy override without any indication on the overridden extension.

### 4.2 Operation

Operation is the same as previous versions.

1. Call a busy extension.

2. Hear busy tone.

3. Dial 4 to override the busy tone.

**NOTES:**

1. This feature creates a 3-way conference where all parties can hear and talk with one another.

2. Busy Override requires the initiating and receiving extensions be in the same page group (01-07).

3. The Busy Override alert tone must be enabled in system programming if an alert tone is desired.

# OPERATION

# SINGLE LINE
# TELEPHONES

# V3.1

## III.  Operation  (Single-Line Telephone)

### 1.  CO CONFERENCE BY SLT  (Programming required)

#### 1.1  Purpose

This feature is designed to connect two calls to an SLT phone in conference mode for simultaneous conversation with both callers. The following types of conference calls are possible:

- One outside line and two extension
- Two outside lines and one extension
- Three extensions

#### 1.2  One outside line and two extensions

1. **HOOKFLASH** to put CO call on hold

2. Dial the extension number you wish to call.

3. When call is answered **HOOKFLASH** or dial " **7** " . A 3 way conference is now established between a CO and two extensions.

#### 1.3  Two outside lines and one extension

1. **HOOKFLASH** to put original CO call on hold.

2. Access a trunk and dial the number you wish to call.

3. When call is answered **HOOKFLASH**. A 3 way conference is now established between  two COs and one SLT.

#### 1.4  Three extensions

1. **HOOKFLASH** to put extension call on hold.

2. Dial the extension number you wish to call.

3. When call is answered **HOOKFLASH** or dial " **7** " . A 3 way conference is now established between three extensions.

## 1. CO CONFERENCE BY SLT (Programming required)

In the above cases the second call is originated by the SLT. If OFF-HOOK SIGNALING is active, the conference function can also be initiated when the SLT receives another CO call. That is, **HOOKFLASH** puts first call on hold and answers the incoming call. A second **HOOKFLASH** will conference all three parties.

### NOTES:

1. During conference calls, including 2 trunk line conference calls, the call waiting tone will not operate.

2. **HOOKFLASH** during conference is prohibited.

3. Four-way conference is not possible.

4. Call Forward Outside trunk calls are excluded from conference call processing.

5. Dialing "7" activates the conference feature during an intercom call.

## 2. VERIFIED ACCOUNT (Programming required)

### 2.1 Operating Modes

This feature has two operating modes.

Stations with Verified Account Codes <u>enabled</u> are restricted from making outside calls without first entering a valid account code. After a valid account code is entered, the TRS type assigned to the account code is substituted for the station TRS type allowing outside calls based on the new TRS type.

Stations with Verified Account Codes <u>disabled</u> can place outside calls based on the TRS type assigned to the station. If a user wants to place a call that is normally restricted, a valid Verified Account Code can be entered to upgrade the TRS type assigned to the station.

### 2.2 Using Verified Account Codes

To use Verified Account Codes:

1. Pick up handset. Hear intercom dial tone.

2. Dial #11XXXX# (XXXX = 4 digit account code).

   If account code is valid, intercom dial tone is heard. Go to step 3.

   If account code is not valid, a busy tone is heard. Hang up.

3. Dial trunk access code. (88XX, 9, 81-86) Hear CO dial tone.

4. Dial outside number.

The verified account code TRS type will remain in effect until the Single line telephone is placed on hook.

### 3.  WALKING CLASS OF SERVICE   (Programming required)

### 3.1  WCOS Code

Before the Walking Class of Service feature can be used, a WCOS code must be entered for each station that wants to use their dialing privileges at another extension.

### 3.2  Entering a WCOS Code

To enter a Walking Class of Service code:

1. Pick up handset . Hear intercom dial tone.

2. Dial #12XXXX#  (XXXX = 4 digit WCOS code 0001-9999).

3. Hang up.

### 3.3  Using a WCOS Code

To use a Walking Class of Service code:

Extension 105 has unlimited dialing privileges and has stored 8888 as a WCOS code. Single Line Telephone 110 is restricted from placing outside calls.

At Single Line Telephone 110:

1. Pick up handset . Hear intercom dial tone.

2. Dial #13 105 8888 #.  Hear intercom dial tone.

3. Dial trunk access code (88XX, 9, 81-86).  Hear CO dial tone.

4. Dial outside number.

The walking class of service will remain in effect until Single Line Telephone 110 is placed on hook.

### 3. WALKING CLASS OF SERVICE (Programming required)

### 3.4 Clearing a WCOS Code

To clear a Walking Class of Service code:

1. Pick up handset . Hear intercom dial tone.

2. Dial #12XXXX# (XXXX = original 4-digit WCOS code).

3. Hang up.

### NOTES:

1. WCOS code can be used on more than one extension.

2. If a station is locked out the WCOS feature will override it.

3. LCR and TRS dialing privileges will follow WCOS.

## 4. AUTO SET RELOCATION (Programming required)

### 4.1 Program Settings

Program settings for one extension may be relocated to another extension by dialing a relocation code from the destination phone.

### 4.2 Example of Settings

| STA-A | STA-B |
|-------|-------|
| PORT 15 | PORT 20 |
| EXT 120 | EXT 130 |
| RID : 1010 | RID : 1050 |

Station A and Station B want to swap locations.

From SLT-A :

1. Pick up handset .

2. Dial **#10 130 1050**.

3. Hang up.

All programmed station features, TRS, and LCR settings from SLT-B will be transferred to SLT-A. SLT-B will now assume all station features, TRS, and LCR settings previously assigned to SLT-A.

## 4. AUTO SET RELOCATION (Programming required)

**NOTES:**

1. This function allows all the following types of data to be transferred :

   • TRS type settings
   • Ring settings (trunk line, BLF, remote ringing, day/night, DID)
   • FF key data
   • Extension numbers and names
   • Absent, transfer
   • Message waiting
     (All settings and data for any phone that has program settings)

2. Settings may not be transferred between extensions of different types.

   Example:        KTEL -- SLT
                   KTEL -- DSS
                   KTEL -- OPX

3. Any data that is changed during relocate time will be retained after this function releases.

4. Attendant 1 is excluded from this function.

5. Phone must be in idle status in order to perform function.

### 5. BUSY OVERRIDE (Modified)   (Programming required)

## 5.1 Modification

The busy override feature has been modified to allow a user to initiate a busy override without any indication on the overridden extension.

## 5.2 Operation

Operation is the same as previous versions.

1. Call a busy extension.

2. Hear busy tone.

3. Dial 4 to override the busy tone.

## NOTES:

1. This feature creates a 3-way conference where all parties can hear and talk with one another.

2. Busy Override requires the initiating and receiving extensions be in the same page group (01-07).

3. The Busy Override alert tone must be enabled in system programming if an alert tone is desired.

# INDEX

# Index