



## **TECHNICAL MANUAL**

**INCLUDES:**

**GENERAL DESCRIPTION SECTION**

**USER INSTRUCTIONS SECTION**

**INSTALLATION SECTION**

**PROGRAMMING SECTION**

**PCMMC SECTION**

**BULLETINS SECTION**

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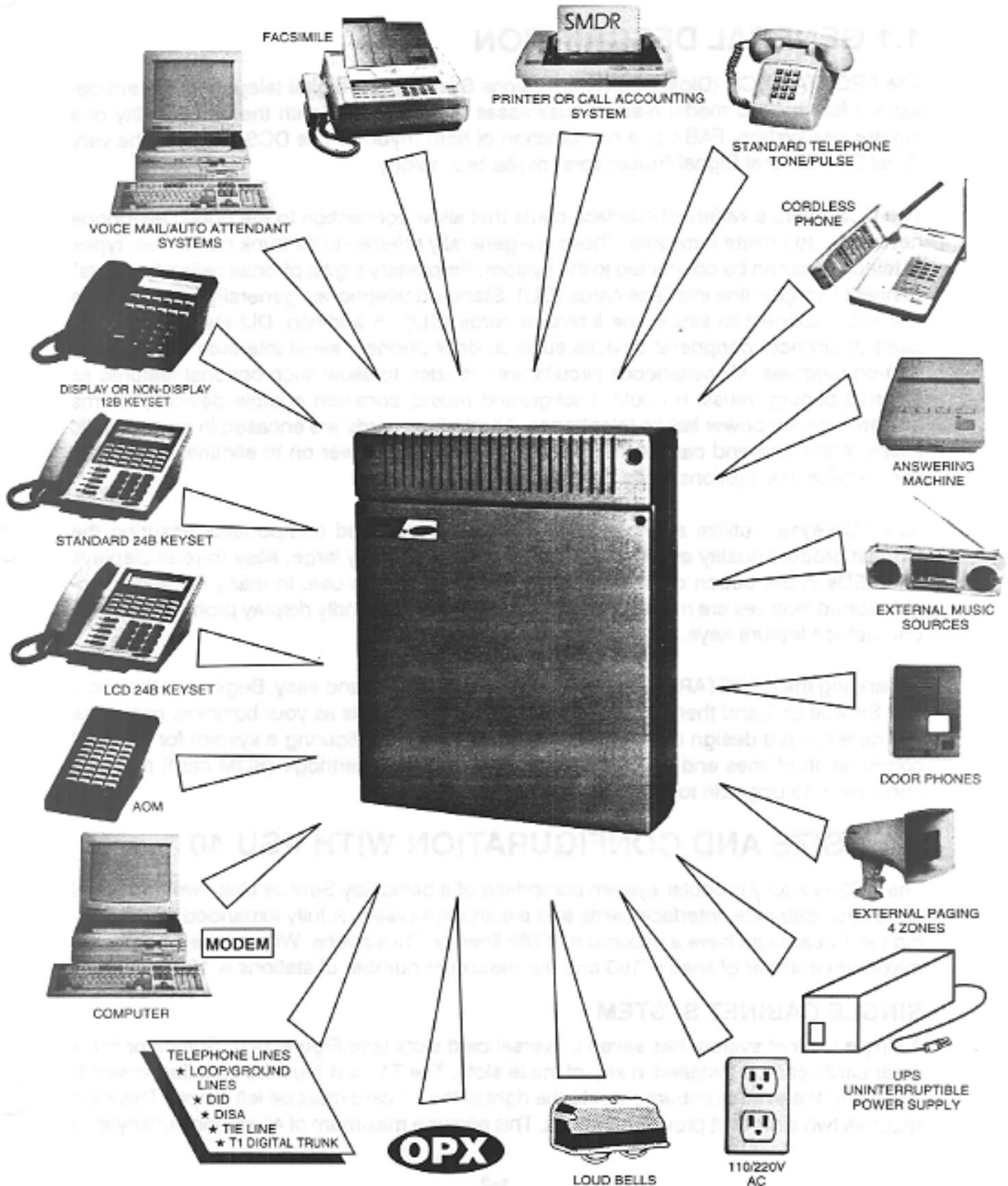
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### DCS GENERAL SYSTEM DIAGRAM



## **PART 1. SYSTEM OVERVIEW**

### **1.1 GENERAL DESCRIPTION**

The PROSTAR DCS (Digital Communications System) is a digital telephone system designed for small to medium-sized businesses. It can operate with the functionality of a square key system, PABX or a combination of both (hybrid). The DCS employs the very latest DSP (Digital Signal Processors) digital technology.

The DCS offers a variety of interface cards that allow connection to the public telephone network or to private networks. These are generally referred to as trunk cards. Two types of telephones can be connected to the system. Proprietary digital phones called "keysets" connect to digital line interface cards (DLI). Standard telephones generally called "single line sets" connect to single line interface cards (SLI). In addition, DLI station ports are used to connect peripheral devices such as door phones, serial interface devices and add-on modules. Miscellaneous circuits are provided to allow such optional features as external paging, music on hold, background music, common audible devices, alarms and emergency power failure telephones. All interface cards are encased in an anti-static plastic enclosure and can be inserted or removed with power on to eliminate unnecessary service interruptions while performing maintenance.

All DCS keysets utilize a single PCB with surface-mounted components assuring the highest product quality and long life. Samsung's customary large, easy-to-read displays and LEDs in the button design make them much easier to use. In many instances, sophisticated features are made simple through the use of friendly display prompts or push-on/push-off feature keys.

Expanding the PROSTAR DCS system is both economical and easy. Begin with the basic Key Service Unit and then add up to two expansion cabinets as your business grows. Its low density card design allows greater flexibility when configuring a system for the right combination of lines and stations. A removable software cartridge (ROM card) makes it convenient to upgrade to future feature packages.

### **1.2A SIZE AND CONFIGURATION WITH PSU 40**

The DCS is a fully modular system comprised of a basic Key Service Unit, two additional expansion cabinets, interface cards and electronic keysets. A fully expanded system using the T1 card can have a maximum of 168 lines or 112 stations. Without the T1 card, the maximum number of lines is 160 and the maximum number of stations is 120.

#### **SINGLE CABINET SYSTEM**

A single cabinet system has seven universal card slots (see Figure 1-1). Station or trunk (line) cards can be installed in any of these slots. The T1 card must be installed in slot 1, 3 or 5 and the even-numbered slot to the right of the T1 card must be left empty. This card requires two slots as it provides 24 lines. This allows a maximum of 40 stations of any kind

or 64 lines in a single cabinet system. Without the T1 card, the maximum number of lines in the basic KSU is 56.

## TWO CABINET SYSTEM

When it is required that the basic system be expanded to provide a capacity greater than that described above, the Expansion A or A1 card must be installed in slot seven of the KSU. This card provides the High-Speed Digital Link (HDL) pathways that are used to connect the expansion cabinets to the basic KSU. Adding this card therefore reduces the number of universal card slots in the basic KSU to six.

Adding one expansion cabinet makes the system a two cabinet system with 13 universal card slots (see Figure 1-2). This allows a maximum of 80 stations or 112 lines when using a T1 card. Without the T1 card, the maximum number of lines is 104 while the maximum number of stations remains at 80.

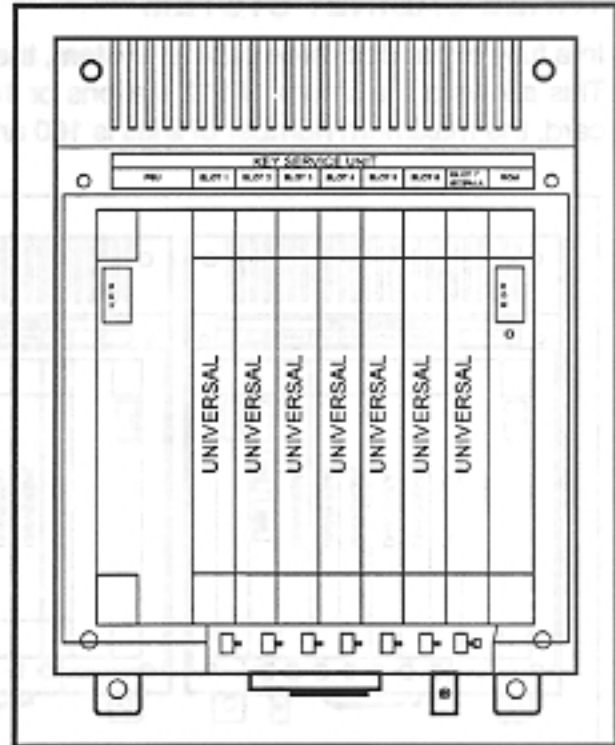


FIGURE 1-1

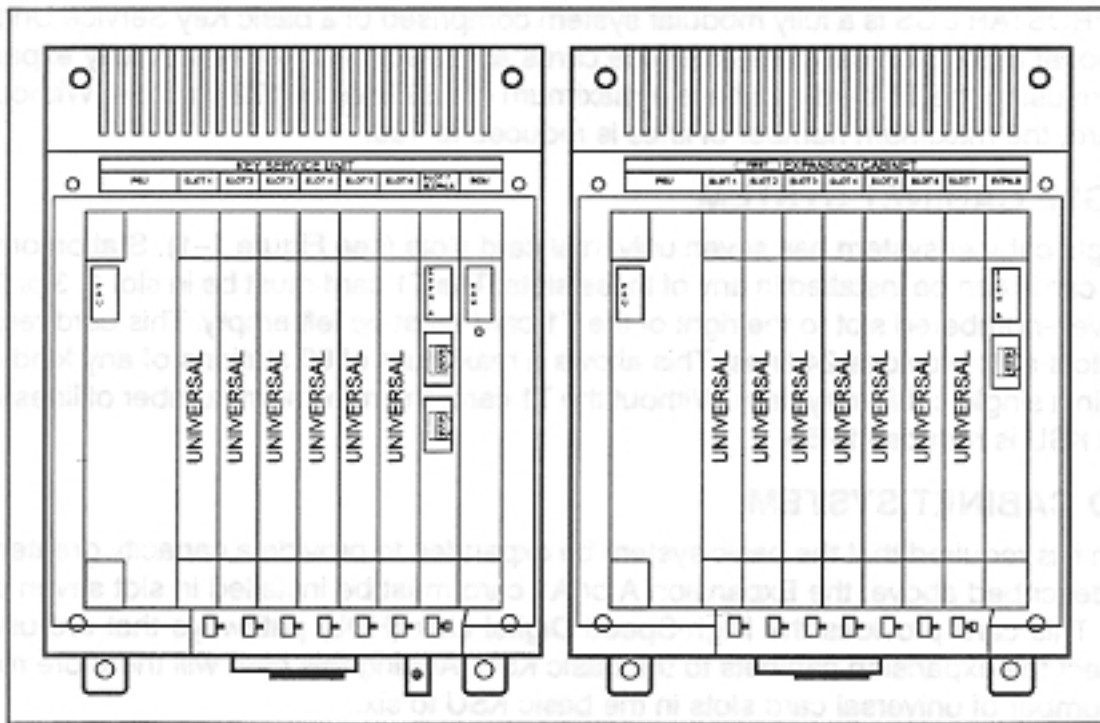
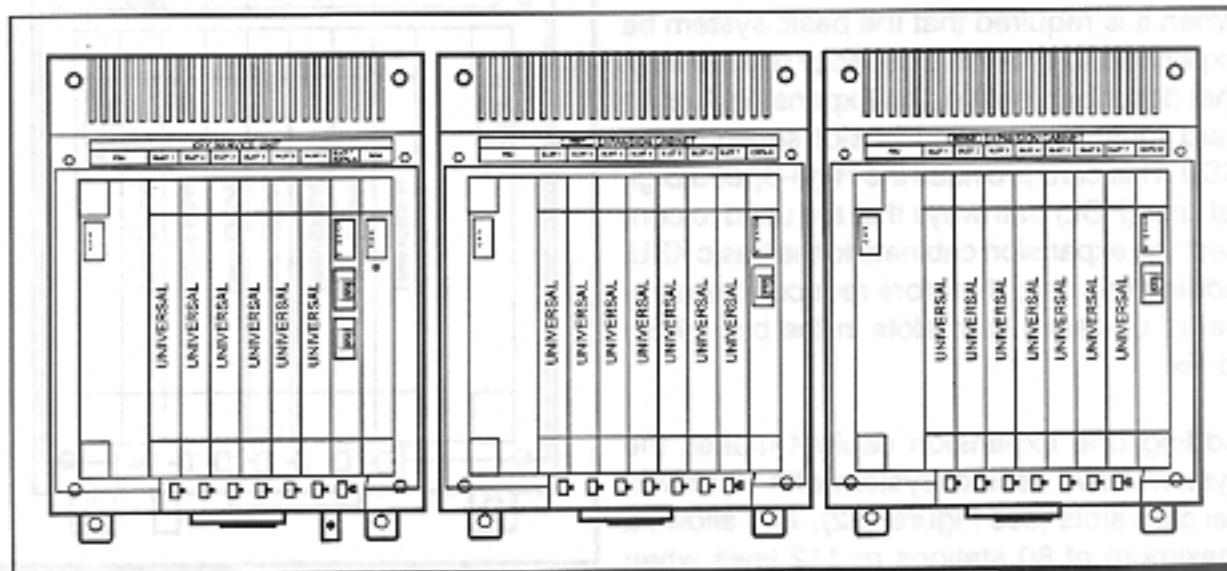


FIGURE 1-2

### THREE CABINET SYSTEM

In a fully expanded three cabinet system, there are 20 universal card slots (see Figure 1-3). This allows a maximum of 112 stations or 168 lines when using a T1 card. Without the T1 card, the maximum number of lines is 160 and the maximum number of stations is 120.



**FIGURE 1-3**

### 1.2B SIZE AND CONFIGURATION WITH PSU 60

The PROSTAR DCS is a fully modular system comprised of a basic Key Service Unit, two additional expansion cabinets, interface cards and electronic keysets. A fully expanded system using the T1 card can have a maximum of 168 lines or 172 stations. Without the T1 card, the maximum number of lines is reduced to 160.

### SINGLE CABINET SYSTEM

A single cabinet system has seven universal card slots (see Figure 1-1). Station or trunk (line) cards can be installed in any of these slots. The T1 card must be in slot 1, 3 or 5 and the even-numbered slot to the right of the T1 card must be left empty. This card requires two slots as it provides 24 lines. This allows a maximum of 60 stations of any kind or 64 lines in a single cabinet system. Without the T1 card, the maximum number of lines in the basic KSU is reduced to 56.

### TWO CABINET SYSTEM

When it is required that the basic system be expanded to provide a capacity greater than that described above, the Expansion A or A1 card must be installed in slot seven of the KSU. This card provides the High-Speed Digital Link (HDL) pathways that are used to connect the expansion cabinets to the basic KSU. Adding this card will therefore reduce the number of universal card slots in the basic KSU to six.



Adding one expansion cabinet makes this a two cabinet system with 13 universal card slots (see Figure 1-2). This allows a maximum of 116 stations or 112 lines when using a T1 card. Without the T1 card, the maximum number of lines is reduced to 104.

### THREE CABINET SYSTEM

In a fully expanded three cabinet system, there are 20 universal card slots (see Figure 1-3). This allows a maximum of 172 stations or 168 lines when using a T1 card. Without the T1 card, the maximum number of lines is reduced to 160.

## 1.3 TECHNOLOGY

### SWITCHING

System switching is accomplished by means of a custom IC "engine" that provides 256 switchable digital channels. The engine is controlled by its own 16 bit Motorola MC 68000 microprocessor and switching control program. Each of the 256 digital channels is automatically assigned to carry voice or data as required by system operation in a PCM format.

In addition to the 256 channels, the system also utilizes Digital Signal Processors (DSPs). Each DSP may be configured by the switching control program as a DTMF sender, a DTMF receiver or as a C.O. tone detector on a per-call basis. Each engine chip contains four DSP channels. Single engine chips are located on the KSU and EKSU motherboards with a pair of engine chips located on the Expansion A and Expansion A1 cards. This means that the system contains a total of 20 DSP channels when fully expanded. The DSP channels are fully shared throughout the system as a common resource.

### MEMORY

The system operates using stored program control. This program is stored in two EPROM chips (ROM) totaling 1024 kilobytes of memory. However, if the system is configured for operation with Caller ID, the program size is 2048 kilobytes contained in four EPROMs. All specific customer data is stored in 512 kilobytes of non-volatile random access memory (NV-RAM) on the main KSU motherboard. It is protected by a super capacitor providing seven days of memory protection in the event of loss of AC power to the system.

### MICROPROCESSORS

The DCS uses distributed processing. Its primary processor is a 16 bit Motorola MC68000 operating at a clock speed of 8 MHz. The secondary level of processing is on the cabinet motherboard. This is another MC68000 processor and provides local control of the 256 PCM channels via the engine chip. The tertiary level of processing is done in the keysets. The digital keysets use a Hitachi H8 processor for data communication within the DCS.

## 1.4 PROGRAMMING

The DCS is a self-configuring system. This means that immediately after applying power, the DCS reads the types and locations of all installed cards and telephones and assigns default data to them. This data provides for system operation within a minute after apply-

ing power. All trunks and stations are assigned according to the default numbering plan. This numbering plan is flexible and may be changed to suit customer requirements. The installing technician customizes this default data to meet the end user's requirements.

The system can be programmed from any LCD display keyset without interrupting system operation. There are three levels of programming: technician, customer and station. The technician level has access to all programs and can allow the customer access to system programs as needed. Technician and customer access are controlled by different security passcodes and access procedures.

The DCS also allows the use of a proprietary computer program called PCMMC. This permits a technician to program the system using a personal computer. PCMMC can be used on-site to modify the customer database or to download (save) the entire customer database to a file. This file can then be saved as a backup and be uploaded when required to restore the database.

Through the use of modems, PCMMC can access a DCS system remotely (off-site) to make database changes or perform uploads or downloads of the customer database as if the technician were on-site.



## PART 2. HARDWARE DESCRIPTIONS

### 2.1 KEY SERVICE UNIT

The PROSTAR DCS Key Service Unit is a single plastic cabinet (see Figure 2-1) containing the following:

- Processing, switching and customer memory for all ports
- Seven universal card slots
- Four DSP channels (digital signal processors)
- Wall-mount kit
- Power supply slot

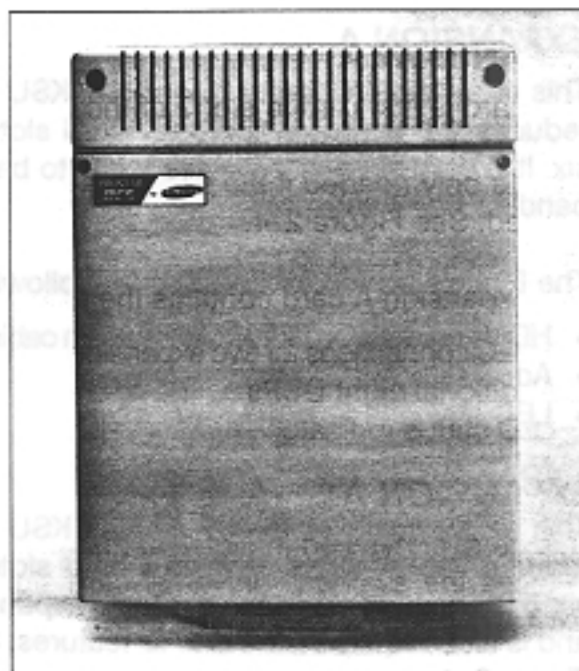


**FIGURE 2-1**

### 2.2 EXPANSION CABINETS

The expansion cabinets are plastic cabinets that mount next to the KSU (see Figure 2-2) and contain the following:

- Maximum two per system
- Seven universal card slots
- Four DSP channels
- Power extension cable to connect commercial AC power to the expansion cabinet
- Expansion interface B card (EXPB-B)
- High-Speed Data Link Cable (HDLC)
- Wall-mount kit
- Power supply slot



**FIGURE 2-2**

### 2.3 COMMON CONTROL CARDS

#### ROM CARDS

A PROSTAR DCS system must have a ROM card as it contains the system software. Currently there are two types of ROM cards available—ROM 1 and ROM 2. Each ROM card is encased within a static dissipative ABS plastic shell for added protection during handling (see Figure 2-3).

## ROM 1

- System operating system
- One data rate adapter to be used for either SMDR or PCMMC
- LED status indicator

## ROM 2

- System operating program
- Two data rate adapters for simultaneous use of both SMDR and PCMMC
- LED status indicator

## EXPANSION CARDS

To expand the DCS to more than a single cabinet system, expansion cards are required. These cards provide the high speed digital link pathways that enable the KSU to communicate with the expansion cabinets. There are three types available and are described below.

### EXPANSION A

This card is installed in slot 7 of the KSU and reduces the available universal card slots to six. It is only needed if the system is to be expanded. See Figure 2-4.

The Expansion A card contains the following:

- HDLC connections for two expansion cabinets
- Additional eight DSPs
- LED status indicator

### EXPANSION A1

This card is installed in slot 7 of the KSU and reduces the available universal card slots to six. It is needed if the system is to be expanded and is also required for Caller ID features. See Figure 2-4.

The Expansion A1 card contains the following:

- HDLC connections for two expansion cabinets
- Additional eight DSPs
- LED status indicator
- Decoding circuitry for Caller ID functions

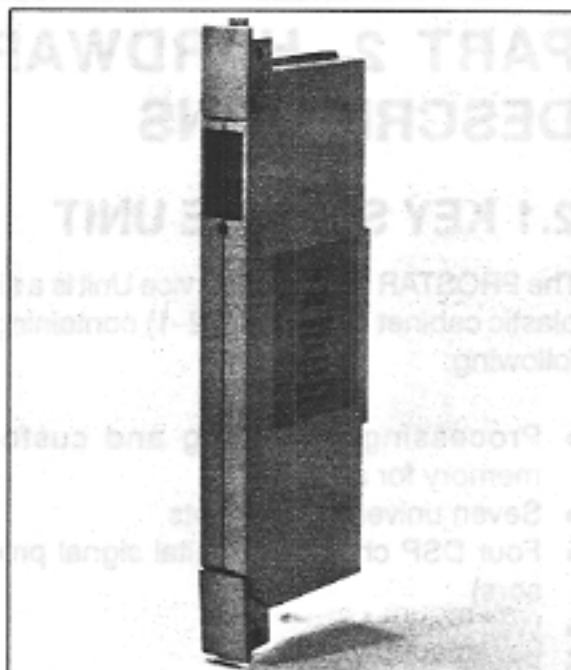


FIGURE 2-3



FIGURE 2-4

## EXPANSION B

This card has its own dedicated card slot in the expansion cabinets and does not reduce the number of available universal card slots. See Figure 2-5.

The Expansion B card contains the following:

- HDLC connection for that expansion cabinet
- LED status indicator

## 2.4 INTERFACE CARDS

These cards provide the interface connections for telephone lines and stations to the KSU and expansion cabinets. These cards fit into the universal card slots to configure the system as required. DCS interface cards are encased in a static dissipative ABS plastic shell to protect the PCB during handling (see Figure 2-6).

### TRUNK A

This card is a combination loop start line card and miscellaneous interface card that contains the following circuits:

- Three loop start C.O. lines with C.O. disconnect detection
- Two power failure transfer relays for the first two C.O. lines connected to this card
- One music input for BGM/MOH
- One page output for connection to an amplifier
- Two page zone control relays
- One common bell relay
- One keyset ring output for connection to an amplifier
- One alarm detection sensor

NOTE: The alarm sensor will only operate when the Trunk A card is installed in the KSU. This service is not available when the Trunk A card is installed in an expansion cabinet.

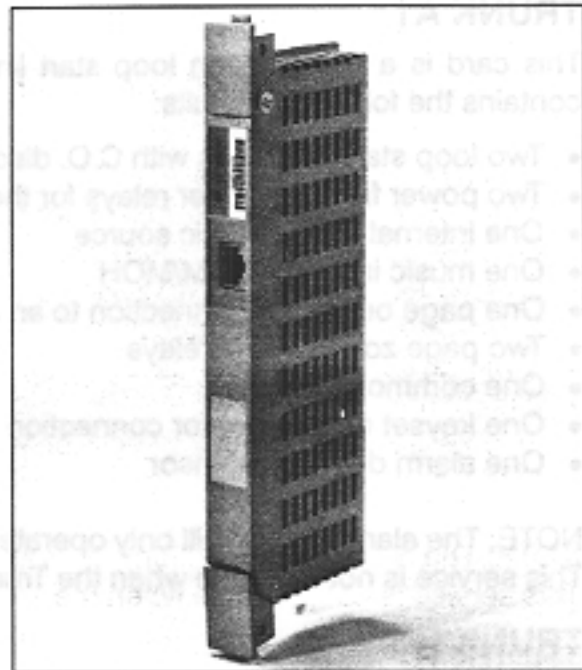


FIGURE 2-5

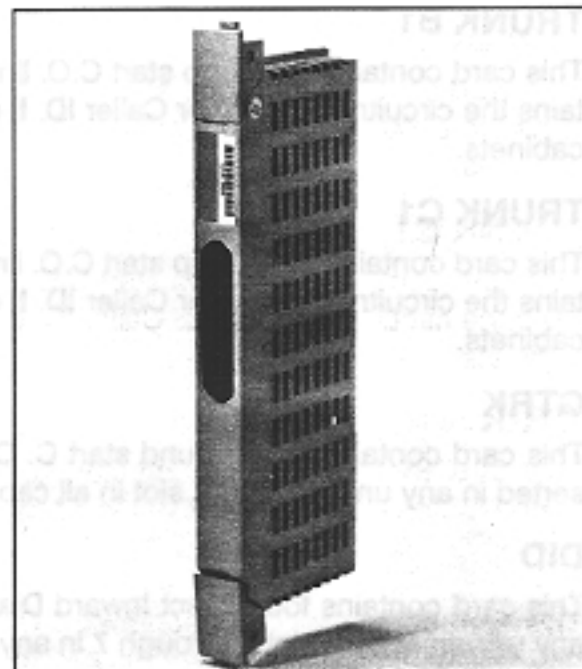


FIGURE 2-6

## TRUNK A1

This card is a combination loop start line card and miscellaneous interface card that contains the following circuits:

- Two loop start C.O. lines with C.O. disconnect and Caller ID detection
- Two power failure transfer relays for the first two C.O. lines connected to this card
- One internal chime music source
- One music input for BGM/MOH
- One page output for connection to an amplifier
- Two page zone control relays
- One common bell relay
- One keyset ring output for connection to an amplifier
- One alarm detection sensor

NOTE: The alarm sensor will only operate when the Trunk A1 card is installed in the KSU. This service is not available when the Trunk A1 card is installed in an expansion cabinet.

## TRUNK B

This card contains four loop start C.O. lines with C.O. disconnect detection. It can be inserted in any universal card slot in all cabinets.

## TRUNK B1

This card contains four loop start C.O. lines with C.O. disconnect detection. It also contains the circuitry needed for Caller ID. It can be inserted in any universal card slot in all cabinets.

## TRUNK C1

This card contains eight loop start C.O. lines with C.O. disconnect detection. It also contains the circuitry needed for Caller ID. It can be inserted in any universal card slot in all cabinets.

## GTRK

This card contains four ground start C. O. lines with disconnect detection. It can be inserted in any universal card slot in all cabinets.

## DID

This card contains four Direct Inward Dialing (DID) trunks. This card can be inserted in any universal card slot 2 through 7 in any cabinet.

## E & M

This card contains four 2 wire E & M tie lines, type one interface configuration (TL11M). It can be inserted in any universal card slot in all cabinets. This card can be used for two way DID calling.

## T1 DIGITAL TRUNK

This card provides up to 24 trunk circuits in any combination of the following:

- Loop start lines
- Ground start lines
- DID (Direct Inward Dialing)
- E & M tie lines or two way DID calling

### NOTES:

1. Caller ID is not available on the T1 span.
2. This card requires two card slots and must be installed in the Key Service Unit in either slot 1, 3 or 5. The card is shipped with a special shielded cable for connection to a customer-provided CSU.

## DLI

This card is an eight circuit digital station interface card that provides 2B+D service when installed in the KSU or 1B+D service when installed in an expansion cabinet. It can be inserted in any universal card slot in all cabinets.

## SLI

This card is a four circuit analog station interface for industry standard single line telephones or other analog peripheral devices (voice mail, etc.). Each circuit is equipped with a DTMF receiver and provides the over-voltage protection required for connection to telephone company off premises extension circuits (OPX). It can be inserted in any universal card slot in all cabinets.

## 8SLI

This card is a eight circuit analog station interface for industry standard single line telephones or other analog peripheral devices. The 8SLI does not contain any over-voltage protection and is not qualified as OPX. It also does not contain DTMF receivers, but shares system DSP resources. It can be inserted in any universal card slot in all cabinets.

## KDb-DLI

This is a small daughterboard that can be installed in any DCS keyset. The KDb-DLI will provide one additional DLI circuit for the connection of any digital station device such as a keyset, add-on module, SIM or DPIM. This KDb-DLI will only operate when the keyset is connected to a DLI card installed in the KSU so it can use the second B channel.

## KDb-SLI

This is a daughterboard that can be installed in any DCS keyset. The KDb-SLI will provide one additional SLI circuit for the connection of any standard telephone device. This KDb-SLI will only operate when the keyset is connected to a DLI card installed in the first cabinet so it can use the second B channel.

**NOTE:** The circuitry on a KDb-SLI does not provide a disconnect signal or have the over-voltage protection necessary for OPX operation.



## AUTO ATTENDANT

This optional card can be used for either the Automated Attendant, Uniform Call Distribution or a combination of both. For more information about the Automated Attendant and UCD, see section 4.1 System Features.

NOTE: Requires optional hardware and/or software. Ask your dealer for details.

## DIAL BY VOICE

The optional Dial by Voice card controls the circuitry needed to support voice recognition dialing. The circuit package can support two channels of seven users with 20 personal speed dial numbers or one channel of five users with 40 personal speed dial numbers. This feature is available to all keyset and single line telephone users.

NOTE: Requires optional hardware and/or software. Ask your dealer for details.

## 2.5 STATION EQUIPMENT

LCD 24B Keyset (See Figures 2-7 and 2-8)

- Built-in speakerphone
- 24 programmable keys (16 with tri-colored LEDs)
- Four fixed function keys
- 32 character display (2 x 16) with three associated soft keys and a scroll key
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal



FIGURE 2-7



FIGURE 2-8

### STD 24B Keypad (See Figures 2-9 and 2-10)

- Built-in speakerphone
- 24 programmable keys (16 with tri-colored LEDs)
- Four fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal



**FIGURE 2-9**



**FIGURE 2-10**

### LCD 12B Keypad (see Figures 2-11 and 2-12)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- Built-in speakerphone
- 12 programmable keys (six with tri-colored LEDs)
- Four fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal

Basic 12B Model Keypad (see Figures 2-13 and 2-14)

- Built-in speakerphone
- 12 programmable keys (six with tri-colored LEDs)
- Four fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal



FIGURE 2-11



FIGURE 2-12



FIGURE 2-13



FIGURE 2-14



36 Button Add-On Module (AOM) (see Figures 2-15 and 2-16)

- 32 programmable keys
- Two fixed function keys
- UP/DOWN buttons for digital control of speaker and ringer volumes
- Available in almond or charcoal
- One or two can be assigned to any DCS keyset to provide executive off-hook voice announce and additional programmable keys (see Figure 2-17)
- Can operate as a stand-alone handsfree telephone unit



FIGURE 2-15



FIGURE 2-16



FIGURE 2-17

Door Phone Interface Module (DPIM) and Door Phone (see Figures 2-18 and 2-19)

- The DPIM adapts any DLI circuit for use with the door phone unit
- Commonly used to request entry through locked doors (interior or exterior) or as a room monitoring box
- Provides contact control to be used with customer-provided electric door lock
- Door phone is wall-mounted
- Door phone is weatherproof

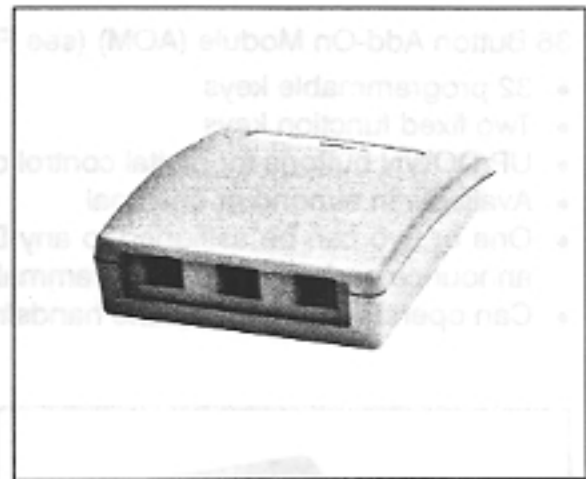


FIGURE 2-18

Serial Interface Module (SIM)  
(See Figure 2-20)

- Provides an RS232 connection required for SMDR and PCMMC
- Connects to any DLI circuit

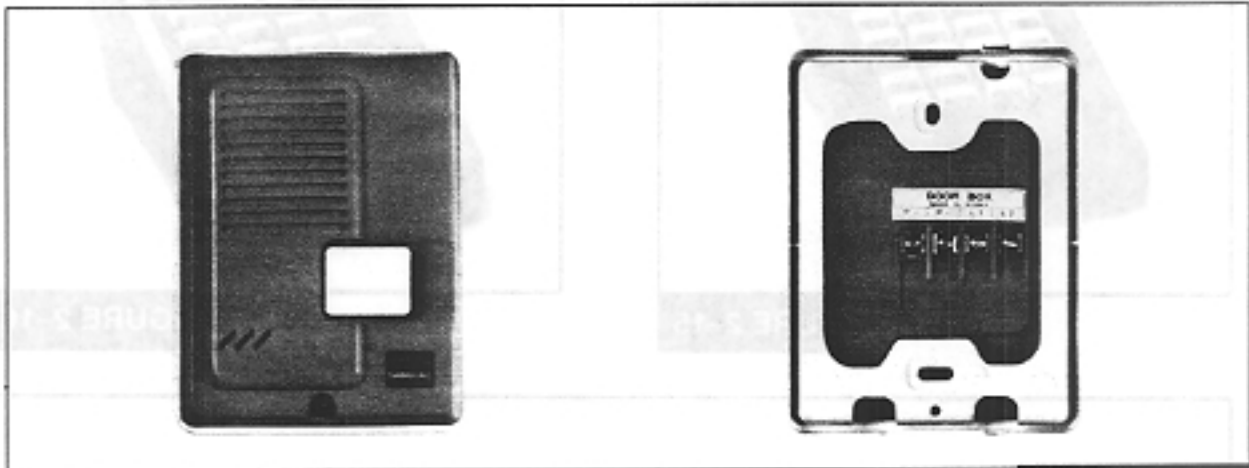


FIGURE 2-19

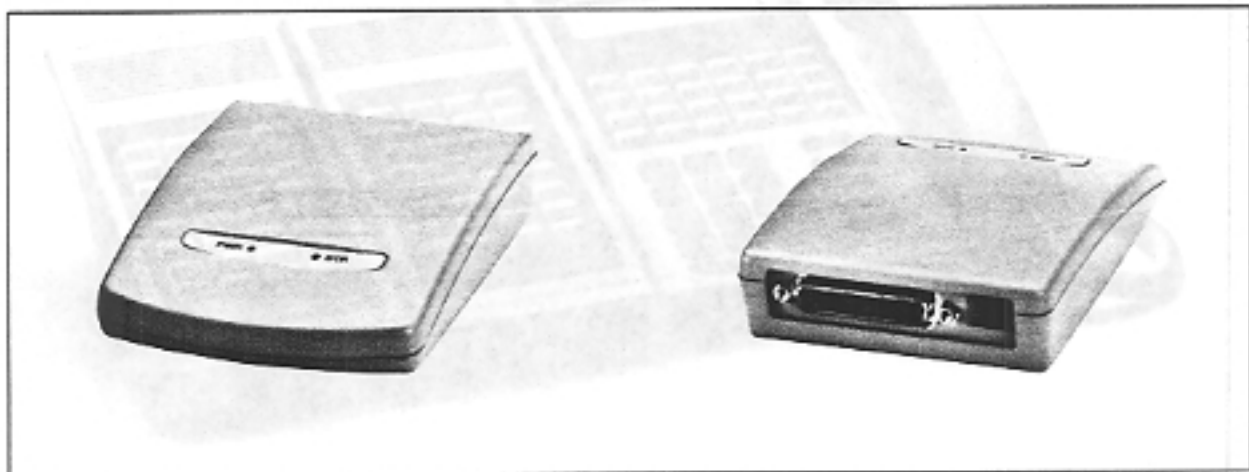


FIGURE 2-20

## PART 3. SPECIFICATIONS

The following tables provide technical data for the DCS hybrid/key telephone system.

<b>3.1a ELECTRICAL SPECIFICATIONS (PSU 40)</b>	
AC INPUT	112 (88-132) VAC (48-63 Hz)
POWER CONSUMPTION (MAX)	97 WATTS MAX. PER CABINET FUSE RATING 3 AMP
BTU RATING (MAX)	5.5 BTU/MINUTE
DC OUTPUT	+5 VOLTS 4.5 AMPS MAX
	-5 VOLTS 0.5 AMPS MAX
	-48 VOLTS 1.5 AMPS MAXIMUM

<b>3.1b ELECTRICAL SPECIFICATIONS (PSU 60)</b>	
AC INPUT	112 (88-132) VAC (48-63 Hz)*
	240 (180-270) VAC (48-63 Hz)
POWER CONSUMPTION (MAX)	120 WATTS MAX. PER CABINET FUSE RATING 3 AMP
BTU RATING (MAX)	6.8 BTU/MINUTE
DC OUTPUT	+5 VOLTS 5.0 AMPS MAX
	-5 VOLTS 0.5 AMPS MAX
	-48 VOLTS 1.8 AMPS MAXIMUM

\*Normal factory setting

<b>3.2 DIMENSIONS AND WEIGHTS</b>				
	HEIGHT	WIDTH	DEPTH	WEIGHT
DCS BASIC SYSTEM: SINGLE CABINET	21"	16"	7"	20 lb.
EXPANDED SYSTEM: TWO CABINETS	21"	38"	7"	40 lb.
EXPANDED SYSTEM: THREE CABINETS	21"	60"	7"	60 lb.
DIGITAL KEYSSET (ALL MODELS)	4.25"	8.50"	9"	2.563 lb.
ADD-ON MODULE	4.25"	4.25"	9"	1.188 lb.
DOOR PHONE	5"	3.88"	1.25"	6.8 oz.

<b>3.3 ENVIRONMENTAL LIMITS</b>	
OPERATING TEMPERATURE	32-104 °F/0-40 °C
STORAGE TEMPERATURE	-13-158 °F/-25-70 °C
HUMIDITY	10 TO 90% NON CONDENSING

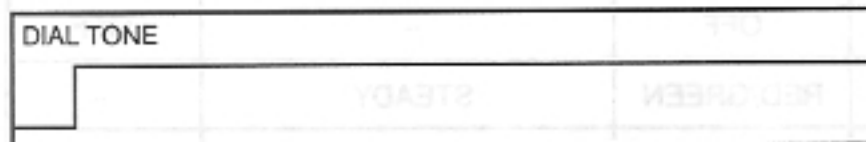
<b>3.4 CABLE REQUIREMENTS</b>				
EQUIPMENT	CABLE	AWG	MAX FEET	MAX METERS
DIGITAL KEYSSET	1 PR. TWISTED	24	1300	400
ADD-ON MODULE	1 PR. TWISTED	24	1300	400
SINGLE LINE STATION	1 PR. TWISTED	24	3000	1 KM
DOOR PHONE	2 PR. TWISTED	24	330*	100
SIM	1 PR. TWISTED	24	1300	400

\*This is the maximum distance a door phone can be from the DPIM. The DPIM can be up to 900 cable feet from the KSU. The total distance must not exceed 1230 feet.

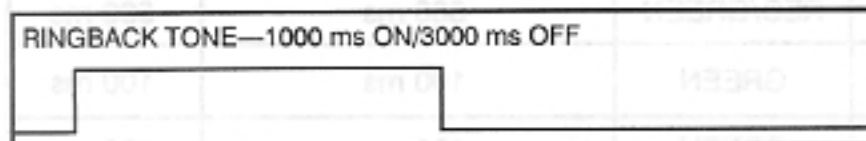
<b>3.5 SYSTEM TONES</b>		
<b>TONE</b>	<b>FREQUENCIES</b>	<b>CADENCE</b>
DIAL TONE	350 + 440 Hz	CONTINUOUS
RINGBACK TONE	440 + 480 Hz	1 sec on + 3 sec off
DID RINGBACK TONE	440 + 480 Hz	2 sec on + 4 sec off
BUSY TONE	480 + 620 Hz	0.5 sec on + 0.5 sec off
DND/NO MORE CALLS	480 + 620 Hz	0.25 sec on + 0.25 sec off
TRANSFER/CONF	350 + 440 Hz	0.1 sec on + 0.1 sec off
CONFIRMATION TONE	350 + 440 Hz	0.05 sec on + 0.05 sec off
ERROR TONE	480 + 620 Hz	0.05 sec of tone 1/0.05 sec of tone 2

### SYSTEM TONES

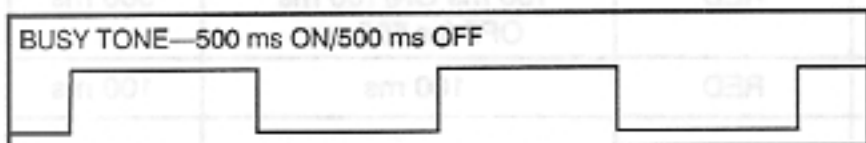
Intercom Dial Tone—A steady tone that indicates you can begin dialing.



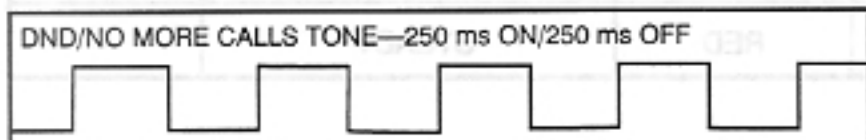
Ringback Tone—Indicates the station you dialed is ringing.



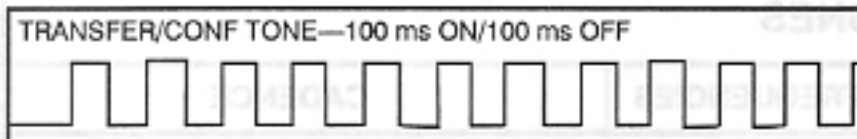
Busy Tone—Indicates the station you dialed is busy.



DND/No More Calls Tone—Fast busy tone indicates the station you dialed is in the Do Not Disturb mode or cannot receive any more calls.

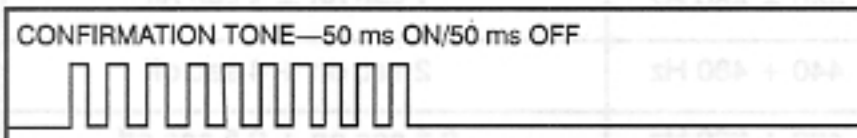


Transfer/Conference Tone—Indicates your call is being held and you can dial another party.



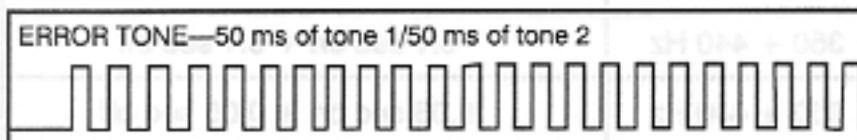
CONTINUOUS

Confirmation Tone—Very short beeps followed by dial tone indicate you have correctly set or canceled a system feature.



FOR ONE SECOND  
(programmable)

Error Tone—A distinctive two level beeping tone indicates you have done something incorrectly. Try again.



FOR THREE SECONDS

### 3.6 KEYSSET LED INDICATIONS

CONDITION	LED COLOR	LED ON	LED OFF
LINE IDLE	OFF	—	OFF
LINE IN USE	RED/GREEN	STEADY	—
RECALL	AMBER	500 ms	500 ms
CALL ON HOLD	RED/GREEN	500 ms	500 ms
RINGING C.O. CALL	GREEN	100 ms	100 ms
RINGING INTERNAL CALL	GREEN	100 ms	100 ms
DND INDICATION	RED	100 ms ON/100 ms OFF for 500 ms	500 ms
OPERATOR CALLS	RED	100 ms	100 ms
ANS/RLS (DND)*	RED	112 IPM for 500 ms	500 ms
ANS/RLS (HDSET MODE)	RED	STEADY	—
TRSF (FORWARD ALL)	RED	STEADY	—

\*Overrides headset mode

<b>3.7a RESERVE POWER DURATION ESTIMATES (in minutes)*</b>							
NO. OF CABINETS	UPS CAPACITY IN VOLT AMPS (VA) PSU 40						
	250	400	450	600	900	1250	2000
1	14	30	40	54	80	130	280
2	N/A	10	18	20	38	65	145
3	N/A	N/A	8	10	22	35	70

\*These are approximate values. Specific UPS devices, due to their internal construction, can have greater or lesser values.

<b>3.7b RESERVE POWER DURATION ESTIMATES (in minutes)*</b>							
NO. OF CABINETS	UPS CAPACITY IN VOLT AMPS (VA) PSU 60						
	250	400	450	600	900	1250	2000
1	12	26	38	49	77	107	258
2	N/A	8	15	18	36	57	119
3	N/A	N/A	N/A	7	20	33	55

\*These are approximate values. Specific UPS devices, due to their internal construction, can have greater or lesser values.





# PART 4. FEATURES

## SYSTEM FEATURES

Account Code Entry	Hot Line
Forced	In Group/Out of Group
Voluntary	Incoming Call Distribution
All Call Voice Page	Incoming/Outgoing Service
Attention Tone	Individual Line Control
Authorization Codes	Least Cost Routing
Forced	Live System Programming
Voluntary	From any Display Keypad
Auto Attendant†	With a Personal Computer
Automatic Hold	Meet Me Page and Answer
Background Music	Memory Protection
Caller ID†	Message Waiting Indications
Name/Number Display	Microphone On/Off per Station
Next Call	Music on Hold—Flexible
Save CID Number	Night Service
Store CID Number	Automatic
Inquire Park/Hold	Manual
CID Review List	Off Premises Extensions (OPX)
Investigate	Operator Group
Abandon Call List (50)	Overflow
CID on SMDR	Operator
Number to Name Translation (250)	Station Group
Call Forwarding	Paging
All Calls	Internal Zones (4)
Busy	External Zones (4)
No Answer	All Internal
Busy/No Answer	All External
Follow Me	Page All
External	Power Failure Transfer
To Voice Mail	Primeline Selection
Call Hold (Exclusive)	Private Lines
Call Hold (System)	Programmable Line Privacy
Call Park and Page	Programmable Timers
Call Pickup	Recalls
Directed	Remote Programming—PC
Groups (20)	Ring Over Page
Call Waiting/Camp-On	Single Line Connections
Centrex/PBX Use	Speed Dial Numbers (1500)
Chain Dialing	Station List (50 Max)
Class of Service	System List (500 Max)
Common Bell Control	Speed Dial by Directory
Conference	Station Hunt Groups (30)
Add On (5 Party)	Distributed
Unsupervised	Sequential
Data Security	Unconditional
Database Printout	Station Message Detail Recording (SMDR)
Direct In Lines	System Alarms
Direct Inward Dialing (DID) T1/Copper	System Directory
Direct Inward System Access (DISA)	Tenant Service (2)
Direct Trunk Selection	Toil Restriction
Directory Names	By Day or Night
DISA Security	By Line or Station
Distinctive Ringing	Eight Dialing Classes
Door Lock Release (Programmable)	Toil Restriction Override
Door Phones	Tone or Pulse Dialing
Door Phone Night Ring	Transfer
E & M Tie Lines T1/Copper	Screened/Unscreened
Executive Barge-In (Override)	With Camp-On
With Warning Tone	Trunk Groups (11)
Without Warning Tone	Uniform Call Distribution (UCD)†
Executive/Secretary Pooling	Maximum of Ten Groups
External Music Interfaces	Call Statistics
External Page Interfaces	Agent Statistics
Flash Key Operation	Group Supervisors
Flexible Ringing	Printed Reports
Day Ring Assignments	Universal Answer
Night Ring Assignments	Voice Mail Integration
Ground Start Trunks (T1/Copper)	Walking Class of Service

†Requires optional hardware and/or software. Ask your dealer for details.

## 4.1 SYSTEM FEATURE DESCRIPTIONS

### ACCOUNT CODE ENTRY

Station users may enter an account code (maximum 12 digits) before hanging up from a call. This account code will appear in the SMDR printout for that call record. Keypad users may enter this code using an account (ACCT) key without interrupting a conversation. Single line telephone users must temporarily interrupt the call by hook-flashing and dialing the feature access code. Account codes can be up to 12 digits long.

#### FORCED

When forced, they are always verified from a system list of 500 entries. Account codes are always printed on the SMDR report. They can contain digits 0-9.

#### VOLUNTARY

Users may elect to enter an account code for any call. They can include digits 0-9, star (\*) and #.

### ALL CALL VOICE PAGE

Users can page all internal and all external paging zones at the same time by dialing the All Page code. Keypads may be restricted from making or receiving pages in system programming. A maximum of 80 keypads can be programmed to receive page announcements.

### ATTENTION TONE

To get your attention, a brief tone precedes all page announcements and intercom voice calls. There are separate programmable duration timers for page and voice announce tones.

### AUTHORIZATION CODES

Authorization codes are used to give permission to make a call. These four digit authorization codes can be either forced or voluntary. When used, authorization codes will automatically change the dialing station's class of service to the level assigned to the authorization code. Authorization codes may be programmed to print or not print on SMDR.

#### FORCED

When a station is programmed for forced authorization, the user must always enter this code before dialing is allowed. The dialed authorization code is verified from a system list of 250 entries.

#### VOLUNTARY

Any station user can always enter an authorization code before they begin dialing. The dialed authorization code is verified from a system list of 250 entries.

## AUTO ATTENDANT

The integrated digital automated attendant feature provides eight ports per card for simultaneous answering and call processing. A maximum of five cards per system totaling 40 ports can be installed to handle high traffic applications. Sixteen professionally recorded prompts inform callers of the progress of their calls. Several examples are the following: "I'm sorry. There is no answer," "That station is busy" and "Invalid number. Please try again." Two minutes of battery backed random access memory (RAM) provide up to 48 customer recordings for announcements or greetings. Twelve individual greeting boxes, each with its own dialing options, allow you to build call routing branches as needed. Callers are routed through the branches by dialing extension numbers or single digits. This system is 100% compatible with Starmail.

NOTE: Requires optional hardware and/or software. Ask your dealer for details.

## AUTOMATIC HOLD

While a keyset user is engaged on an outside (C.O.) call, pressing another trunk key, route key or CALL button automatically places the call on hold when Automatic Hold is enabled. Pressing TRSF, CONFERENCE, PAGE or a DSS key always automatically places a C.O. call on hold. Intercom calls can be automatically held only by pressing TRSF or CONFERENCE. Each keyset user can enable or disable Automatic Hold.

## BACKGROUND MUSIC

Keyset users may choose to hear music through their keyset speakers when optional external sources are installed. Each user may adjust this level by the use of a volume control program at the selected keyset.

## CALLER ID

Caller ID requires that optional software and hardware be installed in the DCS KSU. In addition, Caller ID service must be provided by your local telephone company. The availability of the calling party name or number depends on the type of CID service offered by your local telephone company. The Caller ID feature is dependent on having an LCD keyset to show the name or number in the top line of the display.

NOTE: Requires optional hardware and/or software. Ask your dealer for details.

## NAME/NUMBER DISPLAY

Each LCD keyset user can decide if he/she wants to see the CID name or CID number in the display. Regardless of which one is selected to be seen first, the N/N key is pressed to view the other pieces of CID information.

## NEXT CALL

In the event that you have a call waiting or a camped-on call at your keyset, you can press the NEXT key to display the Caller ID information associated with this next call in queue at your station. Either the CID name or CID number will show in the display depending on your N/N selection.

## SAVE CID NUMBER

At any time during an incoming call that provides CID information, you may press the SAVE key. This saves the CID number in the Save Number feature. Pressing the SAVE number redial key will dial the CID number. The system must be using Least Cost Routing (LCR) to dial the saved number.

## STORE CID NUMBER

At any time during an incoming call that provides CID information, you may press the STORE key. This saves the CID number as a speed dial number in your personal speed dial list. The system must be using LCR to dial the stored number.

## INQUIRE PARK/HOLD

Having been informed that an incoming call is on hold or has been parked, you may view the Caller ID information before you retrieve the call. This will influence how you choose to handle the call.

## CID REVIEW LIST

This feature allows display keyset users to review CID information for calls sent to their stations. This list can be from ten to fifty calls in a first in, first out basis. The list includes calls that you answered and calls that rang your station but that you did not answer. When reviewing this list, you can press one button to dial the person back. The system must be using LCR to dial the stored number.

## INVESTIGATE

This feature allows selected stations with a special class of service to investigate any call in progress. If CID information is available for an incoming call, you will know to whom this station user is speaking. On outgoing calls, you can see who was called. After investigating, you may barge-in on the conversation, disconnect the call or hang up.

## ABANDON CALL LIST (50)

The system has a system-wide abandon call list that stores CID information for the last 50 calls that rang but were not answered. The list is accessed using the operator's passcode. When reviewing this list, you are provided options to CLEAR the entry or DIAL the number. You can use the NND key to toggle between the CID name, CID number and the date and time the call came in. The system must be using LCR to dial numbers from the abandon call list.

## CID ON SMDR

The Station Message Detail Records report can be set to include CID name and number for incoming calls. This format expands the printout to 113 characters. Use a wide carriage printer or an 80 column printer set for condensed print.

## NUMBER TO NAME TRANSLATION (250)

The system provides a translation table for 250 entries. When the CID number is received, the table is searched. When a match is found, the system will display the corresponding name. This will allow users in areas that do not support deluxe Caller ID to provide names for regular callers.

## CALL FORWARDING

This feature allows the user to redirect (forward) incoming calls. The calls can be redirected to the attendant, a hunt group, voice mail, external number or another station user. If the destination station is in Do Not Disturb (DND), the calling party will receive DND/Reorder tone. Calls cannot be forwarded to a door phone.

### ALL CALLS

This type of forwarding is not affected by the condition of the station. All calls are immediately redirected to the designated destination. If desired, the destination station may redirect the call back to the forwarded station by using the transfer feature. The forwarded station user can continue to originate calls as usual. If no key is programmed as Forward All, the TRSF key lights steady when a Forward All condition is set.

### BUSY

This feature forwards all calls only when the station set is busy. The station user can originate calls as usual.

### NO ANSWER

This feature forwards calls that are not answered within a preprogrammed time. The user can originate calls as usual and receive calls if present. The timer is programmable on a per-station basis to allow for differences in individual work habits.

### BUSY/NO ANSWER

This feature allows the station user to use both types of forwarding simultaneously, provided the destinations have already been entered in the usual manner.

### FOLLOW ME

This feature allows the station user to forward all calls from another station to the user's station or change the forward destination to the user's current location.



## EXTERNAL

This feature forwards C.O. calls to an external number via a central office trunk if allowed by class of service. These C.O. calls forward only after the programmable external call forward delay timer expires.

## TO VOICE MAIL

Each station may be programmed to allow or deny the ability to forward intercom calls to voice mail. When denied, valuable message time in the voice mail system can be saved.

## CALL HOLD (EXCLUSIVE)

Outside calls can be placed on exclusive hold at any keyset by pressing HOLD twice during a call. Calls placed on exclusive hold can only be retrieved at the keyset that placed the call on hold. Intercom calls are always placed on exclusive hold.

## CALL HOLD (SYSTEM)

Outside calls can be placed on system hold at any station. Users may dial the access code or press the HOLD button. Calls on system hold may be retrieved at any station.

## CALL PARK AND PAGE

Each C.O. line has its own park zone. This simple method eliminates confusion and ensures that a park zone is always available. Pressing the PAGE key parks the call automatically. There are no extra buttons to press and there is no lost time looking for a free zone.

## CALL PICKUP

### DIRECTED

With directed call pickup, users can answer calls ringing at any station by dialing a code plus that station's extension number or by pressing the feature button and then dialing the extension.

### GROUPS (20)

In addition, calls can be picked up from a station group in a similar manner. The group pickup feature allows users to answer any call ringing within any pickup group. There are 20 pickup groups available. A station cannot be in more than one pickup group. To use this feature, station users either dial the access code or press the assigned feature button followed by the pickup group number.

## CALL WAITING/CAMP-ON

Busy stations are notified that a call is waiting (camped-on) when they receive a tone. The tone is repeated at a programmable interval. Keysets receive an off-hook

ring signal through the speaker and single line stations receive a tone in the handset. The volume of the camp-on tone can be set by the station user. Camped-on calls follow Forward No Answer if a Forward No Answer destination has been set.

## **CENTREX/PBX USE**

CENTREX and PBX lines can be installed in lieu of central office trunks. CENTREX and PBX feature access codes including the command for hook-flash (FLASH) can be stored under one touch buttons. Toll restriction programming can ignore PBX or CENTREX access codes so that toll calls can be controlled when using these services.

## **CHAIN DIALING**

Keypad users may manually dial additional digits following a speed dial call or chain together as many speed dial numbers as are required.

## **CLASS OF SERVICE**

The system allows a maximum of 30 station classes of service. Each class of service can be customized in memory to allow or deny access to features and to define a station's dialing class. Each station can be assigned different classes of service for day and night operation.

## **COMMON BELL CONTROL**

Each Trunk A and Trunk A1 card provides a dry contact pair to control a customer-provided common bell or common audible device. These contacts must be programmed as members of a station group and may provide steady or interrupted closure.

## **CONFERENCE**

The system allows five simultaneous conferences.

### **ADD-ON (5 PARTY)**

Any combination of up to five parties (stations or outside lines) can be joined together in an add-on conference. Parties may be eliminated or added after a conference has been established.

### **UNSUPERVISED**

A station user may set up a conference with two or more outside lines and then exit the conference leaving the outside lines connected in an unsupervised (trunk to trunk) conference.

## **DATA SECURITY**

Single line extensions used with modems and facsimile machines can be programmed so that they will not receive any system-generated tones that would disrupt data transmissions. In addition, these devices receive DCS C.O. ringing

pattern instead of intercom ring pattern. Devices connected to an SLI card receive a disconnect signal upon termination.

### **DATABASE PRINTOUT**

A copy of the customer database can be obtained by using PCMMC. This information can be directed to a printer or the PC screen and may be done either on-site or remotely. A complete database or specific data blocks may be obtained.

### **DIRECT IN LINES**

Outside lines may be programmed to bypass the operator(s) and ring directly at any station or group of stations.

### **DIRECT INWARD DIALING (DID) T1/COPPER**

The DCS can use local telephone company-provided DID service via a T1 span, E & M or DID analog trunk modules. When programmed, anyone dialing a user's personal number rings directly to that user's office. DID calls to a busy station have the option to return busy signal to the C.O. or return ringback to the C.O. When ringback is selected, the called station receives off-hook ring. Multiple DID numbers can ring the same extension or station group and display keysets show a DID directory name when ringing if a name has been programmed. DID calls that are directed to ring a voice mail machine can be identified by a special digit (see Voice Mail Integration). It is also possible to program the E & M trunks to use the DID translation tables, allowing the system to use both way DID type service.

### **DIRECT INWARD SYSTEM ACCESS (DISA)**

Users can call in on specific DISA lines at any time, input a security code and receive system dial tone. Users can now place internal calls or if permitted, calls using C.O. lines. The caller must have a tone dial phone and know his/her DISA security code. DISA lines can be used as both way lines or incoming only and may be active in day mode, night mode or both. The C.O. lines used for DISA must have disconnect supervision.

### **DIRECT TRUNK SELECTION**

Each station can be allowed access to or denied access from a trunk or trunk group by access code when LCR is activated. When restricted, the station user must use a trunk key or a route key.

### **DIRECTORY NAMES**

Each station, station group and C.O. line may be assigned a directory name (maximum 11 characters). In addition, each personal speed dial number, system speed dial number and entry in the DID translation table may be assigned a name (maximum 11 characters). These names are displayed during calls with these ports and in the case of station and speed dial names, can be used to originate calls. See the Dial by Name feature (Station Features).



## DISA SECURITY

Telephone fraud and long distance theft continue to increase; therefore, we have introduced a DISA security system. If an incorrect DISA passcode is entered repeatedly (as is the case with "hackers"), the DISA system can be automatically disabled temporarily. Both the number of incorrect passcode attempts and the time that DISA is disabled are programmable. In addition, all failed attempts to access DISA print on SMDR (if provided) with a "DE" DISA error flag.

## DISTINCTIVE RINGING

A user knows the type of call received by the type of ring heard. Outside calls have a single ring repeated while internal calls have a double ring repeated.

## DOOR LOCK RELEASE (PROGRAMMABLE)

After answering a call from the door phone, users can dial a code to activate a contact closure. This can be used to operate a customer-provided electric door lock release mechanism. The contact closure timer is programmable from 100–2500 ms.

## DOOR PHONES

The door phone interface module (DPIM) provides for connection of a door phone to a DLI port. Pressing the button on the door phone produces a distinctive ring (three short rings repeated) at the assigned station or station group. If not answered within a programmable time, the system releases the door phone and stops the ringing. Stations may call the door phone directly and monitor the surrounding areas.

## DOOR PHONE NIGHT RING

The ring destination of door phone calls may be different at night than during the day. For example, large factories may want these calls directed to a security desk after hours.

## E & M TIE LINES (T1/COPPER)

Your office can be connected to another office with a tie line. Use it to make calls to stations in the other system. If programming allows, you can access lines in the other system to make outside calls. Tie line calls can be put on hold, transferred and conferenced in the same way as are other outside calls. Users accessing the tie line from the other system can get a line in your system and make outgoing calls. These calls can be controlled by assigning a dialing class to the tie line. These calls also have the ability to be translated as do the DID trunks, this allows for bothway DID calls.

## EXECUTIVE BARGE-IN (OVERRIDE)

The feature allows specially programmed stations with a barge-in key to override the automatic privacy of another station. Programming allows barge-in with or without a warning tone. Stations may also be programmed as "secure" so that they cannot be barged-in on.

## WITH WARNING TONE

When the barge-in with tone option is set, the barging-in keyset has its microphone on and the barged-in on station receives an override display. A double burst of warning tone sounds and repeats every ten seconds. This feature does not work from single line sets.

## WITHOUT WARNING TONE

When the barge-in without tone option is set, the barging-in keyset has its microphone muted and the barged-in on station does not receive an override display. This feature does not work from single line sets.

**WARNING: BARGE-IN WITHOUT TONE MAY VIOLATE STATE OR FEDERAL LAWS CONCERNING THE RIGHT TO PRIVACY. SAMSUNG TELECOMMUNICATIONS AMERICA IS IN NO WAY RESPONSIBLE FOR THE POSSIBLE MISUSE OF THIS FEATURE.**

## EXECUTIVE/SECRETARY POOLING

Each keyset may be defined as a BOSS or a SECRETARY in system programming. Each BOSS can have up to four SECRETARIES and each SECRETARY can have up to four BOSSES. These arrangements are known as executive/secretary pools. There can be multiple pools in a system. When a BOSS is in DND, all calls to the BOSS ring the first SECRETARY assigned to that BOSS; if that SECRETARY is busy, the call hunt to the next available SECRETARY assigned to that BOSS. If the SECRETARY must communicate with the BOSS while he/she is in DND, pressing the corresponding BOSS button on the SECRETARY's keyset results in an Auto Answer intercom call being made to the BOSS (providing the BOSS is free). A station can only be the BOSS of one SECRETARY pool. In addition, a station cannot be in more than one pool.

## EXTERNAL MUSIC INTERFACES

Each Trunk A and Trunk A1 card provides an interface for connecting a customer-provided external music source. These sources can be used for background music, station music on hold or trunk music on hold.

## EXTERNAL PAGE INTERFACES

Each Trunk A and Trunk A1 card provides one external page output and two zone control relays. Resources from multiple Trunk A and Trunk A1 cards can be combined to provide up to four external zones per tenant. Multiple relays may be assigned to each zone.

## FLASH KEY OPERATION

While a user is on an outside line, pressing the FLASH key will flash the central office or PBX. This is used for custom calling features on C.O. lines or in conjunction with CENTREX/PBX operation. System programming allows individual flash times for C.O.

and PBX lines. When C.O. or PBX flash is not required, setting the timers for two seconds releases the existing call and returns dial tone to make a new call.

## **FLEXIBLE NUMBERING**

System programming allows stations to have two, three or four digit extension numbers beginning with the digit 2 or 3. Default extension numbers begin with 201. Station hunt group access codes can be two or three digits beginning with the digit 5. These can be changed but it will affect other feature access codes. All user guides are written using the default numbering plan.

## **FLEXIBLE RINGING**

Each C.O. line can be programmed to ring at any station or station group. Each line can be assigned a day ring destination and a night ring destination.

## **GROUND START TRUNKS (T1/COPPER)**

The DCS can utilize these trunks to support a positive disconnect signal and prevent call collisions on heavy traffic usage. Caller ID is not available on these trunks.

## **HOT LINE**

Stations can be programmed to call a pre-defined station or station group whenever that station goes off-hook. A hot line delay timer of 1-250 seconds can be programmed to allow sufficient time to make a different call.

## **IN GROUP/OUT OF GROUP**

Individuals assigned to a station hunt group may temporarily remove their telephones from the group by pressing the In/Out of Group button providing that there is someone still in the group. Stations out of a group will not receive calls to that group but will continue to receive calls to their individual extension numbers. When desired, the user may put him/herself back into the group by pressing the button again. Users who do not have this button may dial the access code and the group desired. A station user is allowed to be in several groups, providing a key and the extender of that group are assigned for each group on the user's phone.

## **INCOMING CALL DISTRIBUTION**

Incoming calls can be assigned to ring a distributed station hunt group. This allows all members of the group to share the call load.

## **INCOMING/OUTGOING SERVICE**

Outside lines are available for incoming or outgoing service. Programming allows any outside line to be used for incoming calls only, outgoing calls only or both way service.

## **INDIVIDUAL LINE CONTROL**

Each station in the system can be individually programmed to allow or deny dialing out as well as allow or deny answering for each outside line.

## LEAST COST ROUTING

Least Cost Routing (LCR) is the ability to automatically select the appropriate central office route for the outside number dialed by any station. LCR can become quite complicated to understand and program but does allow highly complex dialing decisions. The DCS LCR package includes the following features:

- Option to use or not use LCR
- Programmable LCR access code
- Digit analysis table 500 entries each with ten digits
- Routing by time of day and day of week
- Routing according to individual station class
- Modify digits table 100 entries
- Flexible trunk group advance timer
- Option to use or not use trunk group advance warning tones
- Backspace key when dialing

## LIVE SYSTEM PROGRAMMING

The system can be programmed from any display keyset or personal computer without interrupting normal system operation. There are three levels of programming: technician, customer and station. The technician level has access to all programs and can allow the customer access to system programs as needed. Technician and customer access are controlled by different security passcodes. Programming from a PC requires the PCMMC program.

## MEET ME PAGE AND ANSWER

After a user makes a Meet Me Page, the user may remain off-hook to allow the paged party to meet the user for a private conversation.

## MEMORY PROTECTION

In the event that power is lost to the system, all customer data contained in memory is retained by the use of a "super capacitor" for approximately seven days. In addition, the PCMMC computer program may be used to produce a backup copy of the customer data.

## MESSAGE WAITING INDICATIONS

When calling a station and receiving a busy signal or the no answer condition, the caller can leave an indication that a message is waiting. The message button will flash red at the messaged keyset. A single line phone will receive a distinctive message waiting dial tone. Five message waiting indications can be left at any station.

## MICROPHONE ON/OFF PER STATION

The microphone can be disabled at any keyset. When the microphone is disabled, the keyset cannot use the speakerphone, although on-hook dialing and group listening are still possible.



## MUSIC ON HOLD—FLEXIBLE

When multiple Trunk A or Trunk A1 cards are installed in the system with external sources connected, each C.O. line may be programmed to receive one of the external sources, internally-generated tones, chime music or no music when it is placed on hold. If there are no Trunk A or Trunk A1 cards installed, each line may receive either a system-generated tone or no music. The system-generated tone is a beep every ten seconds. The Trunk A1 card provides an internally chimed music source playing Für Elise.

## NIGHT SERVICE

The PROSTAR DCS provides separate ringing locations for all trunks in both the day and the night modes.

### AUTOMATIC

Automatic night service allows each tenant to automatically go in and out of night service according to the system clock. There are separate time options available for each day of the week. This feature can be overridden by a manual night service key and passcode.

### MANUAL

The operator presses the NIGHT key and then dials a passcode to change day mode to night mode operation.

## OFF PREMISES EXTENSIONS (OPX)

A single line (tip and ring) extension from an SLI card may be connected to telephone company-provided OPX circuits to remote locations. 8SLI cards and KDb-SLIs do not support off premises extensions.

## OPERATOR GROUP

The operator group can contain 32 stations to answer incoming calls. Calls to this group can be set for distributed, sequential or unconditional ringing. Operators can use the In/Out of Group feature to meet flexible operator requirements.

## OVERFLOW

### OPERATOR

When calls ringing a operator group go unanswered, they can overflow to another destination after a programmed period of time. The operator group has its own timer. The overflow destination can be a station or station group.

### STATION GROUP

When calls ringing a station group go unanswered, they can overflow to another destination after a programmed period of time. Each station group has its own timer. The overflow destination can be a station or station group.

## PAGING

System software allows the use of four internal and four external paging zones. Stations can page any individual zone, all internal zones, all external zones or all zones simultaneously. Using system programming, each station may be allowed or denied the abilities to make and/or receive page announcements to any zone or combination of zones.

## POWER FAILURE TRANSFER

Each Trunk A and Trunk A1 card is equipped with two power fail relays. If power fails, these relays can be used to reroute the first two C.O. lines on the card to single line telephones. When power is restored to the system, the lines and stations return to normal operation and calls in progress will be disconnected.

## PRIME LINE SELECTION

Any station can be programmed to select a specific line, line group, telephone number, station or station group.

## PRIVATE LINES

For private line use, stations can be prevented from dialing and/or answering any line.

## PROGRAMMABLE LINE PRIVACY

Each outside line can be programmed to ignore the automatic line privacy. This allows up to four other parties to join your conversation by simply pressing the line button. This is similar to 1A2 key telephone operation.

## PROGRAMMABLE TIMERS

There are over 50 programmable system timers to allow each installation to be customized to best fit the end user's application.

## RECALLS

Calls put on hold, transferred or camped-on to any station will recall to the originating station if not answered within a programmable time. A recall that goes unanswered for the duration of the attendant recall timer will recall to the system operator group. Hold, transfer, camp-on and attendant recalls have individual programmable timers. Calls recalling to buttons with tri-colored LEDs will flash amber.

## REMOTE PROGRAMMING—PC

Remote programming allows the technician to access the system database from a remote location for the purpose of making changes to the customer data. Customer-provided modems and a PC using an optional software package will be needed to implement this feature.

## RING OVER PAGE

Any outside line can be programmed to ring over a customer-provided paging system. Outside lines, door phones and station groups may ring over page in the day or night mode.



## **SINGLE LINE CONNECTIONS**

Single line ports allow connection of a variety of single line telephones plus facsimile machines, answering machines, loud bells, computer modems, cordless phones and credit card machines. When connecting customer-provided equipment to these extensions, compatibility should be checked out before purchase to ensure correct operation. Central office ring cadence can be selected for SLT stations. This is helpful when optional devices cannot detect DCS intercom ring cadence.

## **SPEED DIAL NUMBERS (1500)**

A library of 1500 speed dial numbers may be allocated as needed. The system list can have up to 500 numbers and each station can have up to 50 numbers. Speed dial numbers are assigned in blocks of ten. Each speed dial number may contain up to 18 digits.

## **SPEED DIAL BY DIRECTORY**

The DCS system provides the user with the ability to look up a speed dial number and place the call. There are three speed dial selections: personal, system and station. This feature can be used with the soft keys on the display keysets or as a programmable button.

## **STATION HUNT GROUPS (30)**

System programming allows up to 30 station hunt groups. One of three ring patterns—sequential, distributed and unconditional—is available for each group. Each unconditional group may contain a maximum of 32 stations and each sequential and distributed group may contain a maximum of 48 stations. A station may be assigned to more than one group. The default directory numbers to call these groups are 501–529. Group 500 is reserved for the operator group and is called by dialing "0." Each station group has its own recall timer for calls transferred to that group.

## **STATION MESSAGE DETAIL RECORDING (SMDR)**

The system provides, via an optional SIM, records of calls made, received and transferred. Connecting a customer-provided printer or call accounting system will allow collection of these records. Each call record provides the following details: station number, outside line number, start date, start time, duration of call, digits dialed (maximum 18) and an account code if entered. The system may print a header followed by 50 call records per page or send continuous records with no header for use with a call accounting machine. See the sample printouts.

The SMDR format contains many options that allow it to be customized for a company's individual needs. Options to print include incoming calls, outgoing calls, in and out of group status, change in DND status and authorization codes.

## SYSTEM ALARMS

When installed in the basic KSU, each Trunk A and Trunk A1 card has an alarm sensor pair. When this pair is short-circuited, the system will ring a preprogrammed destination with a customized display message. The alarm destination can be a station or station group.

A DISA alarm will warn the customer if the DISA security system has been triggered by too many incorrect password attempts. The alarm can ring any station or group of stations and show an appropriate display at the assigned stations.

## SYSTEM DIRECTORY

Each station, station group and outside line can have an 11 character directory name. This name will appear on keyset displays to provide additional information about lines and stations.

## TENANT SERVICE (2)

There are several programs that allow the DCS to be installed in tenant applications. These features allow a technician to split the system in two with each tenant having individual control over operator groups, page zones, speed dial numbers, night service (manual or automatic), DISA and customer level programming. Each tenant is separate. No intercom calling between tenants is permitted.

## TOLL RESTRICTION

There are 500 allow and 500 deny entries of 11 digits each. Each of these entries can apply to dialing classes B, C, D, E, F and G. Expensive 976, 1-900, 411 and operator-assisted calls, as well as specific area and office codes, can be allowed or denied on a per-class basis. Class A stations have no dialing restrictions and Class H stations cannot make outside calls.

Any outside line may be programmed to follow station toll restriction or follow the toll restriction class assigned to it. Each station and trunk can have a day dialing class and a night dialing class.

## TOLL RESTRICTION OVERRIDE

Program options allow system speed dial numbers to follow or bypass a station's toll restriction class. In addition, users may make calls from a toll restricted station by using the walking class of service or authorization code feature.

## TONE OR PULSE DIALING

Outside lines can be programmed for either tone or pulse dialing to meet local telephone company requirements.

## TRANSFER

System operation permits station users to transfer calls to other stations in the system. Transfers can be screened, unscreened or camped-on to a busy station.

## TRUNK GROUPS (11)

Outside lines can be grouped for easy access by dialing a code or pressing a button. There are 11 trunk groups available. Access codes are 9 and 80-89.

## UNIFORM CALL DISTRIBUTION (UCD)

UCD is used whenever the user expects to have more ringing calls than people to answer them. It prevents callers from receiving busy signals or lengthy delays before answering. Callers reaching a busy station group are held in queue for an available agent. First and second announcements reassure the caller until an agent becomes free. Up to five separate UCD groups can be created. Programmable automatic logout removes a station from the group if a call is placed to an unattended station, thus preventing unanswered calls. A wrap-up timer prevents calls to a station for a programmable period of time to allow the agent to finish up work associated with the call.

**NOTE:** Requires optional hardware and/or software. Ask your dealer for details.

### MAXIMUM OF FIVE GROUPS

The UCD group option allows callers in queue at a UCD group to be temporarily diverted to an announcement device and then placed back in the queue. A wrap-up timer will allow agents to complete paperwork before receiving the next UCD call.

### CALL STATISTICS

UCD supervisor positions using a display keyset can monitor the number of calls in queue, the time that the oldest caller has been waiting, the total number of calls received for the current day and the average time a caller waits to be answered.

### AGENT STATISTICS

UCD supervisor positions using a display keyset can monitor the number of agents in a group and how many agents are currently logged in. Each station's status can be reviewed for the number of calls answered and the average call length of the current day.

### GROUP SUPERVISORS

Multiple supervisors can be assigned to each group or one station can be given supervisor status for multiple groups. The group supervisor (using a display keyset) can add and delete agents in real time from the group to handle the workload.

### PRINTED REPORTS

Agent supervisors may run printed reports to a customer-provided printer, showing the data available on the supervisor displays.

## UNIVERSAL ANSWER

Station users may dial the Universal Answer code or press the UA key to answer any outside lines programmed to ring the UA device. The UA device can be a station, group of stations, common bell or ring over page.

## VOICE MAIL INTEGRATION

The DCS system uses DTMF tones (inband signaling) to communicate with any compatible voice mail system. Stations can call forward to a voice mail system. When answered, the system will send DTMF tones routing the caller directly to the called station user's mailbox. Keypad users can press one button to retrieve messages from the voice mail system.

Some additional options concern overflow, message retrieval and DID. Because of the complex nature of this feature, see the *DCS Technical Manual* for more details.

NOTE: Although most voice mail systems will work with the DCS, the system data has default values set to work with the StarMail Voice Processing System. They may need to be changed if you are using another system.

## WALKING CLASS OF SERVICE

This feature allows users to make calls or use features from a station that is restricted. The users may either use the WCOS feature code or the authorization code feature. Both methods change the class of service to correspond with the station passcode or authorization code that is dialed. After the call is completed, the station returns to its programmed class of service.

## STATION FEATURES

ADD-ON MODULE	ONE TOUCH DIALING KEYS
APPOINTMENT REMINDER	ON-HOOK DIALING
AUTOMATIC HOLD	PROGRAMMABLE KEYS
AUTOMATIC PRIVACY	PROGRAMMED STATION MESSAGES
BACKGROUND MUSIC	PROTECTION FROM BARGE-IN
BUSY STATION CALLBACK	PULLOUT DIRECTORY TRAY
BUSY STATION INDICATIONS (BLF)	PULSE TO TONE SWITCH OVER
CALL FORWARDING	REDIAL
CALL PICKUP	AUTO RETRY
DIAL BY NAME	LAST NUMBER
DIAL BY VOICE†	SAVE NUMBER
DIRECT STATION SELECTION (DSS)	RING MODES
DO NOT DISTURB (PROGRAMMABLE)	AUTO ANSWER
DOOR LOCK RELEASE	RING—EIGHT TONE CHOICES
EXCLUSIVE HOLD	VOICE ANNOUNCE
GROUP LISTENING	RINGING PREFERENCE
HEADSET OPERATION	SPEAKERPHONE
HEARING AID COMPATIBLE	STATION LOCK
LINE QUEUING WITH CALLBACK	TRI-COLORED LIGHTS
LINE SKIPPING	VOLUME SETTINGS
LOUD RINGING INTERFACE	HANDSET
MESSAGE WAITING LIGHT/INDICATION	BGM
MUTE MICROPHONE/HANDSET	RINGING
OFF-HOOK RINGING	PAGING
OFF-HOOK VOICE ANNOUNCE (STANDARD)	SPEAKER
OFF-HOOK VOICE ANNOUNCE (EXECUTIVE)	OFF-HOOK RING
ONE TIME DO NOT DISTURB	WALL-MOUNTABLE KEYSETS

†Requires optional hardware and/or software. Ask your dealer for details.

## 4.2 STATION FEATURE DESCRIPTIONS

### ADD-ON MODULE

The DCS add-on module (AOM) adds to the capability of any keyset or can be used by itself whenever a handset and dial pad are not desired. The 32 programmable buttons can be used for feature keys, DSS/BLF keys or one touch speed dial buttons.

### APPOINTMENT REMINDER

Keysets with an alarm key can be used like an alarm clock. When programmed for a specific time, the keyset will sound a distinctive ring to remind the user of meetings or appointments. Alarms can be set for "today only" or for every day at the same time. Up to three alarms may be set at each keyset. Display keysets can also show a programmed message when the alarm rings.



## **AUTOMATIC HOLD**

Station users can enable or disable automatic hold at their keysets. While a user is engaged on an outside (C.O.) call, pressing another trunk key, route key or CALL button automatically puts the call on hold when this feature is enabled. Pressing TRSF, CONFERENCE, PAGE or a DSS key will always automatically place the call on hold. This type of automatic hold is not a user-selectable option.

## **AUTOMATIC PRIVACY**

All conversations on outside lines and intercom calls are automatically private. The privacy feature can be turned off on a per-line basis.

## **BACKGROUND MUSIC**

When customer-provided music sources are connected, each keyset user may listen to background music. The HOLD button turns background music on or off and the volume is controlled by the volume control keys. The number of music sources is dependent on the number of Trunk A and Trunk A1 cards installed in the system. Chime music is available from the Trunk A1 card.

## **BUSY STATION CALLBACK**

When reaching a busy station, callers may request a callback by pressing one button or dialing a code. The system rings the caller back when that station becomes idle (a system-wide maximum of 100 callbacks are allowed at one time including busy station and busy trunk).

## **BUSY STATION INDICATIONS (BLF)**

DSS/BLF keys may be assigned to any keyset or add-on module. These buttons will be off when the station is idle, light red when that station is in use and flash distinctively when that station is in the DND mode.

## **CALL FORWARDING**

Station users can forward internal and outside calls to other destinations immediately (Forward All), when busy (Forward Busy) or if not answered in a programmable number of seconds (Forward No Answer). These forward destinations can all be different. Once a destination has been programmed, it can be turned on and off with a programmable key. Forward All takes priority over Busy and No Answer conditions.

In addition to the three usual methods of forwarding described above, a fourth option called Follow Me is available. This option allows a station user to set a Forward All condition from his/her station to another station while at the remote station. To display the Follow Me condition, the TRSF key lights steady red at the station that is forwarded. The TRSF key also lights if Forward All is set and no key is programmed for Forward All.



Keypad users can be given an external call forward button to forward their calls to an external phone number. Each outside line may be programmed to either follow or ignore station call forwarding. A per-station option controls whether internal calls forward to voice mail or not. Single line telephones must have the system administrator program this feature for them.

## CALL PICKUP

With directed call pickup, a user can answer calls ringing at any station by dialing a code plus that extension number. The group pickup feature allows the user to answer any call ringing within a pickup group. Pickup keys may be customized with extenders to allow pickup from a specific station or pickup group. The DCS has 20 programmable pickup groups.

## DIAL BY NAME

Each system and personal speed dial number can have an associated directory name. A speed dial number can be selected by scrolling alphabetically through the directory name list. This on-line "directory" allows the user to look up and dial numbers in seconds.

## DIAL BY VOICE

The DCS can provide a station user the ability to place calls by speaking one of the names stored in his/her personal speed dialing bins. Non-display and single line stations can access this feature by dialing a feature code.

NOTE: Requires optional hardware and/or software. Ask your dealer for details.

## DIRECT STATION SELECTION (DSS)

Programmable keys can be assigned as DSS keys and associated with extension numbers. Users press these keys to call or transfer calls to the assigned stations.

## DO NOT DISTURB (PROGRAMMABLE)

The Do Not Disturb (DND) feature is used to stop all calls to a station. System programming can allow or deny use of the DND feature for each station. Parties calling a station in DND will receive reorder tone. A keypad without a DND button can activate DND via the feature access code. The ANS/RLS key will flash at 112 ipm (rapidly) when DND is set. There is a programmable option to allow a C.O. line to override DND at its ring destination if that destination is a single station.

## DOOR LOCK RELEASE

Stations programmed to receive calls from a door phone can dial a code to activate a contact closure for control of a customer-provided electronic door lock.

## EXCLUSIVE HOLD

Pressing HOLD twice will hold a call exclusively at a station so no other station can pick up that call. Intercom calls are automatically placed on exclusive hold.

## GROUP LISTENING

This feature allows users to turn on the speaker while using the handset. It allows a group of people to listen to the distant party over the speaker without the microphone turned on.

## HEADSET OPERATION

Every keyset can be programmed to allow the use of a headset. In the headset mode, the hookswitch is disabled and the ANS/RLS key is used to answer calls. The ANS/RLS key lights steady red when the keyset is in headset mode.

## HEARING AID COMPATIBLE

All DCS keysets are hearing aid compatible as required by Part 68 of the FCC requirements.

## LINE QUEUING WITH CALLBACK

When the desired outside line is busy, the user can press the CALLBACK key or dial the access code to place his/her station in a queue. The user will be called back when the line is available (a maximum of 100 callbacks are allowed system-wide at one time including busy station and busy trunk).

## LINE SKIPPING

When the user is talking on an outside line and the automatic hold feature is turned off, he/she may press an idle line key and skip to that line without causing the previous call to go on hold.

## LOUD RINGING INTERFACE

Each Trunk A and Trunk A1 card provides a ring output that may be connected to a customer-provided amplifying device. The output can then be assigned to ring with a specific station to provide loud ringing capability.

## MESSAGE WAITING LIGHT/INDICATION

When a message indication is left at a keyset, the MESSAGE button will slowly flash red. Single line telephones will receive a distinctive dial tone to notify them that a message is waiting. Message waiting indications can be left for any station or group of stations.

## MUTE MICROPHONE/HANDSET

Any keyset user can mute the keyset's handset transmitter by pressing the MUTE key. In addition, keyset users can also mute the keyset microphone while the keyset is in speakerphone mode.

## OFF-HOOK RINGING

When a keyset is in use, the system will provide an off-hook ring signal to indicate that another call is waiting. The ring signal is a single ring repeated. The interval is controlled by a system-wide timer. Single line stations will receive a tone burst through the handset receiver instead of a ring.

## OFF-HOOK VOICE ANNOUNCE (STANDARD)

Keysets may receive a voice announcement while on another call. The calling station must have an OHVA key. When transferring a call to a busy keyset or while listening to busy signal, the station user can press the OHVA key to make an OHVA call to the busy keyset. If the called keyset is in the DND mode, it cannot receive OHVA calls.

## OFF-HOOK VOICE ANNOUNCE (EXECUTIVE)

A keyset associated with an add-on module (AOM) may receive an executive off-hook voice announcement while on another call. The called keyset user may reply handsfree without interrupting the call in progress. Only keysets with an off-hook voice announce button (OHVA) can off-hook voice announce to keysets with AOMs.

## ONE TIME DO NOT DISTURB

The Do Not Disturb (One Time) feature is used to stop all calls to a station when the user is on an outside line and does not want to be disturbed for the duration of the call. Upon completion of the call, DND is canceled and the station is returned to normal service. This feature requires a programmed button.

## ONE TOUCH DIALING KEYS

Frequently used speed numbers can be assigned to one touch dialing keys for fast accurate dialing.

## ON-HOOK DIALING

Any keyset user can originate calls without lifting the handset. When the called party answers, the user may speak into the microphone or lift the handset for more privacy.

## PROGRAMMABLE KEYS

LCD 24B and STD 24B keysets have 24 programmable keys and LCD 12B and Basic 12B keysets have 12. Each key can be programmed for more than 25 different uses to personalize each phone. Examples of keys include individual outside line, individual station, group of lines, group of stations and one touch speed dial buttons. Using these keys eliminates dialing access codes.

The following feature keys have extenders that make them more specific: SPEED DIAL, SUPERVISOR, PAGE, DSS, DIRECTED PICKUP, GROUP PICKUP, DOOR PHONE, BOSS, PROGRAMMED MESSAGE, IN AND OUT OF GROUP and FORWARD. The extender can be a station, a group or another identifying number.

## PROGRAMMED STATION MESSAGES

Any station may select one of twenty messages to be displayed at a calling party's keyset. Ten messages are factory-programmed and the remaining ten can be customized by the system administrator (16 characters maximum).

NOTE: The calling party must have a display keyset to view these messages.

## PROTECTION FROM BARGE-IN

Each station can be programmed as secure or not secure. Secure stations cannot be barged-in on. A station that is not secure cannot be barged-in on when talking to a secure station.

## PULLOUT DIRECTORY TRAY

A pullout directory tray is conveniently located beneath all keysets. It is used to record station directory names and speed dial numbers.

## PULSE TO TONE SWITCHOVER

When dialing a number on a dial pulse network, a station user can dial # and the DCS system will begin to send DTMF.

## REDIAL

There are three types of external redial available to all station users. Each type can redial up to a maximum of 18 digits.

- **AUTO RETRY**—When an outside number is dialed and a busy signal is received, the auto retry feature can be used to reserve the outside line and automatically redial the number for a programmable number of attempts.
- **LAST NUMBER**—The most recently dialed number on a C.O. line is saved and may be redialed by pressing the redial key or dialing the LNR access code.
- **SAVE NUMBER**—Any number dialed on a C.O. line may be saved for redial at a later time.

## RING MODES

Each keyset user can select one of three distinct ways to receive intercom calls. The phone can automatically answer on the speakerphone, voice announce through the speaker or receive ringing. When the ring mode is selected, keyset users can choose one of eight distinct ring tones. Forced Auto Answer is invoked by the calling station and is controlled by the calling station's class of service.

## RINGING PREFERENCE

Lifting the handset or pressing the speaker button automatically answers a call ringing at the keyset. Using this method, users are assured of answering the oldest call first. When ringing preference is turned off, the user must press the flashing button to answer. Users may answer ringing lines in any order by pressing the flashing button.

## SPEAKERPHONE

LCD 24B, STD 24B, LCD 12B and Basic 12B keysets have a built-in speakerphone. The speakerphone enables calls to be made and received without the use of the handset.

## STATION LOCK

With a programmable personal station passcode, any keyset can be locked and unlocked. A locked keyset cannot be used to make or receive calls.

## TRI-COLORED LIGHTS

LCD 24B and STD 24B keysets have 16 keys equipped for tri-colored LED indications (green, red and amber). LCD 12B and Basic 12B models have six of these keys. To avoid confusion, your calls always light green, other calls show red and recalls light amber.

## VOLUME SETTINGS

Each keyset user may separately adjust the volume of the ringer, speaker, handset receiver, background music, page announcement and off-hook ring tone.

## WALL-MOUNTABLE KEYSETS

Every keyset and add-on module comes equipped with a reversible base wedge that can be utilized as a wall-mount bracket.



## DISPLAY FEATURES

ACCOUNT CODE DISPLAY	ENHANCED STATION PROGRAMMING
CALL DURATION TIMER	IDENTIFICATION OF RECALLS
CALL FOR GROUP IDENTIFICATION	IDENTIFICATION OF TRANSFERS
CALL PROCESSING INFORMATION	MESSAGE WAITING CALLER NUMBER
CALLER ID INFORMATION	OUTSIDE LINE IDENTIFICATION
CALLING PARTY NAME	OVERRIDE IDENTIFICATION
CALLING PARTY NUMBER	PROGRAMMED MESSAGE DISPLAY
CONFERENCE INFORMATION	SOFT KEYS
DATE AND TIME DISPLAY	STOPWATCH TIMER
DIALED NUMBER	UCD SUPERVISOR DISPLAYS

### 4.3 DISPLAY FEATURE DESCRIPTIONS

#### ACCOUNT CODE DISPLAY

Account codes are conveniently displayed for easy confirmation. If entered incorrectly, users may press the ACCOUNT key again and reenter the account code.

#### CALL DURATION TIMER

The system can automatically time outside calls and show the duration in minutes and seconds. Station users may manually time calls by pressing the TIMER button.

#### CALL FOR GROUP IDENTIFICATION

When a call is made to a station group, the display shows [CALL FOR GROUP] and the user's group number. These calls can be answered with a different greeting than calls to the user's extension number.

#### CALL PROCESSING INFORMATION

During everyday call handling, the keyset display will provide information that is helpful and in some cases invaluable. Displays such as [CALL FROM 203], [TRANSFER TO 202], [701: RINGING], [TRANSFER FM 203], [708 busy], [Camp on to 204], [Recall from 204], [Call for 501], [message from 204] and [FWD ALL to 204] keep users informed of what is happening and where they are. In some conditions, the user is prompted to take action and in other cases the user receives directory information.

#### CALLER ID INFORMATION

Caller ID information is dependent on the use of display keysets. The following list explains the displays that are used with Caller ID.

##### NAME/NUMBER DISPLAY

Each display keyset user can decide if he/she wants to see the Caller ID name or Caller ID number in the display. Regardless of which one is selected to be seen first, the N/N key is pressed to view the other piece of CID information.



## NEXT CALL

In the event that there is a call waiting or a camped-on call at the user's keyset, the user can press the NEXT key to display the Caller ID information associated with the next call in queue at the station. Either the CID name or CID number will show in the display depending on the N/N selection.

## SAVE CID NUMBER

At any time during an incoming call that provides CID information, the user may press the SAVE key. This saves the CID number in the Save Number feature. Pressing the SAVE number redial key will dial the CID number. The system must be using LCR to dial the saved number.

## STORE CID NUMBER

At any time during an incoming call that provides CID information, the user may press the STORE key. This saves the CID number as a speed dial number in the personal speed dial list. The system must be using LCR to dial the stored number.

## INQUIRE PARK/HOLD

When a user is informed that an incoming call is on hold or has been parked, the user may view the Caller ID information before he/she retrieves the call. This will influence how the user chooses to handle the call.

## CID REVIEW LIST

This feature allows display keyset users to review CID information for calls sent to their stations. This list can be from ten to fifty calls in a first in, first out basis. The list includes calls that were answered and calls that rang the user's station but that were not answered. When reviewing this list, the user can press one button to dial the person back. The system must be using LCR to dial the stored number.

## INVESTIGATE

This feature allows selected stations with a special class of service to investigate any call in progress. If CID information is available for an incoming call, the selected stations can know to whom the DCS user is speaking. On outgoing calls, the selected stations can see who was called. After investigating, the selected stations may barge-in on the conversation, disconnect the call or hang up.

## ABANDON CALL LIST (50)

The DCS has a system-wide abandon call list that stores CID information for the last 50 calls that rang but were not answered. The list is accessed using the operator's passcode. When reviewing this list, the user is provided options to CLEAR the entry or DIAL the number. The user can use the NND key to toggle between the CID name, CID number and the date and time the call came in. The system must be using LCR to dial numbers from the abandon call list.

## **CALLING PARTY NAME**

For intercom calls, LCD 24B and LCD 12B keysets show the calling party's name before answering. The names must be stored in the system directory list and can be up to 11 characters long.

## **CALLING PARTY NUMBER**

When an intercom call is received, all display stations show the calling party's extension number before the call is answered.

## **CONFERENCE INFORMATION**

When a conference is set up, each extension and outside line number is displayed at the controlling station when it is added. When a station is added, its display shows [Conf with xxx] alerting the user that other parties are on the line.

## **DATE AND TIME DISPLAY**

In the idle condition, the current date and time are conveniently displayed. Display keysets can have a 12 or 24 hour clock in either the **ORIENTAL** or **WESTERN** display format with information shown in upper case or lower case letters.

## **DIALED NUMBER**

When an outside call is made, digits are displayed as the user dials them. If the display indicates an incorrect number was dialed, the user can quickly hang up before billing begins.

## **ENHANCED STATION PROGRAMMING**

Personal programming options are easier to select and confirm with the help of the display.

## **IDENTIFICATION OF RECALLS**

Hold recalls and transfer recalls are identified differently than other ringing calls. Hold recalls indicate the recalling line or station number and the associated name. Transfer recalls indicate the recalling line or station and where it is coming from.

## **IDENTIFICATION OF TRANSFERS**

The display will identify who transferred a call to the user.

## **MESSAGE WAITING CALLER NUMBER**

When the message indication is on, pressing the **MESSAGE** button displays the station number(s) of the person(s) who have messages for the user. Display keyset users can scroll up and down to view message indications.

## **OUTSIDE LINE IDENTIFICATION**

Each line can be identified with an 11 character name. Incoming calls display this name before the call is answered. This feature is helpful when individual lines must be answered with different greetings.

## OVERRIDE IDENTIFICATION

If another station barges-in on a user's conversation, the display will alert the user with a [Barge from 2xx] display if the system is set for barge-in with tone.

## PROGRAMMED MESSAGE DISPLAY

Preprogrammed station messages set by other stations are displayed at the calling station's keyset.

## SOFT KEYS

Below the display, there are three soft keys and a SCROLL button. These keys allow the user to access features in his/her class of service without requiring the keyset to have designated feature keys.

## STOPWATCH TIMER

Display keyset users find this feature very convenient to time meetings, calls and other functions. Users simply press once to start the timer and press again to stop the timer.

## UCD SUPERVISOR DISPLAYS

With the optional AA card, when UCD is used, multiple supervisors can view useful statistics about the UCD group. Statistics are broken down into agent or calls. Agent statistics allow the supervisor to monitor and change the status (in group, out of group and DND) of any agent or view each agent's total number of calls or average call length. Call statistics allow the supervisor to view how many calls are in queue, the longest wait time, how many calls have been received today and the average time in queue.

## SAMPLE DISPLAYS

PROSTAR LCD 12B and LCD 24B display model keysets have a large, easy-to-read, 32 character liquid crystal display. Helpful call processing information is provided so everyday call handling is quick and easy. Here are just some of the displays you may see.

```
209:Tim Kelly  
FRI 23 Sep 02:54
```

Idle display shows extension, name, day, date and time.

```
Camp on to 203  
Wait for answer
```

This station is camped-on to extension 203 and is waiting for 203 to answer.

```
Call for 501  
202 Mr. Smith
```

This station in the sales department is receiving a group call from Mr. Smith.

```
Call for 501  
706 Local #6
```

This display tells you this is a new incoming call to the sales department.

```
203: Busy  
CBK MSG CAMP →
```

This station is calling station 203 which is currently busy.

```
OHVA from 203  
REJECT
```

This station is receiving an off-hook voice announcement from station 203.

```
Conf with 203  
John
```

This station is on a conference call with John, extension 203. Assume other parties will hear your conversation.

```
CONF:202 702  
CONF→
```

This station is on a conference call with extension 202 and trunk 702 and has the option to add two more parties.

```
Transfer to 203  
John
```

This station is transferring a call to John at extension 203.

```
Call from 201  
Operator
```

This station is receiving a call from extension 201.

```
DO NOT DISTURB  
ON OFF
```

This station is setting the Do Not Disturb feature.

```
703 Local 3  
CONF PAGE MUTE →
```

This station is speaking on trunk 703.

## SAMPLE CALLER ID DISPLAYS

13054264100  
702:RINGING

This display shows an incoming call from 1-305-426-4100 on Line 702 ringing directly at your station.

13054264100  
TRANSFER FM 201

This display shows a call from 1-305-426-4100 that has been transferred to you from station 201.

SAMSUNG TELECOM  
BARGE NND DROP

This display shows an investigation of a station that is talking to Samsung Telecom. Investigator can BARGE-in to the conversation, DROP the call from the system or

SAMSUNG TELECOM  
CALL FOR:500

This display shows an incoming call from Samsung Telecom ringing at group 500.

SAMSUNG TELECOM  
ANS NND IGNORE

This display is seen while using the INQUIRE feature. It shows the three options available while you are checking on a held or parked call.

05/25,09:41,702  
CLEAR NND DIAL

This display shows the information on the abandoned call list. This call came in on May 25 at 9:41 A.M. on line 702. The user can CLEAR the entry, DIAL the caller back or examine further NND information.

SAMSUNG TELECOM  
CLEAR NND DIAL→

This display shows an entry in a station review list showing the three initial options. The arrow indicates other options available to you by pressing the SCROLL key.

13054264100  
NEXT NND ANS

This display is seen while examining calls in queue at your keyset.

TALKING TO:203  
BARGE DROP

This display can be seen when investigating an intercom call. The investigator can BARGE-in or DROP the connection.



## SAMPLE UCD DISPLAYS

005 calls in  
queue now

There are five calls currently waiting to be answered by the UCD group.

06 available  
04 logged in

There are six members in the group. Four of the members are currently logged in.

longest wait  
time is 02:24

The longest call on hold (waiting to be answered) was for two minutes, 24 seconds. This data applies to all calls since the supervisor data was last cleared. It does not necessarily represent calls currently in queue.

201: answered  
065 calls today

The agent at station 201 has answered 65 calls today.

124 calls  
received today

The UCD group has received 124 calls today.

201: average  
call time 04:43

The average call length for station 201 is four minutes and 43 seconds.

average time in  
queue is 03:51

The average time on hold (waiting to be answered) is three minutes and 51 seconds.

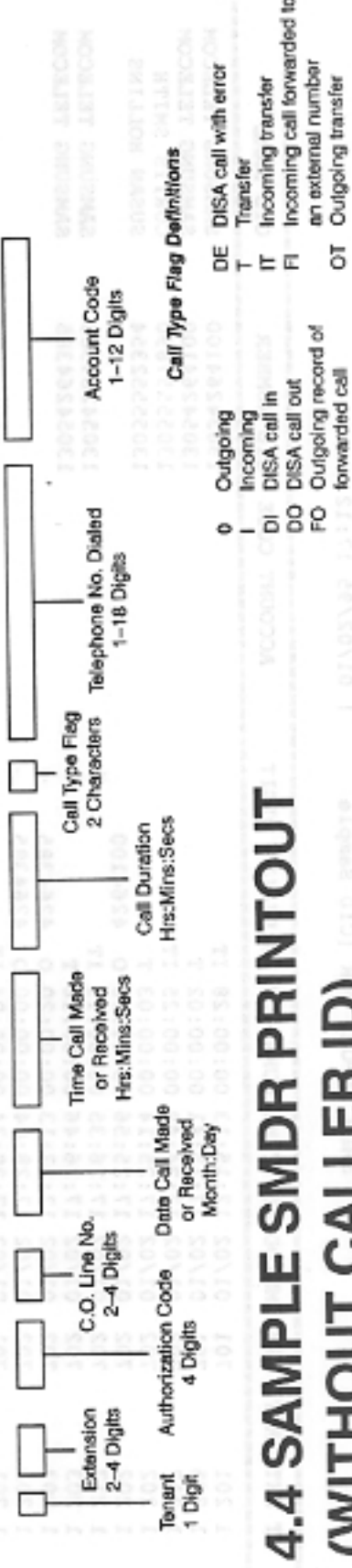
202: Sondra  
STATUS: OUT

Station 202 is currently out of the group. (The display can also show IN GROUP and DND.)



SMDR REPORT FOR [Samsung R & D ] 09/23/94 17:30

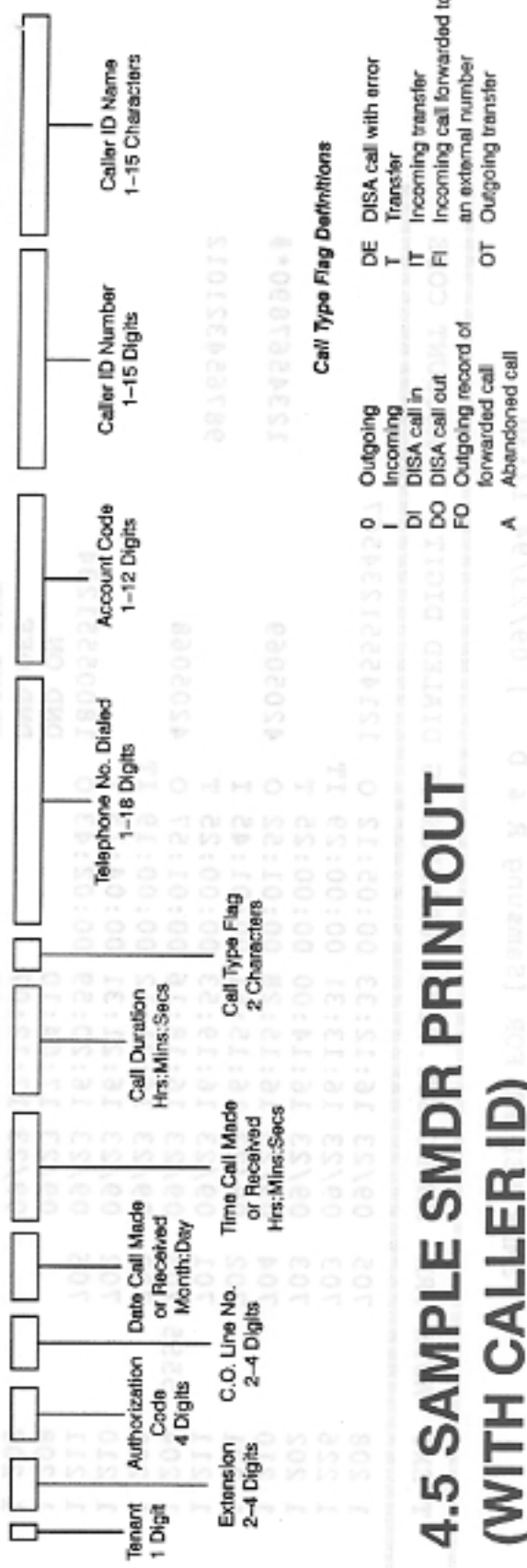
T EXT	AUTH TRK	MM/DD	STT.TIME	DURATION	FG	DIALED DIGIT	ACCOUNT CODE
1 208	705	09/23	16:12:33	00:05:12	O	12145551234567	
1 226	703	09/23	16:13:31	00:00:29	IT		
1 202	703	09/23	16:14:00	00:00:25	T		
1 210	704	09/23	16:15:28	00:01:52	O	4205069	1234567890*#
1 201	702	09/23	16:15:51	00:01:45	I		987654321012
1 211	701	09/23	16:19:53	00:00:25	T		
1 204	5555	09/23	16:18:16	00:01:57	O	4205068	
1 208	702	09/23	16:21:12	00:00:19	IT		
1 210	702	09/23	16:21:31	00:04:15	T		
1 211	706	09/23	16:20:59	00:02:43	O	18005551234	
1 208		09/23	17:04:10			DND ON	
1 208		09/23	17:12:07			DND OFF	
1 207		09/23	17:12:05			GROUP OUT	
1 207		09/23	17:16:55			GROUP IN	
1 207	735	09/23	17:17:15	00:00:11	DE	3833	
1 209	735	09/23	17:17:38	00:00:30	DI		
1 735	709	09/23	17:18:08	00:12:19	DO	13055551234	
1 706	701	09/23	17:25:15	00:00:28	FI		
1 701	706	09/23	17:25:15	00:10:25	FO	4205071	
1 312	2326	09/23	18:00:03	00:08:12	O	13054264100	232552779600



## 4.4 SAMPLE SMDR PRINTOUT (WITHOUT CALLER ID)

SMDR REPORT FOR [CID Sample] 01/02/95 17:12

T EXT	AUTH TRX	MM/DD	STT	TIME	DURATION	FG	DIALED	DIGIT	ACCOUNT CODE	CID NUMBER	CID NAME
1	201	701	01/02	17:15:13	00:00:28	IT				13054264100	SAMSUNG TELECOM
1	205	701	01/02	17:15:41	00:00:02	T				13054264100	SAMSUNG TELECOM
1	217	702	01/02	17:24:49	00:00:25	IT				13055557890	CURTIS SMITH
1	202	702	01/02	17:25:14	00:00:03	T				13055552354	SUSAN HOLLINS
1	202	702	01/02	17:25:56	00:00:00	O	4264100				
1	217	702	01/02	17:26:35	00:00:11	IT					
1	203	702	01/02	17:26:46	00:00:16	T				13054264385	SAMSUNG TELECOM
1	203	702	01/02	17:27:13	00:00:20	O	4264385				
1	203	702	01/02	17:28:04	00:00:00	O	4264385				
1	201	701	01/02	17:28:34	00:00:04	IT					
1	203	701	01/02	17:28:38	00:00:14	T				13055559748	JOAN LEVIN
1	203	702	01/02	17:29:54	00:00:00	O	5556420			13055558703	LENNY WILKINS
1	201	701	01/02	17:41:02	00:00:14	IT					
1	203	701	01/02	17:41:16	00:00:02	T				13055556420	PIZZA DELIVERY
1	203	701	01/02	17:41:45	00:00:30	A				13055556420	PIZZA DELIVERY
1	203	701	01/02	17:42:15	00:00:02	A				13055553426	TERRY FRUITT
1	203	702	01/03	17:51:17	00:00:22	O	5555069			13055554676	BLANCHE MARKER
1	201	701	01/03	17:56:02	00:00:05	A				13055556733	ALEX DAULTON
1	201	701	01/03	17:56:07	00:00:54	A				13055559723	CHAZ NEWMAN



## 4.5 SAMPLE SMDR PRINTOUT (WITH CALLER ID)

## 4.6 SAMPLE UCD REPORT

=====

UCD GROUP 529 : SALES

FROM: SUN 02 Jan 00:00  
TO : SUN 02 Jan 02:54

### CALL STATISTICS

=====

AVERAGE RING TIME (TIME TO ANSWER).....00:40  
NUMBER OF TIMES ALL AGENTS BUSY.....00002  
AVERAGE TIME IN QUEUE.....00:51  
TOTAL CALLS RECEIVED.....00011  
LONGEST QUEUE TIME.....02:14

### AGENT STATISTICS

=====

MEMBER	AGENT	NAME	CALLS RECEIVED	AVERAGE CALL TIME	RING TIME
01	210	JOHN	0002	01:55	00:05
02	211	SAM	0003	02:18	00:06
03	208	MIKE	0005	01:22	00:04
04	207	PETER	0001	03:16	00:05

-----

=====

UCD GROUP 515 : SUPPORT

FROM: MON 03 Jan 08:30  
TO : SUN 02 Jan 02:54

### CALL STATISTICS

=====

AVERAGE RING TIME (TIME TO ANSWER).....00:07  
NUMBER OF TIMES ALL AGENTS BUSY.....00005  
AVERAGE TIME IN QUEUE.....01:06  
TOTAL CALLS RECEIVED.....00023  
LONGEST QUEUE TIME.....01:02

### AGENT STATISTICS

=====

MEMBER	AGENT	NAME	CALLS RECEIVED	AVERAGE CALL TIME	RING TIME
01	223	FRED	0012	02:33	00:08
02	213	JANE	0011	01:04	00:04



## PART 5. GENERAL USER INFORMATION

### 5.1 RADIO FREQUENCY INTERFERENCE

**WARNING:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and operated in accordance with the instruction manual, it may cause interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The following measures can be tried:

1. Reorient the receiving antenna.
2. Relocate the telephone with respect to the receiver.
3. Move the telephone equipment away from the receiver.
4. Plug the Key Service Unit into a different AC outlet so that the KSU and receiver are on different circuits.

### 5.2 FCC REQUIREMENTS

The PROSTAR DCS electronic telephone system complies with Part 68 of the Federal Communications Commission Rules and Regulations.

#### UNAUTHORIZED MODIFICATIONS

Any changes or modifications performed on this equipment that are not expressly approved in writing by SAMSUNG TELECOMMUNICATIONS AMERICA could cause non-compliance with the FCC rules and void the user's authority to operate the equipment.

**NOTE:** Allowing this equipment to be operated in such a manner as to not provide for proper answer supervision is a violation of Part 68 of the FCC's rules.

#### NOTIFICATION TO TELEPHONE COMPANY

Before connecting the DCS system to the telephone network, the telephone company may request the following information:

- Your telephone number or all numbers that will be connected to the DCS.
- FCC Registration Numbers:
  - Key System—Fully Protected A3LKOR-22627-KF-E
  - Multi-Function (Hybrid)—Fully Protected A3KLOR-22493-MF-E
- Ringer Equivalence Number 0.5 B for TRK-A/A1 and TRK-B/B1
- Ringer Equivalence Number 1.5 B for TRK-C1



The PROSTAR DCS may be configured as a key system or a hybrid system. Depending on the method of operation, the appropriate FCC number must be given to the telephone company. Certain features such as pooled access by button or dial access, LCR, off premise extensions and tie lines may require the hybrid registration. Check with the local telephone company providing the service if you are in doubt. It is the customer's responsibility to comply with local telephone company tariffs.

### TELEPHONE CONNECTION REQUIREMENTS

The Federal Communications Commission (FCC) has established rules which permit the DCS to be connected directly to the telephone network using telephone company network access jacks usually referred to as "Registered Jacks."

<b>5.3 TELEPHONE COMPANY INTERFACES</b>			
<b>CIRCUIT TYPE</b>	<b>DCS CARD TYPE</b>	<b>FACILITY INTERFACE CODE</b>	<b>NETWORK JACK</b>
LOOP START LINE	TRK-A TRK-A1 TRK-B TRK-B1 TRK-C1	02LS2	RJ21X RJ11C RJ14C
	T1	04DU9-BN	RJ48C
GROUND START LINE	T1	04DU9-BN	RJ48C
	GTRK	02GS2	RJ21X RJ11C RJ14C
DID LINE	T1	04DU9-BN	RJ48C
	DID	02RV2-T	RJ21X RJ11C RJ14C
E & M TIE LINE	T1	04DU9-BN	RJ48C
	E & M	TL11M	RJ2EX
OFF PREMISES EXTENSION	SLI-4 circuit board only	OL13C	RJ21X RJ11C RJ14C

### RINGER EQUIVALENCE (REN)

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of the RENs should

not exceed 5.0. To be certain of the number of devices that may be connected to the line, as determined by the number of RENs, contact the telephone company to determine the maximum REN for the calling area.

### **INCIDENCE OF HARM**

If the terminal equipment, the PROSTAR DCS, causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

### **CHANGES TO TELEPHONE COMPANY EQUIPMENT OR FACILITIES**

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications so that you may maintain uninterrupted service.

### **SERVICE CENTER**

If trouble is experienced with the PROSTAR DCS, please contact SAMSUNG TELECOMMUNICATIONS AMERICA at (305) 426-4100 for repair or warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

### **FIELD REPAIRS**

Only technicians certified on the PROSTAR DCS are authorized by SAMSUNG TELECOMMUNICATIONS AMERICA to perform system repairs. Certified technicians may replace modular parts of a system to repair or diagnose trouble. Defective modular parts can be returned to SAMSUNG TELECOMMUNICATIONS AMERICA for repair.

### **GENERAL**

This equipment must not be used on coin telephone lines. Connection to party line service is subject to state tariffs.

The DCS system uses toll restriction and LCR features that are programmed to allow dialing over the public telephone network. The North American Numbering Plan (NANP) determines these network area codes and exchange codes. Failure to update the system programming or software may deny you access to new area codes and exchanges. Bell Communication Research (Bellcore) administers the NANP and publishes it. To obtain the latest information and keep your system current, contact Bellcore at (201) 829-3071.

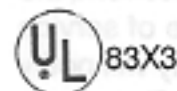
### **HEARING AID COMPATIBILITY**

All models of the PROSTAR DCS are hearing aid compatible as specified in Part 68 of the FCC Rules.

## 5.4 UNDERWRITERS LABORATORIES

The PROSTAR DCS system has been tested to comply with safety standards in the United States as listed below. This system is listed with Underwriters Laboratories.

### LISTED



E118093

## 5.5 MUSIC ON HOLD WARNING

**IMPORTANT NOTICE:** In accordance with US copyright laws, a license may be required from the American Society of Composers, Authors and Publishers (ASCAP) or other similar organizations if copyrighted music is transmitted through the Music on Hold feature. SAMSUNG TELECOMMUNICATIONS AMERICA hereby disclaims any liability arising out of failure to obtain such a license.

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# NOTES

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# NOTES

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# NOTES

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# NOTES

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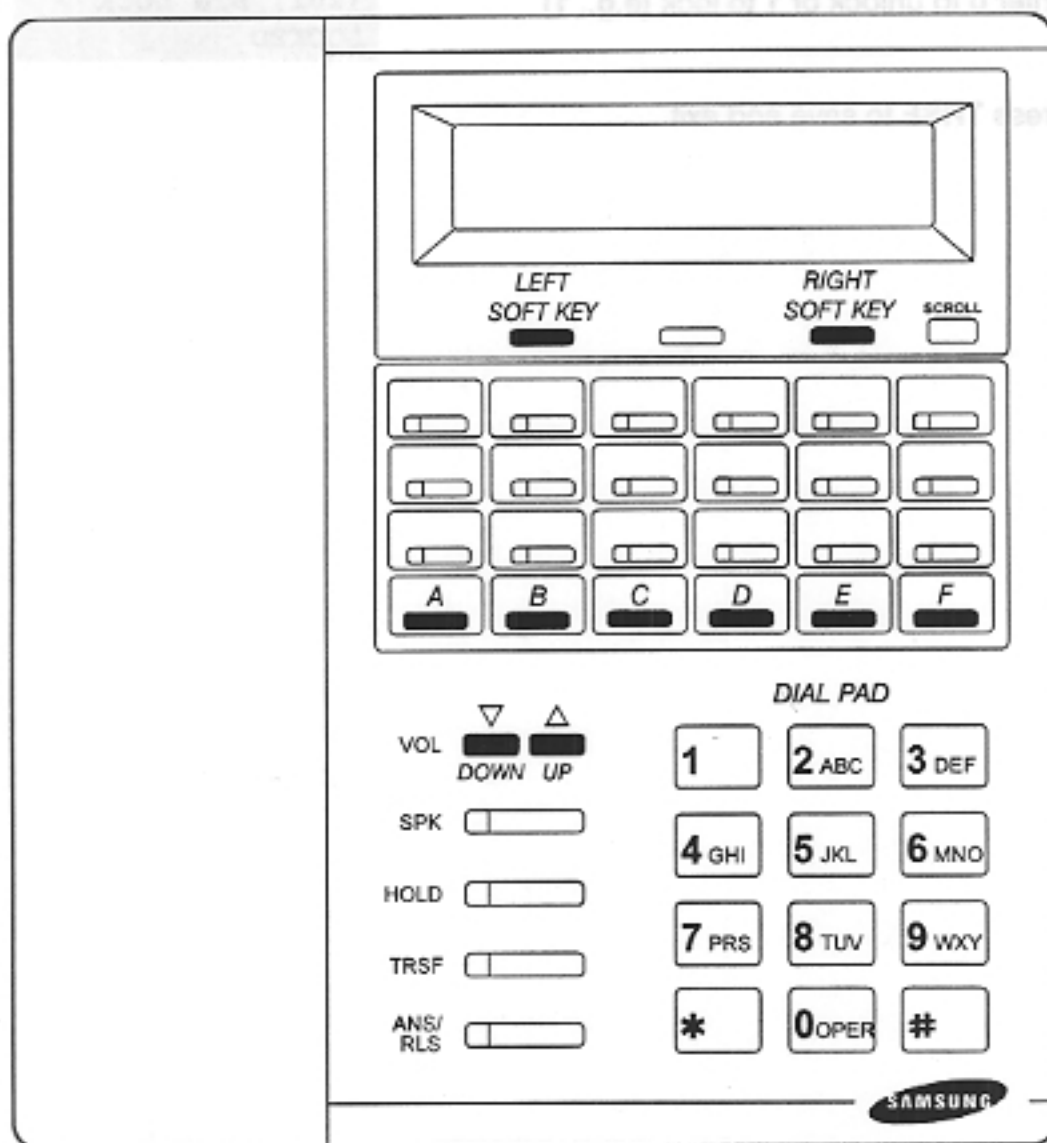


# PART 1. ENHANCED DISPLAY PROGRAMMING

## 1.1 OVERVIEW

This guide provides more detailed programming procedures that can be used by experienced display keyset users. These procedures will help explain some of the displays observed as the simpler procedures detailed in the *Keyset User Guide* are followed.

The diagram below illustrates the keys on a display keyset that have special functions during programming. When required, these keys will be referred to by the names described below.





## 1.2 LOCKING YOUR KEYSSET

You can lock your keyset to prevent other people from making or receiving calls while you are away. You can unlock it when you return.

### ACTION

1. Press **TRSF 100**  
Display shows
2. Enter your passcode  
Default is 1234
3. Enter **0** to unlock or **1** to lock (e.g., 1)
4. Press **TRSF** to save and exit

### DISPLAY

[201] STN LOCK  
PASSCODE: \_

[201] STN LOCK  
UNLOCKED

[201] STN LOCK  
LOCKED



## 1.3 CHANGING YOUR PASSCODE

Each keyset user can set or change his/her individual passcode. This passcode is used to lock or unlock keysets, for toll restriction override and to access the DISA feature.

NOTE: Default passcodes cannot be used for toll restriction override or for DISA access.

ACTION	DISPLAY
1. Press <b>TRSF 101</b> Display shows	[201] PASSCODE OLD CODE: _
2. Enter the existing passcode (default = 1234)	[201] PASSCODE OLD CODE:****
3. Enter the new passcode	[201] PASSCODE NEW CODE: _
4. Reenter the new passcode to verify the number If reentered correctly, display shows	[201] PASSCODE VERIFY :SUCCESS
5. Press <b>TRSF</b> to save and exit	

## 1.4 CALL FORWARDING

The DCS allows five types of call forwarding—Forward All, Forward No Answer, Forward Busy, Forward Follow Me and Forward External. There is an additional option, Forward Busy/No Answer, that allows both of these options to be activated at the same time, provided destinations have been entered for both.

### ACTION

### DISPLAY

- |   |  |
|---|--|
| <p>1. Press <b>TRSF 102</b><br/>                     Display shows</p>  | <pre>[201] FORWARD 0:FORWARD CANCEL</pre>  |
| <p>2. Dial <b>0-5</b> to select the forward type (e.g., <b>1</b>)<br/>                     OR<br/>                     Press <b>UP</b> or <b>DOWN</b> to select the forward type<br/>                     Press the right soft key to move the cursor</p> | <pre>[201] FORWARD 1:ALL CALL:NONE</pre>   |
| <p>3. Dial the destination number (e.g., <b>202</b>)<br/>                     OR<br/>                     Press <b>UP</b> or <b>DOWN</b> to select the destination<br/>                     Press the right soft key to move the cursor</p>               | <pre>[201] FORWARD 1:ALL CALL:202</pre>    |
| <p>4. Dial <b>1</b> to set<br/>                     OR<br/>                     Press <b>UP</b> or <b>DOWN</b> to select YES or NO</p>  | <pre>[201] FORWARD CURRENTLY SET:YES</pre> |
| <p>5. Press <b>TRSF</b> to store and exit</p>   |  |

## 1.5 SETTING YOUR ANSWER MODE

Each keyset and add-on module (AOM) can have its answer mode for intercom calls set to one of the following options:

**RING**—The station will ring in one of eight custom ring patterns. Calls are answered by pressing the **ANS/RLS** key or lifting the handset.

**AUTO**—After giving a short attention tone, the station will automatically answer calls on the speakerphone. When a C.O. line is transferred to a station in Auto Answer, the screened portion of the call will be Auto Answer, but the keyset or AOM will ring when the transfer is complete if the user has not pressed the **ANS/RLS** key or lifted the handset.

**VOICE**—The station will not ring. After a short attention tone, callers can make an announcement but the **ANS/RLS** key or the handset must be used to answer calls.

### ACTION

1. Press **TRSF 103**  
Display shows
2. Dial **0, 1** or **2** to change the ring mode, e.g., **2**  
**OR**  
Press **UP** or **DOWN** to select the ring mode
3. Press **TRSF** to store and exit

### DISPLAY

[201] ANS MODE  
RING MODE

[201] ANS MODE  
VOICE ANNOUNCE

## 1.6 PROGRAMMING YOUR STATION'S NAME

Names are written using the keypad. Each key press selects a character. Pressing the dial pad key moves the cursor to the next position. For example, if the directory name is "SAM SMITH," press the number "7" three times to get the letter "S." Press the number "2" once to get the letter "A." Continue selecting characters from the table below to complete your message. Pressing the bottom left programmable key will change the letter from upper case to lower case. There are ten characters for Version 1 software. There are 11 characters for Version 2 software.

NOTE: When the character you want appears on the same dial pad key as the previous character, press the right soft key to move the cursor to the right.

COUNT	1	2	3	4	5
DIAL 0	Q	Z	.	)	0
DIAL 1	space	?	,	!	1
DIAL 2	A	B	C	@	2
DIAL 3	D	E	F	#	3
DIAL 4	G	H	I	\$	4
DIAL 5	J	K	L	%	5
DIAL 6	M	N	O	^	6
DIAL 7	P	R	S	&	7
DIAL 8	T	U	V	*	8
DIAL 9	W	X	Y	(	9
DIAL *	:	=	[	]	*

The # key can be used for the following special characters: #, space, &, !, :, ?, ,, %, \$, -, <, >, /, =, [ , ], @, ^, (, ), \_ , +, {, }, |, ;, \, " and ~.

### ACTION

1. Press **TRSF 104**  
Display shows
2. Enter the station name using the procedure described above
3. Press **TRSF** to store and exit

### DISPLAY

[201] STN NAME

[201] STN NAME  
SAMSUNG



## 1.7 PROGRAMMING PERSONAL SPEED DIAL LOCATIONS

You can program frequently dialed telephone numbers in a personal speed dial list. Each station user begins with ten numbers 00–09 and may be assigned up to fifty numbers. See your system administrator to determine the amount assigned to your station.

**NOTE:** Press button **B** for flash and button **C** for pause. If you receive error tone, hang up and begin again.

Display keyset users may want to hide some speed dial numbers so they will not show in the display. When entering a telephone number, press button **E**. All digits after this will be hidden. Press button **E** again to begin displaying digits.

If your system uses rotary (or pulse) dialing C.O. lines, pressing button **D** while entering a speed dial will cause all subsequent digits to be sent as DTMF tones until the **D** button is pressed again.

### ACTION

### DISPLAY

1. Press **TRSF 105**  
 Display shows

```
[201] SPEED DIAL
00:
```

If you have no speed dial bins,  
 the display will be as shown

```
[201] SPEED DIAL
SPDBLK NOT EXIST
```

2. Dial the location number (e.g., **05**)  
 OR  
 Press **UP** or **DOWN** to select the location  
 Press the right soft key to move cursor

```
[201] SPEED DIAL
05: _
```

3. Enter the trunk access code (e.g., **9**) followed  
 by the number to be dialed (e.g., **4264100**)  
 OR  
 Press the left soft key to return to step 2

```
[201] SPEED DIAL
05:9-4264100 _
```

4. Press the **F** button to access the next program  
 OR  
 Press **TRSF** to save and exit

## 1.8 NAMING YOUR PERSONAL SPEED DIAL LOCATIONS

This program allows a character name to be entered for each personal speed dial location. This name enables the speed dial number to be located when using the directory dial feature. The directory dial feature allows the display keypad user to select a speed dial location by scanning its name. There are ten characters for Version 1 software. There are 11 characters for Version 2 software.

### ACTION

### DISPLAY

1. Press **TRSF 106**  
 Display shows

```
[201] SPEED NAME
00:
```

2. Dial the speed dial location (e.g., 01)  
 OR  
 Use **UP** or **DOWN** to scroll through the location numbers and use the right soft key to move the cursor

```
[201] SPEED NAME
01: _
```

3. Enter the location name using the procedure described in *Programming Your Station's Name*

```
[201] SPEED NAME
01: SAMSUNG
```

4. Press **UP** or **DOWN** to move to the next location  
 OR  
 Press the **F** key to program speed dial numbers

5. Press **TRSF** to store and exit

## 1.9 ADDING EXTENDERS TO KEYS

This program allows you to assign key extenders to make a general access feature key more specific. The feature keys that can have extenders are listed below:

FEATURE KEY	EXTENDER
BOSS	Boss and Secretary (1-4)
DP	Direct Pickup (station or group number)
DS	Direct Station Select (station number)
FWRD	Call Forward (0-5)
GPIK	Group Pickup (01-30)
MMPG	Meet Me Page (0-9, *)
PAGE	Page (0-9, *)
SPD	Speed Dial (00-49, 500-999)
PSMG	Programmed Message (01-20)
DIR	SYS (0), PERS (1) or STN (2)
IG	Station Group Number (500-592)

### ACTION

### DISPLAY

1. Press **TRSF 107**  
 Display shows the first station
2. Enter the key number, e.g., **18**  
 OR  
 Use **UP** and **DOWN** to scroll through the keys  
 Use the right soft key to move the cursor  
 OR  
 Press the key to be programmed
3. Dial the extender according to above table  
 Press the right soft key to return to step 2  
 OR  
 Press **TRSF** to store and exit  
 OR  
 Press **SPK** to store and advance to the next program

```
[201] KEY EXTEND
01:CALL1 →
```

```
[201] KEY EXTEND
18:DS →
```

```
[201] KEY EXTEND
18:DS →DS207
```

## 1.10 CHECKING STATION STATUS

This program displays the following attributes of a station port. This is a *read only* feature.

0	PORT #	Cabinet (1-3)/Slot (1-7)/Port (1-16)
1	TENANT NUMBER	1-2
2	PICKUP GROUP	None, 01-30
3	SGR	Station Group Number
4	BOSS-SECR	None, 1-4
5	PAGE	Page Zone (1-4)
6	DAY COS NO	COS (01-30)
7	NIGHT COS NO	COS (01-30)

### ACTION

### DISPLAY

1. Press **TRSF 108**  
 Display shows the first station
2. Dial **0-7** to select the station status item, e.g., **1**  
 OR  
 Press **UP** or **DOWN** to view the status items
3. Press **TRSF** to exit

```
[201] STN STATUS
PORT #:C1-S3-P01
```

```
[201] STN STATUS
TENANT NUMBER:1
```

## 1.11 CHANGING YOUR TIME AND DATE DISPLAY

Display keysets will always have the date and time displayed when not in use. You can select from the following display options:

- 0 COUNTRY Sets overall display format and has two options  
0 = ORIENTAL MM/DD DAY HH:MM  
1 = WESTERN DAY DD MON HH:MM
- 1 CLOCK Sets format of clock display and has two options  
0 = 12 HOUR (Displays 1 P.M. as 01:00)  
1 = 24 HOUR (Displays 1 P.M. as 13:00)
- 2 DISPLAY Sets format of DAY and MON display and has two options  
0 = UPPER CASE (Displays Friday as FRI and March as MAR)  
1 = LOWER CASE (Displays Friday as Fri and March as Mar)

### ACTION

### DISPLAY

1. Press **TRSF 109**  
Display shows

[201] DAY FORMAT  
COUNTRY:WESTERN

2. Press **UP** or **DOWN** to select the display mode  
Press the right soft key to move the cursor

[201] DAY FORMAT  
COUNTRY:ORIENTAL

3. Press the right soft key to return to step 2  
OR  
Press the left soft key to return to step 3

4. Press **TRSF** to store and exit

## 1.12 SETTING STATION ON/OFF OPTIONS

The following options may be turned on and off at your keyset.

- |                |   |
|----------------|---|
| 0. AUTO HOLD   | Automatically places an existing C.O. call on hold if a <b>CALL</b> button, trunk key or trunk route key is pressed during that call. This will not affect the Auto Hold part of transfer and park/page.                              |
| 1. AUTO TIMER  | Automatically starts the stopwatch timer immediately when a C.O. call is answered or after a short delay on an outgoing call.   |
| 2. HEADSET USE | When on, this feature disables the hookswitch, allowing a headset user to answer calls on the headset without requiring the user to lift the handset.   |
| 3. HOT KEYPAD  | When on, this feature allows the user to dial directory numbers without having to first lift the handset or press the <b>SPK</b> button.  |
| 4. KEY TONE    | Allows the user to hear a slight tone when pressing buttons on the set.   |
| 5. PAGE REJOIN | This feature allows keyset users to hear the remaining portion of an ongoing internal page or all page over the speaker of their keysets after they return their keysets to idle. To enable this feature, follow the procedure below. |
| 6. RING PREF.  | When off, this feature requires the user to press the fast flashing button to answer a ringing call after lifting the handset.  |

### ACTION

1. Press **TRSF 110**  
Display shows
2. Dial the option number from above list (e.g., **3**)  
OR  
Press **UP** or **DOWN** to select the option and press the right soft key to move the cursor

### DISPLAY

```
[201] STN ON/OFF  
AUTO HOLD :OFF
```

```
[201] STN ON/OFF  
AUTO HOLD :OFF
```

```
[201] STN ON/OFF  
HOT KEYPAD :ON
```



3. Press **UP** or **DOWN** to select ON or OFF  
Press left or right soft key to return to step 2  
OR  
Dial **1** for ON or **0** for OFF

[201] STN ON/OFF  
HOT KEYPAD :OFF

If option 0 from above list is dialed  
at step 2

[201] STN ON/OFF  
AUTO HOLD :OFF

If option 1 from above list is dialed  
at step 2

[201] STN ON/OFF  
AUTO TIMER :ON

If option 2 from above list is dialed  
at step 2

[201] STN ON/OFF  
HEADSET MODE:OFF

If option 3 from above list is dialed  
at step 2

[201] STN ON/OFF  
HOT KEYPAD: ON

If option 4 from above list is dialed  
at step 2

[201] STN ON/OFF  
KEY TONE :ON

If option 5 from above list is dialed  
at step 2

[201] STN ON/OFF  
PAGE RE-JOIN:ON

If option 6 from above list is dialed  
at step 2

[201] STN ON/OFF  
RING PREFER.:ON

4. Press **TRSF** to store and exit

## 1.13 SELECTING A RING TONE

Each keyset user can select one of eight ring frequencies that suits the user best.

### ACTION

1. Press **TRSF 111**  
Display shows
2. Dial **1-8** to select the ring tone  
OR  
Press **UP** or **DOWN** to select the ring tone  
Press the right soft key to move the cursor
3. Press **TRSF** to store and exit

### DISPLAY

[201] RING TONE  
SELECTION 5

[201] RING TONE  
SELECTION 5

## 1.14 ALARM REMINDER

Station users can have three alarms programmed at their phones. Each alarm may be one of the following three types:

- 0. NOTSET           The alarm is not set.
- 1. TODAY ONLY    The alarm will ring at the programmed time and be canceled automatically.
- 2. DAILY           The alarm will ring each day at this time.

### ACTION

### DISPLAY

- |  |   |
|--|---|
| <p>1. Press <b>TRSF 112</b><br/>Display shows</p>  | <pre>[201] ALM CLK (1) HHMM: →NOTSET</pre>    |
| <p>2. Dial <b>1-3</b> to select the alarm (e.g., 2)<br/>OR<br/>Press <b>UP</b> or <b>DOWN</b> to select alarm<br/>Press the right soft key to move the cursor<br/>OR<br/>Press the left soft key to return to step 2</p> | <pre>[201] ALM CLK (2) HHMM: →NOTSET</pre>    |
| <p>3. Enter alarm time in 24 hour format (e.g., <b>1300</b>)<br/>Display automatically advances to step 5</p>  | <pre>[201] ALM CLK (2) HHMM:1300→NOTSET</pre> |
| <p>4. Enter alarm type (e.g., 2)<br/>OR<br/>Press <b>UP</b> or <b>DOWN</b> to select alarm type<br/>Press the right soft key to move the cursor<br/>and return to step 2</p>   | <pre>[201] ALM CLK HHMM:1300→DAILY</pre>      |
| <p>5. Press <b>TRSF</b> to store and exit</p>  |   |

## 1.15 VIEW MEMO

This procedure allows display keyset users to view the information entered via the MEMO feature.

### ACTION

1. Press **TRSF 113**  
Display shows
2. Use **UP** and **DOWN** keys to scroll through memos
3. Press **TRSF** to exit

### DISPLAY

```
[201] VIEW MEMO  
1:
```

```
[201] VIEW MEMO  
1:426 4100
```

## 1.16 OFF-HOOK RING VOLUME

This procedure allows users to view and set the level of off-hook ring volume.

### ACTION

1. Press **TRSF 114**  
Display shows
2. Press **UP** or **DOWN** to select ring level  
OR  
Dial level of volume (1-8) on keypad
3. Press **TRSF** to store and exit

### DISPLAY

```
[201] OFFRNG VOL  
RING VOLUME 4
```

```
[201] OFFRNG VOL  
RING VOLUME 3
```

## 1.17 SETTING A PROGRAMMED MESSAGE

When you will be away from your phone for any length of time, leave a vacant station message. Display stations calling you will see this message and be informed of your status or follow your instructions.

### ACTION

1. Press **TRSF 115**  
Display shows
2. Dial **00-20** to select message number, e.g., **05**  
OR  
Press **UP** or **DOWN** to select message
3. Press the left or right soft key to return to step 2  
OR  
Press **TRSF** to store and exit

### DISPLAY

[201] PGMMSG(00)  
CANCEL VAC MSG

[201] PGMMSG(05)  
PAGE ME

## 1.18 ALARM REMINDER WITH MESSAGE

Station users can have three alarms programmed at their phones. Each alarm may be one of the following three types:

- 0. NOTSET           The alarm is not set.
- 1. TODAY ONLY     The alarm will ring at the programmed time and be canceled automatically.
- 2. DAILY            The alarm will ring each day at this time.

In addition, each alarm may be accompanied by a 16 character message that will be displayed while the alarm is ringing.

NOTE: These are the same three alarms described in *Alarm Reminder*. This procedure allows a message to be added. A display keyset is necessary to view messages.

### ACTION

### DISPLAY

1. Press **TRSF 116**  
Display shows
2. Dial **1-3** to select the alarm (e.g., **2**)  
OR  
Press **UP** or **DOWN** to select the alarm  
Press the right soft key to move the cursor
3. Enter the alarm time in 24 hour clock format  
(e.g., **1300**)  
Display automatically advances to step 4
4. Dial the valid entry from the above list for the  
alarm type  
OR  
Press **UP** or **DOWN** to select the alarm type  
Press the right soft key to move the cursor
5. Enter messages using the method in  
*Programming Your Station's Name*  
Press the right soft key to return to step 2
6. Press **TRSF** to store and exit

```
[201] ALM REM(1)
HHMM:  ->NOTSET
```

```
[201] ALM REM(1)
HHMM:  ->NOTSET
```

```
[201] ALM REM (2)
HHMM:1300->NOTSET
```

```
[201] ALM REM
HHMM:1300->DAILY
```

```
[201] ALM REM
TAKE MEDICATION
```



## 1.19 BACKGROUND MUSIC VOLUME

This procedure allows keyset users to view and adjust the level of background music heard at their keysets.

ACTION	DISPLAY
1. Press <b>TRSF 117</b> Display shows	[201] BGM VOLUME VOLUME 13
2. Enter volume level ( <b>01-16</b> )	[201] BGM VOLUME VOLUME 05
3. Press <b>TRSF</b> to store and exit	

## 1.20 CALLER ID DISPLAY

NOTE: This procedure applies only to systems with Caller ID software.

The station user can change the order in which the Caller ID information is displayed on an LCD set.

Caller ID display options are the following:

- |                 |  |
|-----------------|--|
| 0. NO DISPLAY   | No Caller ID data will be displayed.   |
| 1. NUMBER FIRST | The Caller ID number received from the Central Office will be displayed first. |
| 2. NAME FIRST   | The Caller ID name received from the Central Office will be displayed first.   |

### ACTION

1. Press **TRSF 119**  
Display shows current display mode
2. Dial display option **0, 1** or **2**, e.g., **2**  
OR  
Press **UP** or **DOWN** to select option
3. Press **TRSF** to store and exit  
OR  
Press **SPK** to store and exit

### DISPLAY

```
[201] CID DISP  
NUMBER FIRST
```

```
[201] CID DISP  
NAME FIRST
```

---

---

# NOTES

---

---

---

---

# NOTES

---

---



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## PERSONAL SPEED DIAL NUMBERS

## USER ORIENTATION

## THINGS YOU SHOULD KNOW

## ABOUT THIS BOOK

Your keyset is the most visible part of the PROSTAR DCS Digital Communications System. No matter what model keyset you are using, with or without a display, telephone calls are handled in the same way. The LCD 12B and LCD 24B keysets have a few additional conveniences that are not available to STD 24B and Basic 12B keyset users. These are noted throughout this guide.

Please take the time to study this guide and to become familiar with the operation of your keyset. Keep this guide handy. You may need to look up instructions for infrequently used features.

Learning to use your keyset correctly will make everyday telephone communications a breeze.

For more information, contact your local dealer.

PROSTAR DCS keysets are available in several models. For more information, contact your local dealer.

## PERSONAL SPEED DIAL NUMBERS

- You can program up to 100 personal speed dial numbers.
- You can program up to 100 personal speed dial numbers.
- You can program up to 100 personal speed dial numbers.
- You can program up to 100 personal speed dial numbers.

For more information, contact your local dealer.

# THINGS YOU SHOULD KNOW

## USER ORIENTATION

PROSTAR DCS telephones are called "keysets." They contain buttons or "keys" that are used to access or activate the many features of your office phone system. The keys with paper designation strips are programmable keys. This means they can be programmed for a specific function on your keyset and that same button can be something different on another keyset. See the system manager to get your most frequently used features assigned to your programmable keys. When changes are made, be sure that your programmable keys are relabeled properly.

Lines from the telephone company are "C.O. lines." Calls on these lines are referred to as "outside calls." Your system can have individual C.O. line keys or lines may be assigned to groups. When they are in a group, you access a line by dialing an access code or pressing a route button. For example, dial 9 or press the LOCAL key to get a local outside line. If Least Cost Routing is used, pressing the LCR key will automatically select a preprogrammed C.O. line according to what digits are dialed. Each line in the system is numbered, beginning with 701, then 702, 703, etc.

Direct Station Selection (DSS) keys are programmed to ring specific stations. You can press a DSS key instead of dialing the extension number. A DSS key lights red when that station is busy (Busy Lamp Indication).

PROSTAR DCS provides distinctive ring patterns to your keyset:

- Outside calls have a single ring tone repeated.
- Internal calls have a double ring tone repeated.
- Door phone calls and alarm/appointment reminders have a triple ring tone repeated.

## CALL INDICATIONS

The keys on your phone have light emitting diodes (LEDs). Some of these are tri-colored LEDs that light green, red or amber (green and red together). Some of the keys can only light red.

Intercom calls, also called internal calls, always appear on your CALL buttons. They will always light green. You can have up to eight CALL buttons, but at least two are recommended.

Outside calls appear on individual line keys if they are assigned. When an individual line is not assigned to its own key, it will appear on a CALL button.

Your outside calls will light green on your keyset and red on other keysets. You never lose sight of your calls while they are on hold. They stay right where you put them and are identified with a green flashing light.

Some simple rules to remember:

- Any steady LED indicates the line or feature is in use.
- A fast flashing green LED indicates a new call ringing in.
- A slow flashing green or red LED indicates a call is on hold.
- A slow flashing amber LED indicates a recall to your keyset.

## SPEAKERPHONE

Pressing the ANS/RLS key will answer or release a call on the speakerphone. Switching from the handset to the speakerphone is easy. Press the SPK key and hang up the handset.

## VOLUME CONTROLS

PROSTAR DCS keysets use the UP and DOWN keys to adjust the ringer volume while the keyset is ringing, the speaker volume while the speakerphone is in use and the handset volume while you are listening. These three levels will be stored in memory until changed. If background music is turned on at your keyset, the volume keys will also control the level of music. The volume of pages heard through the speaker of a keyset can be adjusted during a page announcement by using the volume keys. There are 16 levels for each volume setting. The volume of off-hook ring is controlled by a user-programmable setting.

## SYSTEM TONES

The system provides several tones to assist you. Some of these tones are already familiar to you.

Intercom Dial Tone—A steady tone that indicates you can begin dialing.



Ringback Tone—Indicates the station you dialed is ringing.



Busy Tone—Indicates the station you dialed is busy.



CONTINUOUS

DND/No More Calls Tone—Fast busy tone indicates the station you dialed is in the Do Not Disturb mode or cannot receive any more calls.



FOR TEN SECONDS

Transfer/Conference Tone—Indicates your call is being held and you can dial another party.



CONTINUOUS

Confirmation Tone—Very short beeps followed by dial tone indicate you have correctly set or canceled a system feature.



FOR ONE SECOND  
(programmable)

Error Tone—A distinctive two level beeping tone indicates you have done something incorrectly. Try again.



FOR THREE SECONDS

# LCD 12B KEYSSET LAYOUT

## LABELING PROGRAMMABLE KEYS

Insert the end of a paper clip into the notch of the clear cover. Push the cover sideways. Lift the cover and remove the designation strip. Label the designation strip. Replace the strip and cover.

32 CHARACTER DISPLAY Two lines with 16 characters each.

SOFT KEYS Used to activate features via the display.

SCROLL KEY Used to scroll through displays.

6 PROGRAMMABLE KEYS WITH TRI-COLORED LIGHTS Used for CALL buttons, intercom calls, outside lines and many other system features.

6 PROGRAMMABLE KEYS WITH RED LIGHTS Used to call stations directly, to indicate busy conditions of other stations, for One Touch dialing and many other system features.

VOLUME CONTROL KEYS Used to set independent levels for handset, speaker, background music, ring and page volumes.

MICROPHONE For handset operation.

PULLOUT DIRECTORY TRAY

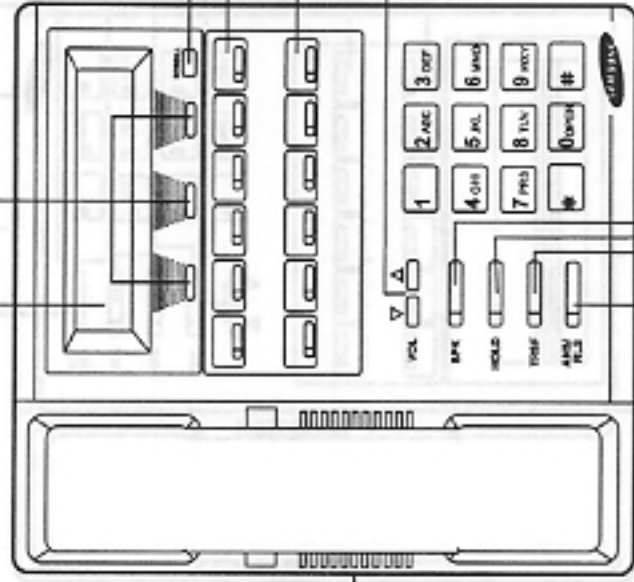
SPEAKER For handset operation and ringing.

ANSWER/RELEASE KEY

TRANSFER KEY

HOLD KEY

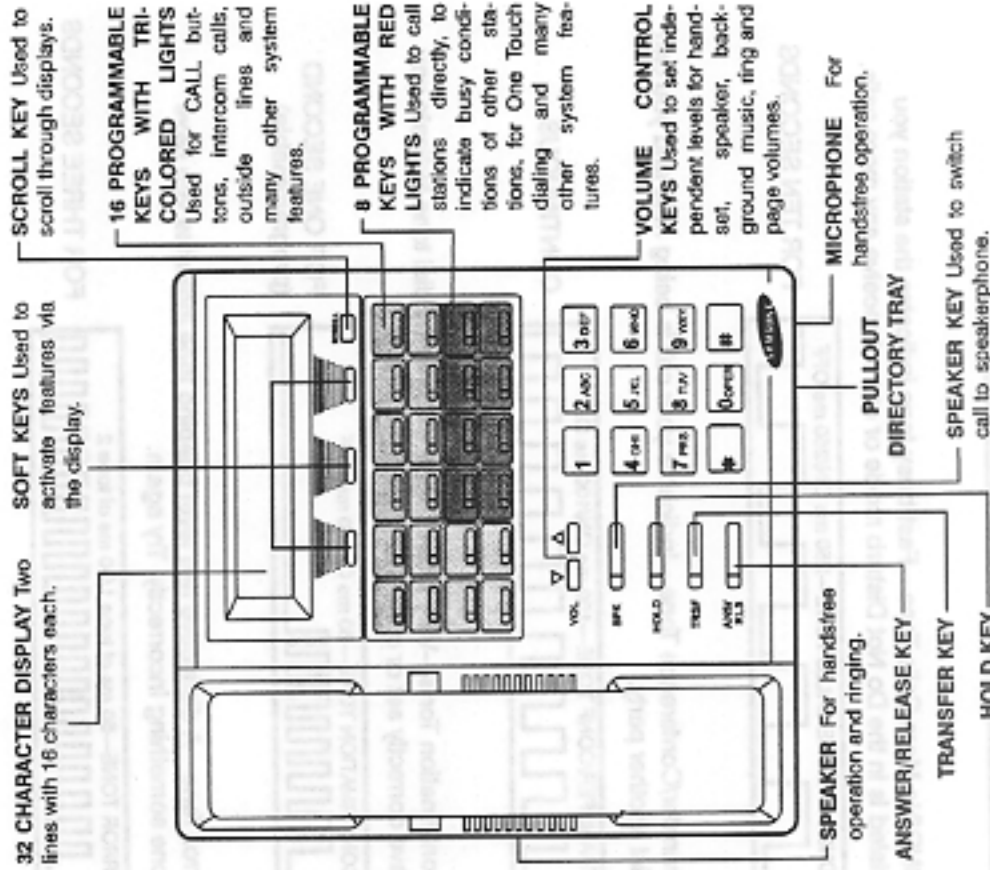
SPEAKER KEY Used to switch call to speakerphone.



# LCD 24B KEYSET LAYOUT

## LABELING PROGRAMMABLE KEYS

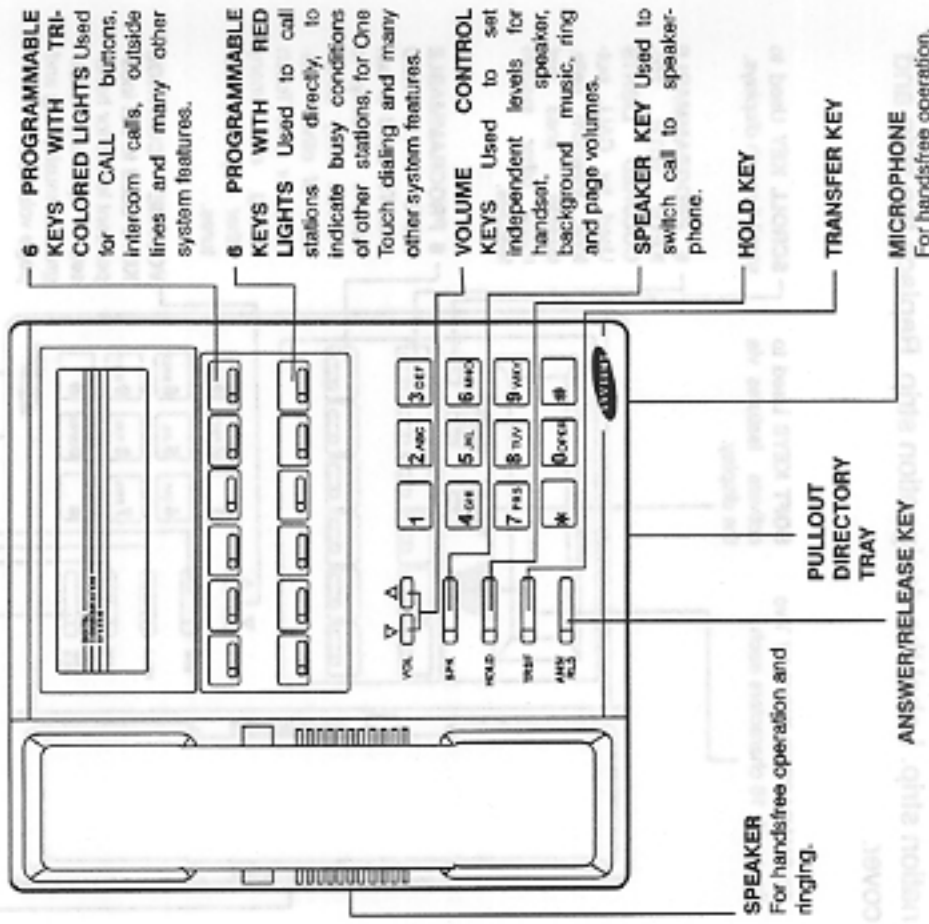
Insert the end of a paper clip into the notch of the clear cover. Push the cover sideways. Lift the cover and remove the designation strip. Label the designation strip. Replace the strip and cover.



# BASIC 12B KEYSET LAYOUT

## LABELING PROGRAMMABLE KEYS

Insert the end of a paper clip into the notch of the clear cover. Push the cover sideways. Lift the cover and remove the designation strip. Label the designation strip. Replace the strip and cover.

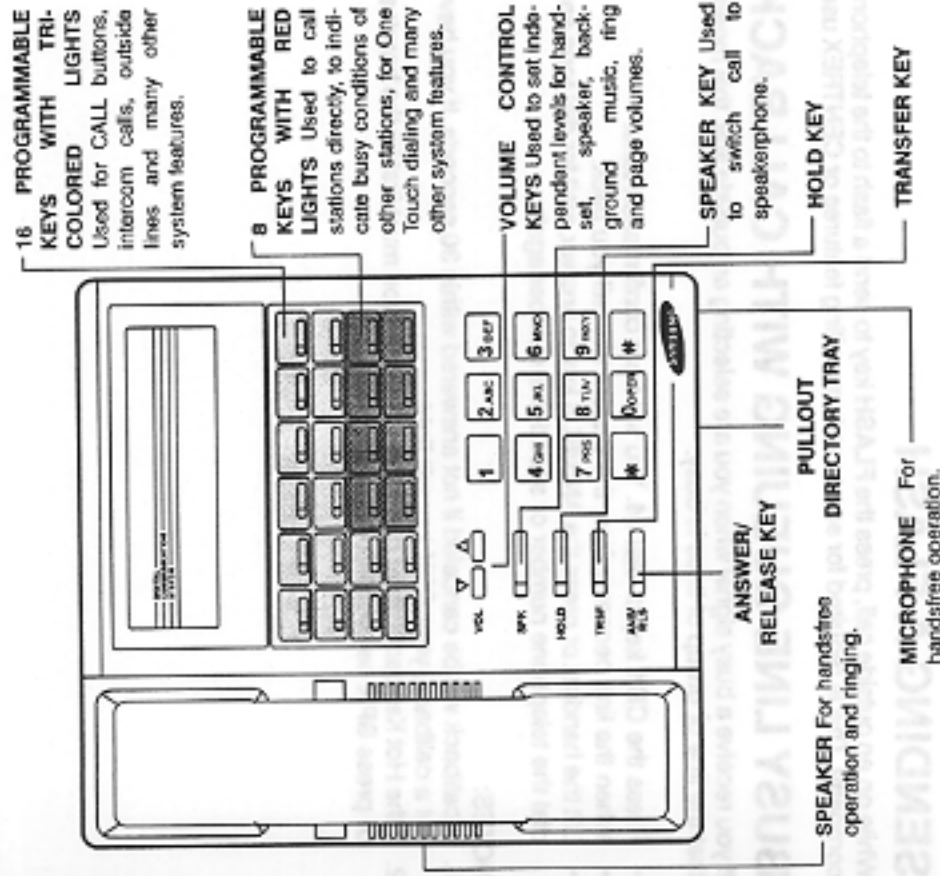




# STD 20B KEYSSET LAYOUT

## LABELING PROGRAMMABLE KEYS

Insert the end of a paper clip into the notch of the clear cover. Push the cover sideways. Lift the cover and remove the designation strip. Label the designation strip. Replace the strip and cover.



# OUTSIDE CALLS

## MAKING AN OUTSIDE CALL

- Lift the handset and press an idle outside line button, line group button or dial a line access code to receive dial tone—OR—to use the speakerphone, press an idle outside line button, line group button or dial a line access code to receive dial tone through the speaker—OR—press **SPK**, receive intercom dial tone and dial a line access code.
- Dial the telephone number.
- Finish the call by replacing the handset or pressing the **ANS/RLS** key.

**NOTE:** You will receive No More Calls tone when you attempt to make a call and there is no key available for that line.

- If Least Cost Routing is enabled on your phone system, this button may be labeled **LCR** or accessed by dialing an access code (usually **9**).
- If your system is programmed to require an authorization code before making a call, dial \* plus a valid code before selecting a C.O. line.
- If your system is programmed to require an account code before making a call, press the **ACCT** button or dial **47** plus a valid code, press the **ACCT** button again and then select a C.O. line.

For more information on authorization and account codes, see your system administrator.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before dialing.

## ANSWERING AN OUTSIDE CALL

- Lift the handset and you are automatically connected to the ringing call. See *Ring Preference* under *Customizing Your Keypad*—OR—press the **ANS/RLS** key to automatically answer on the speakerphone.

**NOTE:** If a call is flashing at your keypad but not ringing, you must press the flashing button to answer.

## UNIVERSAL ANSWER

Outside lines may be programmed to ring a general alerting device. To answer calls ringing this device, dial **67** or press the **UA** key. This device can operate in the Day or Night mode.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before dialing.

## RECALL DIAL TONE

Press the **NEW** button to disconnect your existing call, wait for dial tone and then make a new call on the same line.

**NOTE:** If this button does not appear on your keyset, the **FLASH** key may be programmed to recall dial tone.

## SENDING A FLASH

While on an outside call, press the **FLASH** key to send a flash to the telephone company. This is required for some custom calling features or **CENTREX** use.

## BUSY LINE QUEUING WITH CALLBACK

If you receive a busy signal when you are selecting an outside line, this means that the line or group of lines is busy.

- Press the **CBK** key or dial **44**. You will hear confirmation tone.
- When the line becomes free, the system will call you back.
- Lift the handset or press the **ANS/RLS** key to answer, wait for dial tone and dial the telephone number or speed dial number again.

### NOTES:

1. A callback will be canceled if not answered within 30 seconds. If you have set a callback, your **CBK** key will light.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before dialing.

# INTERCOM CALLS

## CALLING OTHER STATIONS

- Dial the extension number or group number.
- Wait for the party to answer. If you hear a brief tone burst instead of ringback tone, the station you called is set for Voice Announce or Auto Answer. Begin speaking immediately after the tone.
- Finish the call by replacing the handset or pressing the **ANS/RLS** key.

### NOTES:

1. If you have a DSS key assigned to an extension or station group, you may press this key instead of dialing the number.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## ANSWERING INTERCOM CALLS

- When your keyset rings, simply lift the handset—OR—press the **ANS/RLS** key to be connected to the calling station.
- Finish the call by replacing the handset or pressing the **ANS/RLS** key.

See Ring Preference under *Customizing Your Keyset*.

## VOICE ANNOUNCE MODE (INTERCOM CALLS ONLY)

When another station calls you, your keyset will sound a brief attention tone and you will hear the caller's announcement.

- Press **ANS/RLS** to turn on the microphone and speak handsfree—OR—lift the handset to reply.
- To finish the call, replace the handset or press the **ANS/RLS** key.

## AUTO ANSWER MODE (INTERCOM CALLS ONLY)

When another station calls you, your keyset will sound a brief attention tone and then automatically answer the call.

- Your microphone and speaker are turned on and you can speak handsfree. For privacy, use the handset.
- To finish the call, replace the handset or press the **ANS/RLS** key.



## BUSY STATION CALLBACK

When you call another station and receive a busy signal:

- Press the **CBK** key or dial **44**.
- When the busy station becomes free, your keyset will ring.
- Lift the handset or press **ANS/RLS** to call the now idle station.

### NOTES:

1. A callback will be canceled if not answered within 30 seconds. If you have set a callback, your **CBK** key will light.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before dialing.

## BUSY STATION CAMP-ON

When you call another station and receive a busy signal but you do not want to wait for a callback:

- Press the **CAMP** key or dial **45**.
- The called station will receive off-hook ring tone repeated every few seconds and its first available **CALL** button will flash green to indicate your call is waiting.
- Wait for the called party to answer.
- The called station must release its first call or place it on hold before answering your camp-on.

### NOTES:

1. If you receive No More Calls tone, that station has no available key to accept your call. Hang up or leave a message.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## CALLING YOUR SYSTEM OPERATOR

- Dial **0** to call your system operator or group of operators.
- If you want to call a specific operator, dial that person's extension number.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## CALL PROCESSING

### SYSTEM HOLD

- When you are connected to any call, press **HOLD**. The call will flash green at your keyset. If this call appears on a line key at other keysets, it will flash red at those keysets.
- To take the caller off hold, press that key and the green flashing light will go steady green again. Resume the conversation.

**NOTE:** While on a call, pressing a line key, route key or flashing **CALL** button will automatically put your first call on hold and connect you to the new call. See *Automatic Hold* under *Customizing Your Keyset*.

### EXCLUSIVE HOLD

To place an outside call on hold at your phone so that other users cannot get it:

- Press the **HOLD** button twice. The call will flash green on your keyset and this line will show a steady red light on other keysets.
- To retrieve the call, press the flashing green line button.

**NOTE:** Intercom calls will always be placed on exclusive hold.

### HOLD RECALL

If you leave a call on hold longer than the hold timer, it will recall your station. The button that the call appears on will have a slow flashing amber light.

- When your phone rings, lift the handset or press the **ANS/RLS** key to answer the recall.
- If you do not answer this recall within a pre-programmed period of time, it will go to the system operator.

### CONSULTATION HOLD

When you are talking on an outside line and it is necessary to consult with another extension:

- Press the **TRSF** key; you will receive transfer dial tone. Your call is placed on transfer hold.
- Dial the extension number.
- Consult with the internal party.
- Press **TRSF** to return to the outside party or hang up to transfer the call.

**NOTE:** Repeatedly pressing the **TRSF** key will toggle between the outside party and internal extension.

## RETRIEVING CALLS HELD AT ANOTHER STATION

When a line is on hold and it appears on your keypad, press the line button with the red flashing light.

When a line is on hold and it does not appear on your keypad, dial 12 plus the line number or the extension number of the station that placed the call on hold.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press the **SPK** key before you begin dialing.

## TRANSFERRING CALLS

Transfer is used to send any call to another extension in one of two ways. You can do a screened transfer by informing the other extension who is calling or you can do a blind transfer without notification.

- While on a call, press the **TRSF** key and dial an extension number or group number. Your call is automatically put on transfer hold.
- OR**
- Press a **DSS** key or station group key. Your call is automatically put on transfer hold.
  - Hang up when you hear ringing (this is an unscreened or blind transfer).

**OR**

Wait for the called party to answer and advise him/her of the call and hang up. If the transfer is refused, you will be reconnected to the outside line when the called station hangs up or you can press **TRSF** to return to the outside party. If you wish to send the call to another extension without waiting for the first station to hang up, simply press another **DSS** button.

**OR**

Press the **CALL** button or C.O. line key to return to the outside party and begin the transfer process again.

When you are transferring a call to a keypad set for Voice Announce or Auto Answer, the transferred call will always ring.

### NOTES:

1. After the inside party answers, you may alternate back and forth between the parties by pressing the **TRSF** key.
2. If you receive No More Calls tone, that station has no key available to receive another call. Press **TRSF** to return to the other party.
3. You cannot transfer an Intercom call by pressing a **DSS** key. You must press the **TRSF** key and dial the destination extension number.

## TRANSFER WITH CAMP-ON

When you are transferring a call to another station and you receive a busy signal, you may camp the call on to this station. Simply hang up when you hear the busy signal. The called party will be alerted that a call is waiting for them.

**NOTE:** If you receive No More Calls tone, that station has no key available to receive another call. Press **TRSF** to return to the outside caller.

## CALL WAITING

If an outside call has been camped-on to your phone or another station has camped-on to you:

- Your keypad will ring and the call that is waiting for you (camped-on) will flash green.
  - Press the flashing button to answer; your other call will go on hold automatically if your station has the Automatic Hold feature set. If not, you must press **HOLD** and then the flashing button.
- OR**
- Finish the first call and hang up; the waiting call will ring.
  - Lift the handset or press the **ANS/RLS** key to answer.

**NOTE:** Intercom calls will not go on Automatic Hold.

## CONFERENCE CALLS

You may conference up to five parties (you and four others) in any combination of outside lines and internal stations in any order.

- While engaged in a conversation, press the **CONF** key and receive conference tone.
- Make another call, either intercom or outside, press the **CONF** key and receive conference tone.
- Make another call or press the **CONF** key to join all parties.
- Repeat the last step until all parties are added.

**NOTE:** When attempting to add another party to the conference and you are not able to reach the desired person, hang up. Simply press the **CONF** key again to return to your previous conversation.

To drop a party from your conference call:

- Press **CONF** and dial the extension or line number that is to be dropped.
- Press **CONF** again to reestablish the conference.

**NOTE:** To leave the conference, hang up. Control is passed to the next internal station. If there are no internal stations and you wish to leave outside lines connected together in a trunk to trunk conference, press the **CONF** key plus the **CALL** button that the call appears on or follow the instructions to drop a party and use your extension number. When they hang up, the lines will release automatically. Press **CONF** to rejoin a trunk to trunk conference.

## FORWARDING CALLS

You may forward your calls to another station, group of stations or an external telephone number. Program a destination for the type of forwarding you want as detailed below. If you have **FWD ALL**, **FWD BUSY** and **FWD NO ANSWER** keys, press one to turn that forward feature on. A steady red light reminds you what forward condition is activated.

You can clear all call forward conditions set at your station by lifting the handset and dialing **600**.

## FORWARD ALL CALLS

To forward all your calls under any condition to another station:

- Dial **601** plus the extension or group number.
- Receive confirmation tone and hang up.

### NOTES:

1. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.
2. The station that receives a Forwarded All call can transfer the call to the forwarded station. This is useful when you are expecting an important call but you do not wish to be disturbed by other calls.
3. When a station user places his/her keyset in Forward All mode and he/she does not have a **FORWARD ALL** key, the **TRSF** key will light to indicate Forward All has been set and calls to this station have been transferred elsewhere.

## FORWARD BUSY

To forward calls to another station when you are on the phone:

- Dial **602** plus the extension or group number.
- Receive confirmation tone and hang up.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## FORWARD NO ANSWER

To forward calls to another station when you do not answer:

- Dial **603** plus the extension or group number.
- Receive confirmation tone and hang up.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## FORWARD BUSY/NO ANSWER

If you have both a Forward on Busy destination and a Forward No Answer destination programmed, you may set both of these at the same time:

- Dial **604**.
- Receive confirmation tone and hang up.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## FORWARD FOLLOW ME

When you want all calls to your extension forwarded to the extension where you are now:

- Dial **605** plus your extension number.
- Receive confirmation tone and hang up.

If you want a specific extension's calls forwarded to your phone (Remote Call Forward):

- Dial **605** plus the desired extension number.
- Receive confirmation tone and hang up.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## FORWARD TO AN EXTERNAL NUMBER

To forward outside calls to a number outside of your business, you must have a **FWD EXTERNAL** button on your keyset.

- While on-hook, press **TRSF** and then dial **102**.
- Dial **5**.
- Dial the trunk or trunk group access code followed by the telephone number that you want.

- Press **TRSF** to store.
- Press **FWD EXTERNAL** to turn the feature on and press it again to turn the feature off.

#### NOTES:

1. External Call Forward will cancel all other call forwarding instructions.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## STATION CALL PICKUP

To pick up (answer) a call ringing at another station, lift the handset and dial **65** plus the extension number of the ringing phone.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## GROUP CALL PICKUP

To pick up (answer) a call ringing in any pickup group, lift the handset and dial **66** plus the desired group number **01–20** or press the flashing **GROUP PICKUP** key if available.

#### NOTES:

1. A group pickup key can have an extender for a specific pickup group.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before dialing the access code.
3. Station and group pickup features cannot be used to answer recalls to a station, only new ringing calls and operator recalls.

# DIALING FEATURES

## SPEED DIALING

You can dial a preprogrammed telephone number stored in the system-wide speed dial list of numbers **500–999** or from your personal list of numbers **00–49**:

- With the handset on-hook, press the **SPD** key or dial **16**.
- Dial the desired speed dial number.
- The telephone number is automatically dialed for you.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## PROGRAMMING PERSONAL SPEED DIAL NUMBERS

You can program frequently dialed telephone numbers in a personal speed dial list. A station may be assigned up to fifty numbers, **00–49**. See your system administrator to determine the amount assigned to your station.

- While on-hook, press **TRSF** and then dial **105**.
- Dial a speed dial number (**00–49**).
- Dial a line or line group access code.
- Dial the telephone number to be stored (18 digits maximum). It can include #, \*, FLASH and PAUSE.
- Press **TRSF** to store the number.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

For the purposes of programming speed dial numbers, the programmable keys in the bottom row are known as **A, B, C, D, E** and **F** and are defined below.

- The **A** key is not used.
- The **B** key inserts a flash.
- The **C** key inserts a pause.
- The **D** key is used for pulse to tone conversion. If your system uses rotary (or pulse) dialing C.O. lines, pressing **D** while entering a speed dial number causes all subsequent digits to be sent as DTMF tones.
- The **E** key is used to hide digits. Display keypad users may want to hide some speed dial numbers so that they will not show in the display. When



- you are entering a telephone number, press **E**. All subsequent digits will be hidden. Press **E** again to begin displaying digits.
- The **F** key is used to enter a name. See *Personal Speed Dial Names* under *Display Features*.

- Use the **HOLD** key to clear a speed dial number.

## ONE TOUCH SPEED DIALING

You may assign any speed dial number to an already existing One Touch Speed Dial button for quick and easy dialing of frequently used numbers.

- While on-hook, press **TRSF** and then dial **107**.
- Press a One Touch Speed Dial button.
- Dial the speed dial number (**00-49** or **500-999**) that you want assigned to this button.
- Press **TRSF** to store your selection.

To call this telephone number, just press the One Touch Speed Dial button.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## LAST NUMBER REDIAL

To redial the last telephone number you dialed, press the **LNR** key or dial **19**.

### NOTES:

- If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.
- Redial does not apply to intercom calls.

## SAVE NUMBER WITH REDIAL

To save the number you just dialed for later use, press the **SNR** key before hanging up.

To redial this saved number at any time, press the **SNR** key or dial **17**. The same line will be selected for you.

### NOTES:

- If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.
- The saved telephone number is stored in memory until you save another.
- Redial does not apply to intercom calls.

## CHAIN DIALING

You may manually dial additional digits following a speed dial number or chain as many speed dial numbers together as required:

- After the first speed number is dialed, press **SPD** again and dial another speed number **OR** manually dial additional digits following a speed dial number.

## AUTOMATIC REDIAL/RETRY

When you are making an outside call and you receive a busy signal, the system can automatically redial the number for you. It will automatically redial at a pre-programmed interval for up to 15 attempts.

- When you hear a busy signal, press the **RETRY** button.
- The system will reserve the line and automatically redial the same number for you. You will hear the call being made through the keypad speaker.
- When the called party answers, you can begin speaking.

### NOTES:

- If you make another call, auto-redial is canceled.
- To cancel a retry, lift and replace the handset.

## PULSE TO TONE CHANGEOVER

When making an outside call on a dial pulse line, press **#**. All digits dialed after the **#** will be sent as tones.

## DIAL BY VOICE

Dial by Voice is the ability to record a voice pattern into a digital format and store it to an addressable location. When the Dial by Voice feature is activated, it will sample, identify, retrieve and process the associated stored data. This latest technology has been applied to the area of personal speed dialing. It allows the calling party to speak a name into the handset and have the system place a call. This feature can be used by all types of stations. **NOTE:** The Dial by Voice features require optional software and/or hardware. Please see your service and installation company for details.

To use Dial by Voice:

- Change your station passcode (see *Changing Your Passcode*).
- You must be assigned to a channel of the **VDIAL** card. Check with your system administrator or the installation and service company.
- Assign personal speed dial numbers (see *Programming Personal Speed Dial Numbers*). If you are using a non-display keypad, have your system administrator program them for you.

## RECORDING A DIAL BY VOICE NAME

- Lift the handset.
- Press the **VREC** key or dial **682**.
- Enter your station passcode.
- Enter the personal speed dial bin number, e.g., **05**.
- After the short tone burst, begin speaking the name into the mouthpiece of the handset.

**NOTE:** Say the name as one word (e.g., John Hannon, pronounced JohnHannon). Avoid like names such as Ted, Red and Fred.

- If you are successful, you will hear a short tone burst confirming the name recording. If you hear error tone, rerecord the name following the above procedure.

## PLACING A DIAL BY VOICE CALL

- Lift the handset.
- Press the **VDIAL** key or dial **681**.
- Speak the desired name into the mouthpiece of the handset.
- If you are successful, the call will be placed. If you hear error tone, repeat the procedure.

## POSSIBLE CAUSES FOR DIAL BY VOICE FAILURE

- The desired name is not recorded.
- The personal speed dial bin you have selected is empty.
- All trunks or trunk groups are busy.
- You are denied access to the dial by voice feature.
- Background noise interfered when the name was recorded or when the name was spoken to place the call.

## PAGING AND MESSAGING

### MAKING AN INTERNAL PAGE

To make an announcement through the keyset speakers:

- Lift the handset.
  - Press the **PAGE** key or dial **55**.
  - Dial the desired zone number **1, 2, 3** or **4**.
- OR**
- Dial **0** to page all internal zones.
  - After the attention tone, make your announcement.

**NOTE:** If you have a dedicated page zone key, it is not necessary to press **PAGE** and dial a zone number.

### MAKING AN EXTERNAL PAGE

To make an announcement through the external paging speakers:

- Lift the handset.
  - Press the **PAGE** key or dial **55**.
  - Dial the desired zone number **5, 6, 7** or **8**.
- OR**
- Dial **9** to page all external zones.
  - After the attention tone, make your announcement.

**NOTE:** If you have a dedicated page zone key, it is not necessary to press **PAGE** and dial a zone number.

### ALL PAGE

To page all designated keysets and external speakers at the same time:

- Lift the handset.
- Press the **PAGE** key or dial **55**.
- Dial **\*** or press the **ALL PAGE** key.
- After the attention tone, make your announcement.

**NOTE:** The LED on the **PAGE** key will only light when an All Page is in progress.



## MEET ME PAGE

- Lift the handset.
- Press the Meet Me Page (MMPG) key or dial 54.
- Dial the desired zone number.
- After the attention tone, instruct the paged person to dial 56.
- Press **WAIT** or **TRSF**.
- Remain off-hook until the person dials 56 from any phone.
- The paged person will be automatically connected with you.

## CALL PARK AND PAGE

When you have an outside call for someone who is not at his/her desk, you can park the call and page the requested party:

- While in conversation, press the **PAGE** button. The call is automatically parked at your station.
- Dial the desired page zone and announce "park" and your extension number or the line number. Hang up.

To retrieve a parked call:

- Dial **10** plus the number that was announced. If you have a **PARK** key, press it and dial the number that was announced.
- You will be connected to the parked call.

### NOTES:

1. If the parked call is not retrieved within a pre-programmed period of time, it will recall your keyset and have a slow flashing amber light. You cannot park and page intercom calls.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## SETTING A MESSAGE INDICATION

When you are calling another station or station group and no one answers or you receive a busy signal, you can leave a message indication:

- Press the **MSG** key or dial 43 and receive confirmation tone.
- Hang up. The **MSG** key(s) on the called station or on all of the stations in the group will light. Standard telephones receive special dial tone as a message indication.

### NOTES:

1. A station can have up to five message indications.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## CANCELING MESSAGES

To cancel a message indication that you left at another station, dial 42 plus the extension number of the station at which you left a message.

To cancel all message indications left at your keyset, dial 42 plus your extension. Your **MSG** light will go out.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## RETURNING MESSAGES

- Press the **MSG** key or dial 43. The first station that left a message will be called automatically. If that station does not answer, your **MSG** light will stay on.
- Repeat until all messages have been returned in the order received.
- Your **MSG** light will turn off when all messages have been returned.

### NOTES:

1. Display keyset users can view message indications and return them in any order. See *Viewing Message Indications* under *Display Features*.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.
3. If a message has been left at your keyset by a keyset in Auto Answer, you must manually cancel the message after it has been returned.

## PROGRAMMED MESSAGES

When you will be away from your phone for any length of time, leave a programmed station message. Display stations calling you will see this message and be informed of your status or follow your instructions.

- Dial 48 plus any of the message codes 01-20 listed on the back of this user guide.
- To cancel this message, dial 48 plus 00.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

You can have multiple programmed message keys and each one can have a different message code:

- Press any programmed message key. The message is set and the key will light red. Press the key again to turn off.
- Pressing another programmed message key will turn the previous one off and set a new programmed message.

## CONVENIENCE FEATURES

### DO NOT DISTURB

Use this feature when you want to block calls to your keyset.

- While on-hook, press the **DND** key or dial **401**. The **DND** key flashes to remind you of this mode.
- To cancel **DND**, press the **DND** key again or dial **400**. The **DND** light turns off. You can make calls while in the **DND** mode.

#### NOTES:

1. If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.
2. If you place your keyset in **DND** mode and you do not have a **DND** key, your **ANS/RLS** key will flash to indicate **DND** status.

### ONE TIME DND

If you are on a call and you do not wish to be interrupted while on that call, you can press the **DND** key and place your station in Do Not Disturb. When you hang up at the end of the call, **DND** will be automatically canceled and your keyset will be able to receive new calls. This feature requires a **DND** key.

### MUTE

You can mute the handset transmitter or the microphone during any conversation:

- Press the **MUTE** key. It will light red.
- To resume speaking, press the **MUTE** button again. The light turns off.

### BACKGROUND MUSIC

When a music source is supplied, you may listen to music through the speaker in your keyset:

- While on-hook, press the **HOLD** button to hear music.
- Press the **HOLD** button again to turn music off.

You can set the level of background music by using the **VOL** keys while listening to the music. This does not affect the speakerphone level.

## APPOINTMENT REMINDER/ALARM CLOCK

This feature works like an alarm clock. Use it to remind yourself of an appointment later in the day (**TODAY ONLY**) or as a daily reminder every day (**DAILY**). You can set up to three alarms. Each one can be either a **TODAY ONLY** or a **DAILY** alarm.

When the alarm rings, you will hear three short rings repeated three times. Lift the handset to answer the alarm. If you do not, the alarm will alert you two more times at five minute intervals.

To set alarms:

- Press **TRSF** and then dial **112**.
- Dial the alarm number **1**, **2** or **3**.
- Dial the time at which you want the alarm to sound. Enter the time as **HHMM** (hours and minutes) using the 24 hour clock.
- Dial **0** (**NOT SET**), **1** (**TODAY ONLY**) or **2** (**DAILY**) to select the alarm type.
- Press **TRSF** to save.
- Repeat for each alarm if needed.

To cancel individual alarms:

- Press **TRSF** and then dial **112**.
- Dial alarm number **1**, **2** or **3**.
- Press the **HOLD** key.

**NOTE:** Display keysets can show a reminder message. See *Alarm Reminder Messages* under *Display Features*.

## ANSWERING THE DOOR PHONE

When you are programmed to receive calls from a door phone:

- You will receive three short rings repeated.
- Lift the handset or press **ANS/RLS**. You are connected to the door phone.
- If an electric door lock release is installed, dial **13** to unlock the door.

## CALLING THE DOOR PHONE/ROOM MONITOR

You may call the door phone and listen to what may be happening outside or in another room.



- Dial the extension number of the door phone.
- You will be disconnected to the door phone and you can listen or have a conversation.
- If an electric door lock release is installed, dial **13** to unlock the door.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

## EXECUTIVE/SECRETARY HOT LINE

If programmed, an executive and a secretary can have a hot line between them. When the executive station is in the DND mode, all of its calls will ring the secretary station.

- Either person can press the **HOT LINE** key to make a voice call to the other station.
- Using the hot line will override DND at the other station. This key will light red when the other station is in use.

## GROUP LISTENING

When you are engaged on a call and you are using the handset, you may want other people to hear the distant party's voice over the speaker:

- Press the **LISTEN** key to turn on the speaker. The microphone is not in use, so the distant party does not hear other parties present in your office.
- Press **LISTEN** again to turn the speaker off and resume private conversation.
- Repeat if necessary.

**NOTE:** Depending on speaker volume and the acoustics of your office, it may be advisable to turn the group listening feature off before hanging up. This will eliminate a momentary squeal.

## ACCOUNT CODES

When equipped with optional equipment, your PROSTAR DCS system will allow calls to be charged to a specific account:

- During any outside C.O. call, press the account (**ACCT**) key.
- Enter the account code (maximum 12 characters including \* and #). Press the **ACCT** key again. Your conversation will not be interrupted.

**NOTE:** If you make an error before you complete the account code, press the **ACCT** key twice and redial the correct code. Only the last account code dialed will be printed.

## LOCKING YOUR KEYSSET

You can lock your keyset to prevent other people from making or receiving calls with it while you are away. You can unlock it when you return.

- While on-hook, press **TRSF** and then dial **100**.
- Dial your four digit station passcode.
- Dial **1** to lock or **0** to unlock.
- Press **TRSF** to store your selection.

**NOTE:** When your keyset is locked, the **HOLD** key will light.

## OFF-HOOK VOICE ANNOUNCE

Keysets may receive a voice announcement while on another call. The calling station must have an **OHVA** key. When you are in DND, you cannot receive **OHVA** calls. The **OHVA** feature will work with intercom and transferred calls.

To make an off-hook voice announcement:

- Dial the extension number or press the **DSS** key.
- When you receive a busy signal, press the **OHVA** key.
- After the attention tone, begin speaking.
- Finish the call by replacing the handset or pressing the **ANS/RLS** key.

**NOTES:**

1. When you are voice announcing to a station close to you, use the handset to avoid an echo effect.
2. You cannot off-hook voice announce to single line telephones.

When you receive an off-hook voice announcement, you will hear the announcement in the handset receiver or over the keyset speaker while continuing to speak to the original party.

- Press the flashing **CALL** button on your keyset. This will place the original party on hold and allow you to talk to the announcing party.
- To return to your first party, press the key corresponding to your original call. This will disconnect the **OHVA** call.

Executive off-hook voice announce allows you to engage in conversation on your keyset and simultaneously receive and reply handsfree to an **OHVA** through your add-on module (**AOM**). Use caution because the conversation through the **AOM** may possibly be heard by the caller on the keyset. When you receive an executive **OHVA** through your **AOM**:

- Reply by speaking in the direction of the microphone in the **AOM** unit.
- Adjust the volume with the **VOL** keys on the **AOM** unit.

- Press the **SPK** key on the AOM to disconnect the announcing party.

**NOTE:** If the **MUTE** key on the AOM is lit, you must press the AOM's **SPK** key to answer the OHVA call.

## OHVA BLOCK

Your keyset can be programmed with an OHVA Block (**OH BLK**) key. Pressing this key will prevent anyone from making an OHVA to you until you press the button again and cancel the blocking.

## OHVA REJECT

Your keyset can be programmed with an OHVA Reject (**REJECT**) key. Pressing this key while receiving an OHVA call will disconnect the voice announcing party and return you to your original call.

## IN GROUP/OUT OF GROUP

If your keyset is assigned to a station ring group, you can remove your keyset from the group and then put it back in. While you are out of the group, you can receive calls to your extension number but not calls to the group number. If you have an **IN/OUT** key:

- Press the **IN/OUT** key. It will light red when your keyset is in the group.
- Press the **IN/OUT** key again to exit the group and turn the light off. Repeat as necessary.

If you do not have an **IN/OUT** key:

- Dial **53** plus the group number, e.g., **503**, plus **0** to exit the group or **1** to enter the group.
- Repeat as necessary.

**NOTE:** If the Hot Keypad feature has been turned off, you must first lift the handset or press **SPK** before you begin dialing.

The **IN/OUT** key can include an extender to indicate the specific group that this key will affect. This means that if you are in multiple groups, you can decide for which groups you will receive calls.

# CUSTOMIZING YOUR KEYSET

## SELECT RING TONE

Each keyset user can select any one of eight ring frequencies:

- While on-hook, press **TRSF** and then dial **111**.
- Dial **1-8** or press the **UP** and **DOWN** keys to hear each tone.
- When you hear the tone that you prefer, press **TRSF** to save it.

## CHANGE YOUR PASSCODE

From the factory, your station passcode is 1234. You can change your station passcode whenever you desire.

- While on-hook, press **TRSF** and then dial **101**.
- Dial your old passcode.
- Dial a new passcode (must be four characters). You can use **0-9**, **\*** and **#**.
- Redial the new passcode to verify. If successful, you will hear two beeps. Four beeps indicate an incorrect code. Reenter the code again.
- Press **TRSF** to store the new passcode.

## SET ANSWER MODE

You can receive internal calls in one of three modes (see *Answering Intercom Calls* under *Intercom Calls* for descriptions):

- While on-hook, press **TRSF** and then dial **103**.
- Dial **0** for Ringing, **1** for Auto Answer or **2** for Voice Announce.
- Press **TRSF** to store your selection.

## AUTOMATIC HOLD

While on an outside call, pressing a line key, route key or a flashing **CALL** button will automatically put your call on hold and connect you to the next call. This feature can be turned on or off at your keyset.

- With the handset on-hook, press **TRSF** and then dial **110**.
- Dial **01** to turn Automatic Hold on or **00** to turn it off.
- Press **TRSF** to store your selection.

**NOTE:** Intercom calls can be automatically put on hold by pressing **TRSF**.



## HEADSET OPERATION

Keyset users can switch between headset mode and handset mode. When using headset mode, press the **ANS/RLS** key to answer and release calls.

- With the handset on-hook, press **TRSF** and then dial **110**.
- Dial **21** to use the headset or **20** to use the handset.
- Press **TRSF** to store your selection.

### NOTES:

1. When you are in headset mode, your speakerphone is disabled.
2. When you place your keyset in headset mode, the **ANS/RLS** key will light steady to indicate that your station is in headset mode.

## HOT KEYPAD

On the DCS, your keyset's keypad can be made "live" or "hot" so that it is not necessary to lift the handset or press **SPK** before you begin dialing. Calls can be made and features activated by simply dialing the C.O. line number, trunk group access code, intercom number or feature access code. To activate this feature:

- With the handset on-hook, press **TRSF** and then dial **110**.
- Dial **31** to turn the Hot Keypad on or **30** to turn it off.
- Press **TRSF** to store your selection.

## KEY CONFIRMATION TONE

You can hear a short beep (confirmation tone) each time you press a button on the dial pad. This tone can be turned on or off.

- While on-hook, press **TRSF** and then dial **110**.
- Dial **40** to turn tones off or **41** to turn tones on.
- Press **TRSF** to store your selection.

## REJOINING A PAGE

This feature allows you to hear the remaining portion of an ongoing internal page after you return your keyset to idle. To enable this feature:

- With the handset on-hook, press **TRSF** and then dial **110**.
- Dial **51** to turn this feature on or **50** to turn it off.
- Press **TRSF** to store your selection.

## RING PREFERENCE

This feature automatically answers ringing calls when you lift the handset or press the **ANS/RLS** key. This method will always answer calls in the order they arrived at your keyset. When you turn ring preference off, you must press the flashing button to answer a call, allowing you to answer calls in the order you choose.

- With the handset on-hook, press **TRSF** and then dial **110**.
- Dial **61** to turn ring preference on or **60** to turn it off.
- Press **TRSF** to store your selection.

## DISPLAY FEATURES

### INTERACTIVE DISPLAY KEYS

The three keys below the display are substitutes for dedicated feature keys and access codes. Pressing one of these keys has the same effect as pressing a programmable key. These keys are called soft keys as their functions are not fixed. They change to present you with the best options for that call condition. The use of soft keys allows the programmable keys to be used for more DSS and speed dial keys.

The **SCROLL** key is used to display options available to the user at a particular time or during a specific procedure. Press this key once while in the idle state to view the three main categories available.

201: STN NAME

CALL OTHER ANS

**ANSWER:** Guides you through the options to answer calls.

**OTHER:** Guides you through features other than making or answering calls.

**CALL:** Guides you through the options to make a call.

Select one of the main categories: **CALL**, **OTHER** or **ANS (ANSWER)**. Press the **SCROLL** key to display additional options available under each of the three main categories. The symbol  $\Rightarrow$  displayed as the last character on the lower line of the display indicates that there are additional options. Press the **SCROLL** key to display these additional options.

User instructions will be displayed in lower case letters. Options assigned to soft keys will be in upper case letters.

### DIRECTORY INFORMATION

An 11 character directory name can be assigned to each extension number. Display keypad users can view the name of the called or calling station before answering.

Each outside line can have an 11 character directory name. Incoming calls can be easily identified and answered with different greetings.

Outside and internal calls ringing to a station group will display [CALL FOR xxx] where xxx is the station group number. This allows you to answer calls directed to you differently than calls directed to your group.

## DIAL BY DIRECTORY

Each station or speed dial number can have an associated directory name. A station or speed dial number can be selected by scrolling alphabetically through a directory name list. This on-line "phone book" allows the user to look up and dial any station or speed dial number in seconds.

- Press the **DIR** key (**DIRECTORY**).
- Select the directory you wish to use: **PERS** (personal speed dial numbers), **SYS** (system speed dial numbers) or **STN** (station names).
- Dial the key on the keypad that corresponds to the first letter of the name you wish to search for.
- Use the **UP** and **DOWN** arrows to scroll through the names.
- Press the **DIAL** soft key to dial the number.

**NOTE:** A **DIR** key can have an extender to take you directly to one of the above lists.

## CALL PROGRESS DISPLAYS

During everyday call handling, your keyset display will provide information that is helpful and in some cases invaluable. Displays like [CALL FROM 203], [TRANSFER TO 202], [701: RINGING], [TRANSFER FM 203], [708 busy], [Camp on to 204], [Recall from 204], [Call for 501], [message frm 204] and [FWD ALL to 204] keep you informed of what is happening and where you are. In some conditions you are prompted to take an action and in other cases you receive directory information.

## DISPLAY NUMBER DIALED

Display keysets begin showing digits as they are dialed. They will stay in the display until the call duration timer comes on automatically or the **TIMER** button is pressed. If the call duration timer is not used, the number dialed will be displayed until the call is released, transferred or put on hold.

## CALL DURATION TIMER

The system can be set to automatically time outside calls. A few seconds after you dial a telephone number, the timer appears in the display. It appears immediately for incoming calls. The call timer continues for the duration of the call. Call duration times are displayed in minutes and seconds. If a call lasts longer than 60 minutes, the timer restarts.

You can press the **TIMER** key to manually begin timing a call. Press it again to stop timing. If you press it while the automatic timer is on, the call duration time is restarted.



## AUTO MER

Display keypad users may have the timer automatically start when they answer incoming calls or after a short delay on an outgoing call.

- With the handset on-hook, press **TRSF** and then dial **110**.
- Dial **11** to turn the auto timer on or **10** to turn it off.
- Press **TRSF** to store your selection.

## TIMER FUNCTION

Display keypad users may use this feature as a simple stopwatch.

- When the keypad is idle, press the **TIMER** button to start timing.
- Press the **TIMER** button again to stop timing.
- Read the elapsed time in the display.
- Lift the handset and replace it. The display will return to date and time.

## VIEWING MESSAGE INDICATIONS

You can view all of your message indications before you return them:

- With the handset on-hook, press the **MSG** key with the red flashing light.
- The first station that left a message indication will be displayed.
- Press the **UP** and **DOWN** arrows to scroll through the stations that left message indications. Use the soft keys to reply, clear or advance to the next message.
- Press the **ANS/RLS** key to return your keypad to the idle condition.

## ALARM REMINDER MESSAGES

When you use the alarm/appointment reminder feature, you create a 16 character reminder message. When the alarm rings, your message will appear instead of [ALARM REMINDER]. To program reminder messages:

- Press **TRSF** and then dial **116**.
- Dial the alarm number **1, 2** or **3**.
- Dial the time you want the alarm to go off. Enter the time as **HHMM** (hours and minutes) using the 24 hour clock.
- Dial **0** (**NOT SET**), **1** (**TODAY**) or **2** (**DAILY**) to select the alarm type.
- Write your message using the dial pad keys. Each press of a key selects a character. Pressing the next key moves the cursor to the next position. For example, if your message is "TAKE MEDICATION," press **8** once to get the letter "T." Press **2** once to get "A." Press **5** twice to get "K." Continue selecting characters from the following table to complete your message.
- Press the **TRSF** key to store the alarm and reminder message.
- Repeat for each alarm if needed.

COUNT	1	2	3	4	5
DIAL 0	Q	Z	.	)	0
DIAL 1	space	?	,		1
DIAL 2	A	B	C	@	2
DIAL 3	D	E	F	#	3
DIAL 4	G	H	I	\$	4
DIAL 5	J	K	L	%	5
DIAL 6	M	N	O	^	6
DIAL 7	P	R	S	&	7
DIAL 8	T	U	V	*	8
DIAL 9	W	X	Y	(	9
DIAL *	:	=	[	]	*

**NOTE:** When the character you want appears on the same dial pad key as the previous character, press **UP** to move the cursor one space to the right.

To cancel an individual alarm and reminder message:

- Press **TRSF** and then dial **112**.
- Dial alarm number **1, 2** or **3**.
- Press the **HOLD** key.
- Press the **TRSF** key.

## PERSONAL SPEED DIAL NAMES

Each personal speed dial number can have an 11 character name assigned to it. This name is used to select the speed dial bin when you are dialing by directory.

- Press **TRSF** and then dial **106**.
- Dial the speed dial bin number **00-49**.
- Write your message using the procedure described in **Alarm Reminder Messages**.
- Press the **TRSF** key to store the speed dial name.
- Repeat for each speed dial bin if necessary.

## STATION NAMES

You can assign an 11 character name to your keypad. This allows other display keypad users to call you using the directory dial feature.

To program a station name:

- Press **TRSF** and then dial **104**.
- Enter the 11 character name using the procedure described in *Alarm Reminder Messages*.
- Press **TRSF** to store the name.

## MANAGING KEY ASSIGNMENTS

You can view your key assignments and add extenders to some of your programmable keys for easy one touch operation of frequently used features.

- While on-hook, press **TRSF** and then dial **107**.
- Use the **VOL** keys to scroll through all of your programmable keys.  
**OR**  
Press the programmable key to which you want to add the extender.
- When you reach a key listed below, dial the corresponding extender.
- Press **TRSF** to store and exit programming.

### KEY EXTENDER

<b>BOSS</b> .....	Boss and Secretary (1-4)
<b>DP</b> .....	Direct Pickup (extension or station group number)
<b>DS</b> .....	Any extension or station group number
<b>FWRD</b> .....	Call Forward (0-5)
<b>GPIK</b> .....	Group Pick-Up (01-20)
<b>IG</b> .....	In/Out of Group (501-529)
<b>MMPG</b> .....	Meet Me Page (0-9, *)
<b>PAGE</b> .....	Page (0-9, *)
<b>SPD</b> .....	Speed Dial (00-49, 500-999)
<b>PSMG</b> .....	Programmed Message (01-20)
<b>DIR</b> .....	SYS (0), PERS (1) or STN (2)

**NOTE:** Confirm that the cursor is placed correctly before you enter the extender.

## WHAT IS CALLER ID?

Caller ID is the name given to the telephone company-provided feature that delivers the telephone number and sometimes the name of the person calling your phone. There are two types of Caller ID; the first delivers the calling party's telephone number only and the second (sometimes referred to as "Deluxe" Caller ID) delivers both the calling party's telephone number and name as listed in the telephone directory.

The DCS system can handle both types of Caller ID; in fact, in the case of number only delivery, the system can be programmed to insert a name for a specific telephone number (up to a maximum of 250 numbers).

However, even though you are paying to receive Caller ID information, there are some circumstances that mean you will not receive this information. The three most common reasons are listed below along with the display information that the DCS will provide.

**PRIVATE** The caller does not wish his/her name or number to be revealed to you. This type of call can be stopped at the telephone company by dialing an access code on your outside lines. This will redirect these **PRIVATE** calls to an announcement that states that you do not wish to receive calls that have had Caller ID blocked. The code to block these calls can usually be found in the front section of the telephone directory.

**OUT OF AREA** The caller is calling from an area that cannot provide Caller ID information (for example, international calls) or he/she is calling from a type of circuit that cannot provide Caller ID information, for example, some outbound **WATS** lines.

**PAYPHONE** The caller is calling from a coin-operated telephone. The telephone company will send this information as there are no directory listings for pay phones. The number will be delivered as usual.

**NOTE:** The Caller ID features require optional software and/or hardware. Please see your service and installation company for details.

## SELECTING YOUR CALLER ID DISPLAY

You can decide if you want to see the CID name or CID number in the display. Regardless of which one is selected, you can press the **NND** key to view the other pieces of CID information. To select the type of Caller ID information you wish to view first:

- With the handset on-hook, press **TRSF** and then dial **119**.
- Dial **0** if you do not wish to view CID information, **1** to view the **NUMBER** first or **2** to view the **NAME** first.
- Press **TRSF** to store your selection.

## VIEWING THE NEXT CID CALL

In the event that you have a call waiting or a camped-on call at your keyset, you can press the **NEXT** key to display the Caller ID information associated with the call in queue at your keyset. Either the CID name or CID number will show in the display depending on your Name/Number selection.

To view Caller ID information for calls that have been camped-on to your keyset, press the **NEXT** key. If your keyset does not have a **NEXT** key, press the **CID** key and then the **NEXT** soft key.

## SAVING THE CID NUMBER

At any time during an incoming call that provides CID information, you may press the **SAVE** key to save the CID number. If your keypad does not have a **SAVE** key, press the **CID** key, the **SCROLL** key and then the **SAVE** soft key. The system must be using LCR to dial the saved number.

## REDIALING A SAVED CID NUMBER

To redial a number that has been saved, press the **SAVE** key or dial **19**.

### NOTES:

1. Your telephone system must have LCR correctly programmed to redial the saved number.
2. If the Hot Keypad feature has been turned off, you must first lift the handset or press SPK before you begin dialing.

## STORING A CID NUMBER

At any time during an incoming call that provides CID information, you may save the CID number as a speed dial number in your personal speed dial list. To store a Caller ID number in a personal speed dial bin:

- Press the **STORE** key. The system displays the speed dial bin in which the number was stored.
- OR
- Press the **CID** key and then press the **SCROLL** key.
- Press the **STORE** soft key.
- The system displays the speed dial bin in which the number was stored.

**NOTE:** Your telephone system must have LCR correctly programmed to redial the saved number. If LCR is not being used on your system, you will not be allowed to **STORE** CID numbers.

## INQUIRE CID PARK/HOLD INFO

If you are informed that an incoming call is on hold or has been parked for you, you may view the Caller ID information before you retrieve the call. This will influence how you choose to handle the call.

From an idle keypad:

- Press the **INQUIRE** key.
- OR
- Press the **CID** key and then the **INQUIRE** soft key.
- Dial the trunk number.

- You may now answer the call by pressing **ANS**.
- OR
- You may use **NND** to view more information about this call.
- OR
- You can return to the idle condition by pressing **IGNORE**.

If you are on a call:

- Press the **INQUIRE** key. Your existing call will go on hold.
- OR
- Press the **CID** key and then the **INQUIRE** soft key to place the first call on hold.
- Dial the trunk number.
- You may now answer the call by pressing **ANS**.
- OR
- You may use **NND** to view more information about this call.
- OR
- You can return to the idle condition by pressing **IGNORE**.

### NOTES:

1. If you are on an intercom call or you have Automatic Hold turned off, you must finish the existing call or place it on hold before inquiring.
2. If you inquire about an outgoing call, you will receive a [call no longer available] display.

## REVIEWING PAST CID CALLS

This feature allows you to review CID information for calls sent to your keypad. This list can contain 10-50 calls in a first-in, first-out basis. The list includes calls that you answered and calls that rang your keypad but that you did not answer. When reviewing this list, you can press one button to dial the person back. The system must be using LCR to dial the stored number. To access the CID information stored in your **REVIEW** list:

- Press the **REVIEW** key.
- OR
- Press the **CID** key and then press the **REVIEW** soft key.
- If you have entries in your review list, the oldest call will be shown first.
- You can now **CLEAR** this entry.
- OR
- Use **NND** to view more information about this call.
- OR
- Press **DIAL** to call this person back.

Press **SCROLL** and then press **STORE** to save this number in a personal speed dial bin.

## NOTES:

1. Each keyset defaults with ten review bins. Please see your system administrator to determine the number of bins assigned to your keyset.
2. Your system must have LCR correctly programmed to allow you to DIAL numbers from the review list or to STORE entries from the review list.

## LCR WITH CLEAR

When you are making an outside call using LCR and dial an incorrect digit, you can press the **CLEAR** soft key to reenter the telephone number. You do not need to re-dial 9 to reaccess LCR.

## STORING A SAVED CID NUMBER

When you receive a CID number:

1. Press **STORE** to save the number to your review list.

2. Press **CALL** to call the number.

3. Press **DELETE** to delete the number.

4. Press **STORE** to save the number to your review list.

5.

6. Press **CALL** to call the number.

7. Press **DELETE** to delete the number.

8. Press **STORE** to save the number to your review list.

9. Press **CALL** to call the number.

## STORING A CID NUMBER

When you receive a CID number:

1. Press **STORE** to save the number to your review list.

2. Press **CALL** to call the number.

## RETRIEVING A SAVED CID NUMBER

When you want to retrieve a CID number:

1. Press **REVIEW** to view the review list.

2. Press the number of the CID number you want to retrieve.

3. Press **CALL** to call the number.

## RETRIEVING THE CID NUMBER

# ADD-ON MODULE

## WITH KEYSSET

The add-on module (AOM) is used when you need more programmable keys or executive off-hook voice announcement (OHVA). The extra programmable keys are used exactly as are the ones on your keyset. Make them **DSS/BLF** keys, C.O. line keys, One Touch Speed Dial buttons or any combination of these and other feature keys. A maximum of two AOMs can be added to any keyset.

The **UP** and **DOWN** arrow keys are used to adjust the speaker level for executive off-hook voice announcement. The **MUTE** key is used to mute the microphone during an Executive OHVA. The **SPK** key has no function in this arrangement. Use the **SPK** key on your keyset when instructed throughout this user guide.

## WITHOUT KEYSSET

This 32 button AOM can be used by itself (stand-alone) for basic internal communications when a handset and dial pad are not required.

Assign these keys as feature keys, **DSS/BLF** keys or One Touch Speed Dial buttons.

In the Auto Answer mode, use the AOM as a room monitor or intercom box. This allows use of the four feature keys at the bottom: **VOL UP/DOWN**, **MUTE** and **SPK**.

When you receive a call from a number in your review list:

1.

2. Press **CALL** to call the number.

3.

4. Press **DELETE** to delete the number.

5. Press **STORE** to save the number to your review list.

6.

7. Press **CALL** to call the number.

8.

9. Press **DELETE** to delete the number.

10. Press **CALL** to call the number.

When you receive a call from a number in your review list:

1.

2. Press **CALL** to call the number.

3.

4. Press **DELETE** to delete the number.

5. Press **STORE** to save the number to your review list.

**PERS**  **PERSONAL SPEED DIAL NUMBERS**

CODE	NAME	TELEPHONE NUMBER
00	_____	_____
01	_____	_____
02	_____	_____
03	_____	_____
04	_____	_____
05	_____	_____
06	_____	_____
07	_____	_____
08	_____	_____
09	_____	_____
10	_____	_____
11	_____	_____
12	_____	_____
13	_____	_____
14	_____	_____
15	_____	_____
16	_____	_____
17	_____	_____
18	_____	_____
19	_____	_____
20	_____	_____
21	_____	_____
22	_____	_____
23	_____	_____
24	_____	_____

M O L E S  
44

**PERSONAL SPEED DIAL NUMBERS**

CODE	NAME	TELEPHONE NUMBER
25	_____	_____
26	_____	_____
27	_____	_____
28	_____	_____
29	_____	_____
30	_____	_____
31	_____	_____
32	_____	_____
33	_____	_____
34	_____	_____
35	_____	_____
36	_____	_____
37	_____	_____
38	_____	_____
39	_____	_____
40	_____	_____
41	_____	_____
42	_____	_____
43	_____	_____
44	_____	_____
45	_____	_____
46	_____	_____
47	_____	_____
48	_____	_____
49	_____	_____

M O L E S  
45



N O T E S

50	
55	
51	
50	
01	
18	
11	
18	
10	
14	
13	
15	
11	
10	
08	
08	
01	
08	
02	
01	
00	

CODE TYPE

TELEPHONE NUMBER

N O T E S

48	
41	
48	
42	
44	
42	
45	
41	
40	
08	
02	
01	
00	
04	
03	
05	
01	
00	
08	
08	
01	
08	
02	

CODE TYPE

TELEPHONE NUMBER

PERSONAL SPEED DIAL NUMBERS

PERSONAL SPEED DIAL NUMBERS



# NOTES

## SYSTEM ACCESS CODES

### LINE GROUPS

9 LOCAL/CR  
80 \_\_\_\_\_  
81 \_\_\_\_\_  
82 \_\_\_\_\_

### STATION GROUPS

501 \_\_\_\_\_  
502 \_\_\_\_\_  
503 \_\_\_\_\_  
504 \_\_\_\_\_

### PAGING ZONES - Dial 55 plus

0 ALL INTERNAL ZONES  
1 \_\_\_\_\_  
2 \_\_\_\_\_  
3 \_\_\_\_\_  
4 \_\_\_\_\_  
5 \_\_\_\_\_  
6 \_\_\_\_\_  
7 \_\_\_\_\_  
8 \_\_\_\_\_  
9 ALL EXTERNAL ZONES  
\* ALL PAGE

### PROGRAMMED MESSAGES

01 IN A MEETING  
02 OUT ON A CALL  
03 OUT TO LUNCH  
04 LEAVE A MESSAGE  
05 PAGE ME  
06 OUT OF TOWN  
07 IN TOMORROW  
08 RETURN AFTERNOON  
09 ON VACATION  
10 GONE HOME  
11 \_\_\_\_\_  
12 \_\_\_\_\_  
13 \_\_\_\_\_  
14 \_\_\_\_\_  
15 \_\_\_\_\_  
16 \_\_\_\_\_  
17 \_\_\_\_\_  
18 \_\_\_\_\_  
19 \_\_\_\_\_  
20 \_\_\_\_\_

### FEATURE ACCESS CODES

10 + xxx PICK UP A PARKED CALL  
12 + xxx PICK UP A HELD CALL  
13 DOOR LOCK RELEASE  
16 + xxx SPEED DIALING  
17 SAVE AND REDIAL NUMBER  
18 RECALL  
19 LAST NUMBER REDIAL  
400 CANCEL DO NOT DISTURB  
401 SET DO NOT DISTURB  
42 + xxx CANCEL MESSAGE YOU LEFT  
43 RETURN MESSAGE  
44 CALLBACK  
45 BUSY STATION CAMP-ON  
46 CONFERENCE  
47 ACCOUNT CODE  
48 + xx SET PROGRAMMED MSG  
48 + 00 CANCEL PROGRAMMED MSG

49 SEND FLASH TO C.O. OR PBX  
53 + group # + 0 OUT OF GROUP  
53 + group # + 1 IN GROUP  
54 + zone MEET ME PAGE  
56 MEET ME ANSWER  
600 CANCEL ALL CALL FORWARD  
601 + xxx SET FORWARD ALL CALLS  
602 + xxx SET FORWARD BUSY  
603 + xxx SET FORWARD NO ANSWER  
604 + xxx SET FWD BUSY/NO ANSWER  
605 + xxx SET FORWARD FOLLOW ME  
65 + xxx PICK UP RINGING EXTENSION  
66 + xx PICKUP GROUP  
67 UNIVERSAL ANSWER  
681 DIAL BY VOICE  
682 RECORD DIAL BY VOICE  
\* AUTHORIZATION CODE

10 - 25 CHUCKY MCG...  
 11 - 26 BEL...  
 12 - 27 Y...  
 13 - 28 D...  
 14 - 29 B...  
 15 - 30 S...  
 16 - 31 S...  
 17 - 32 S...  
 18 - 33 S...  
 19 - 34 S...  
 20 - 35 S...  
 21 - 36 S...  
 22 - 37 S...  
 23 - 38 S...  
 24 - 39 S...  
 25 - 40 S...

41 - 45 S...  
 46 - 50 S...  
 51 - 55 S...  
 56 - 60 S...  
 61 - 65 S...  
 66 - 70 S...  
 71 - 75 S...  
 76 - 80 S...  
 81 - 85 S...  
 86 - 90 S...  
 91 - 95 S...  
 96 - 100 S...

SYSTEM ACCESS CODES

1 - 10 S...  
 11 - 20 S...  
 21 - 30 S...  
 31 - 40 S...  
 41 - 50 S...  
 51 - 60 S...  
 61 - 70 S...  
 71 - 80 S...  
 81 - 90 S...  
 91 - 100 S...

101 - 110 S...  
 111 - 120 S...  
 121 - 130 S...  
 131 - 140 S...  
 141 - 150 S...  
 151 - 160 S...  
 161 - 170 S...  
 171 - 180 S...  
 181 - 190 S...  
 191 - 200 S...

SYSTEM ACCESS CODES

201 - 210 S...  
 211 - 220 S...  
 221 - 230 S...  
 231 - 240 S...  
 241 - 250 S...  
 251 - 260 S...  
 261 - 270 S...  
 271 - 280 S...  
 281 - 290 S...  
 291 - 300 S...

301 - 310 S...  
 311 - 320 S...  
 321 - 330 S...  
 331 - 340 S...  
 341 - 350 S...  
 351 - 360 S...  
 361 - 370 S...  
 371 - 380 S...  
 381 - 390 S...  
 391 - 400 S...

SYSTEM ACCESS CODES

401 - 410 S...  
 411 - 420 S...  
 421 - 430 S...  
 431 - 440 S...  
 441 - 450 S...  
 451 - 460 S...  
 461 - 470 S...  
 471 - 480 S...  
 481 - 490 S...  
 491 - 500 S...

501 - 510 S...  
 511 - 520 S...  
 521 - 530 S...  
 531 - 540 S...  
 541 - 550 S...  
 551 - 560 S...  
 561 - 570 S...  
 571 - 580 S...  
 581 - 590 S...  
 591 - 600 S...

M O I E 2

**STANDARD  
TELEPHONE  
USER GUIDE**



**STANDARD TELEPHONE  
USER GUIDE**

**PROSTAR DCS  
DIGITAL COMMUNICATIONS SYSTEM**

August 1995

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## PERSONAL SPEED DIAL LIST

15-16



...the handset...  
 ...the handset...  
 ...the handset...

## SYSTEM TONES

...the handset...  
 ...the handset...  
 ...the handset...

## DISCRETEIVE RINGING

...the handset...  
 ...the handset...  
 ...the handset...

## C.O.T.I.M.E.S.

...the handset...  
 ...the handset...  
 ...the handset...

## HOOKFLASH

...the handset...  
 ...the handset...  
 ...the handset...

## USER ORIENTATION

...the handset...  
 ...the handset...  
 ...the handset...



...the handset...  
 ...the handset...  
 ...the handset...

## ABOUT THIS BOOK

This booklet provides instructions for using an industry standard single line telephone set with the PROSTAR DCS. A variety of single line sets from many different manufacturers are available. Check with your service and installation company to ensure proper operation with the PROSTAR DCS system.

Please take the time to study this guide and to become familiar with the operation of your standard telephone. Keep it handy. You may need to look up instructions for infrequently used features.

Learning to use your telephone correctly will make everyday telephone communications a breeze.



...the handset...  
 ...the handset...  
 ...the handset...



...the handset...  
 ...the handset...  
 ...the handset...



...the handset...  
 ...the handset...  
 ...the handset...

# THINGS YOU SHOULD KNOW

## USER ORIENTATION

Lifting the handset on your telephone will provide PROSTAR DCS dial tone. This is also referred to as internal or intercom dial tone. To get an outside line from the telephone company, dial an access code, usually the digit "9." To call another station in your system, simply dial its extension number. See your system directory list for other access codes and extension numbers.

## HOOKFLASH

Throughout this guide, you will see references to "hookflash." A hookflash is a momentary operation of the hookswitch required for a feature operation. Some telephones have a FLASH key. This key may be pressed instead of the hookswitch.

## C.O. LINES

Lines from the telephone company are "C.O. lines." Calls on these lines are referred to as "outside calls." These C.O. lines are accessed by dialing an access code. For example, dial 9 to get a local outside line or dial 80-89 for other line groups. Each line in the system is numbered beginning with 701, and then 702, 703, etc. To get a specific line, dial its three digit line number. If Least Cost Routing (LCR) is programmed into the system, you will only be required to dial 9.

## DISTINCTIVE RINGING

PROSTAR DCS provides distinctive ring patterns to your phone:

- Outside calls have a single ring tone repeated.
- Intercom calls have a double ring tone repeated.
- Door phone calls and alarm/appointment reminders have a triple ring tone repeated.

## SYSTEM TONES

The system provides several tones to assist you. Some of these tones are already familiar to you.

Intercom Dial Tone—A steady tone that indicates you can begin dialing.



CONTINUOUS

Ringback Tone—Indicates the station you dialed is ringing.



CONTINUOUS

Busy Tone—Indicates the station you dialed is busy.



CONTINUOUS

DND/No More Calls Tone—Fast busy tone indicates the station you dialed is in the Do Not Disturb mode or cannot receive any more calls.



FOR TEN SECONDS

Transfer/Conference Tone—Indicates your call is being held and you can dial another party.



CONTINUOUS

Confirmation Tone—Very short beeps followed by dial tone indicate you have correctly set or canceled a system feature.



FOR ONE SECOND  
(programmable)

Error Tone—A distinctive two level beeping tone indicates you have done something incorrectly. Try again.



FOR THREE SECONDS



## OUTSIDE CALLS

### MAKING AN OUTSIDE CALL

- Lift the handset and receive internal dial tone.
  - Dial a C.O. line or line group access code.
  - Receive outside dial tone and then dial the telephone number.
  - Finish the call by replacing the handset.
- If your system is programmed to require an authorization code before making a call:
- Dial \* and a valid code. You will hear transfer tone.
  - Hookflash and select a C.O. line.
  - Dial 47 and a valid code.
  - Hookflash and receive transfer tone. Select a C.O. line.

For more information on authorization and account codes, see your system administrator.

### ANSWERING AN OUTSIDE CALL

- Lift the handset. You are automatically connected to the ringing call.
- Finish the call by replacing the handset.

### UNIVERSAL ANSWER

Outside lines may be programmed to ring a general alerting device. To answer calls ringing this device, dial 67. This device can operate in the Day or Night mode.

### SENDING A FLASH

While you are on an outside call, hookflash, receive transfer tone and dial 49 to send a flash to the telephone company. This may be required for some custom calling features or CENTREX lines.

### RECALL DIAL TONE

Hookflash and then dial 18 to disconnect your outside call and receive telephone company dial tone for a new call.

### BUSY LINE QUEUING WITH CALLBACK

If you receive a busy signal when you select an outside line:

- While on that call, hookflash, receive transfer tone and dial 44.
- When the line becomes free, the system will call you back.
- Lift the handset, receive dial tone and dial the telephone number or the speed dial number again.

NOTE: A callback will be canceled if it is not answered within 30 seconds.

## INTERCOM CALLS

### CALLING OTHER STATIONS

- Lift the handset.
- Dial the extension number or group number.
- Wait for the party to answer.
- If you hear several brief tone bursts instead of ringback tone, the station you called is set for Voice Announce or Auto Answer.
- Begin speaking immediately after the tone.
- Finish the call by replacing the handset.

### ANSWERING INTERCOM CALLS

- Lift the handset and you are automatically connected to the ringing call.
- Finish the call by replacing the handset.

### BUSY STATION CALLBACK

When you call another station and you receive a busy signal:

- Hookflash, receive transfer tone, dial 44, receive transfer tone and hang up.
- When the busy station becomes free, your telephone will ring.
- Lift the handset to automatically call the now idle station.

NOTE: You have 30 seconds to answer or the callback will be canceled.

### BUSY STATION CAMP-ON

When you call another station and receive a busy signal but you do not want to wait for a callback:

- Hookflash, receive transfer tone and dial 45.
- The called station will receive off-hook ring or camp-on tone.
- You will hear ringback tone.
- Wait for the called party to answer.

The called station must release its first call or put it on hold before answering your camp-on.

### CALLING YOUR SYSTEM OPERATOR

- Lift the handset and dial 0 to call your system operator or group of operators.
- If you want to call a specific operator, dial that person's extension number.

# CALL PROCESSING

## HOLDING CALLS

- When you are connected to any call, hookflash, receive transfer tone and dial **11**. The call will now be on hold. You may now make or receive a second call.
- To take the caller off hold, lift the handset and dial **11**. You are now connected to the call. You may resume your conversation.

**NOTE:** A standard telephone can put only one call on hold at a time.

## HOLD RECALL

If you leave a call on hold longer than the hold timer, the call will recall your station.

- When your phone rings, lift the handset to answer the recall.
- If you do not answer this recall within a pre-programmed period of time, it will go to the operator group.

## RETRIEVING CALLS ON HOLD AT ANOTHER STATION

When a line is on hold at any other station:

- Lift the handset and dial **12** plus the extension number of the station that placed the call on hold—OR—dial **12** plus the line number if you know what it is.

## CONSULTATION HOLD

When you are speaking on an outside line and it is necessary to consult with another extension:

- Hookflash and receive transfer tone. Your call is placed on transfer hold.
- Dial an extension number.
- Consult with the internal party.
- Hookflash to return to the outside party or hang up to transfer the call.

**NOTE:** Repeatedly pressing the hookflash will flip-flop between the outside and inside parties (except if the destination station is set for Auto Answer or Voice Announce).

## TRANSFERRING CALLS

Transfer is used to send any call to another extension in one of two ways. You can perform a screened transfer by informing the other extension who is

calling or you can perform a blind transfer without notification.

- While you are speaking on a call, hookflash to receive transfer dial tone and then dial an extension number. Your call is automatically put on transfer hold.
  - Hang up when you hear ringing—OR—wait for the party to answer and advise the party of the call and then hang up. If the transfer is refused, you will be reconnected to the outside line when the station hangs up or you can hookflash to return to the outside party.
- NOTE:** After the inside party answers, you may alternate back and forth between the parties by hookflashing.

## TRANSFER WITH CAMP-ON

When you are transferring a call to another station and it is busy, you may camp the call on to this station:

- While you are speaking on a call, hookflash to receive transfer dial tone and then dial an extension number. Your call is automatically put on transfer hold.
- Hang up when you hear a busy signal. The called party will be alerted that a call is waiting.

## TRANSFER RECALL

All calls that you have transferred (screened, unscreened and camped-on) will automatically recall to your station if they are not answered in a pre-programmed period of time.

## CALL WAITING

If an outside call has been camped-on to your phone or another station is camped-on to you:

- You will receive camp-on tone indicating another call is waiting.
- Hookflash and then dial **11** to put the first call on hold.
- Hang up and the waiting call will ring.
- Lift the handset to answer.
- Complete this call by transferring it or hanging up.
- Lift the handset and then dial **11** to return to your first call.

## SETTING UP A CONFERENCE

You may conference five parties (you and four other parties) in any combination of outside lines and internal stations in any order.

- While you are engaged in a conversation, hookflash, receive transfer tone and dial **46**. You will receive conference tone.
- Make another call, either intercom or outside.
- After the called party answers, hookflash and receive conference tone.

## FORWARD NO ANSWER/BUSY

To forward calls to another station when you do not answer or when you are on the phone:

- Lift the handset and dial **604** plus the extension or group number.
  - Receive confirmation tone and hang up.
- To cancel Forward No Answer/Busy, lift the handset and dial **600—OR—dial** another forward code, e.g., **601**.

## FORWARD FOLLOW ME

When you want all calls to your extension forwarded to the extension where you are now:

- Dial **605** plus your extension number.
- Receive confirmation tone and hang up.

If you want a specific extension's calls forwarded to your phone (Remote Call Forward):

- Dial **605** plus the desired extension number.
- Receive confirmation tone and hang up.

To cancel Forward Follow Me, lift the handset and dial **600—OR—dial** another forward code, e.g., **601**.

## STATION CALL PICKUP

To pick up (answer) a call ringing at another station:

- Lift the handset and dial **65** plus the extension number of the ringing phone.

## GROUP CALL PICKUP

To pick up (answer) a call ringing in any pickup group:

- Lift the handset and dial **66** plus the desired group number **01–20**.

**NOTE:** Station and group pickup features cannot be used to answer recalls to a station, only new ringing calls and operator recalls.

- Make other call—**OR**—hookflash to join all parties.

- Repeat as necessary.

To drop a party from your conference call:

- Hookflash, receive confirmation tone and dial the extension or line number that is to be dropped.
- Receive conference tone and dial **46** to rejoin the other parties.

**NOTES:** To leave the conference, hang up. Control will be passed to the first internal station that was added. If there are no internal stations and you wish to leave outside lines connected together in a trunk to trunk conference, follow the instructions to drop a party and use your extension number. When the parties on the outside lines hang up, the lines will release automatically.

## FORWARDING YOUR CALLS

You may forward your calls to other stations or groups of stations. When they are programmed, Forward All Calls will have priority over Forward Busy and Forward No Answer conditions.

To clear all call forward conditions set at your station, lift the handset and dial **600**.

**NOTE:** It is not necessary to clear call forwarding to change your selection; simply enter a new forward command.

## FORWARD ALL CALLS

To forward all of your calls to another station:

- Lift the handset and dial **601** plus the extension or group number.
  - Receive confirmation tone and hang up.
- To cancel Forward All Calls, lift the handset and dial **600—OR—dial** another forward code, e.g., **604**.

## FORWARD BUSY

To forward calls to another station when you are on the phone:

- Lift the handset and dial **602** plus the extension or group number.
  - Receive confirmation tone and hang up.
- To cancel Forward Busy, lift the handset and dial **600—OR—dial** another forward code, e.g., **604**.

## FORWARD NO ANSWER

To forward calls to another station when you do not answer:

- Lift the handset and dial **603** plus the extension or group number.
  - Receive confirmation tone and hang up.
- To cancel Forward No Answer, lift the handset and dial **600—OR—dial** another forward code, e.g., **604**.

## DIALING FEATURES

### SPEED DIALING

You can dial a preprogrammed telephone number stored in the system-wide speed dial list of numbers 500–999 or from your personal list of numbers 00–49.

- Lift the handset and dial **16**.
- Dial the desired speed dial number.
- The telephone number is automatically dialed for you.

### LAST NUMBER REDIAL

To redial the last telephone number you have dialed:

- Lift the handset and dial **19**.

**NOTE:** Redial does not apply to intercom calls.

### SAVE NUMBER WITH REDIAL

To save the number you have just dialed for later use:

- Before hanging up, hookflash, receive confirmation tone and dial **17**.

To redial this saved number at any time:

- Lift the handset and dial **17**. This step will select the same line and dial the number for you.

This telephone number is stored in memory until you save another. When you do, the new number will be saved and the old number will be erased.

**NOTE:** Save Number does not apply to intercom calls.

### PULSE TO TONE CHANGEOVER

When making an outside call on a dial pulse line, press **#**. All digits dialed after the **#** will be sent as tones.

## PAGING AND MESSAGING

### MAKING AN INTERNAL PAGE

To make an announcement through the keypad speakers:

- Lift the handset.
- Dial **55** plus zone number **1, 2, 3** or **4—OR—dial 55 plus 0** to page all internal zones.
- After the brief attention tone, make the announcement.

### MAKING AN EXTERNAL PAGE

To make an announcement through the external paging speakers:

- Lift the handset.
- Dial **55** plus zone number **5, 6, 7** or **8—OR—dial 55 plus 9** to page all external zones.
- After the brief attention tone, make the announcement.

### ALL PAGE

To page all keysets and the external speakers at the same time:

- Lift the handset and dial **55** plus **\***.
- After the brief attention tone, make the announcement.

### MEET ME PAGE/ANSWER

- Make a page by dialing **54** plus any zone and instruct the paged person to dial **56**.
- After completing the page, hookflash and remain off-hook until the paged person dials **56** from any phone. The paged person will be automatically connected with you.

### CALL PARK AND PAGE

When you have an outside call for someone who is not at his/her desk, you can park the call and page the requested party:

- While in conversation, hookflash and dial **55**. The call is automatically parked at your station.
- Dial the desired page zone and make the announcement. Be sure to include your station number, for example, "Mr. Smith, park 201."

### RETRIEVING A PARKED CALL

To retrieve a call that has been parked for you:

- Lift the handset.
- Dial **10** plus the station number that was announced. You will be connected to the parked call.



## SETTING A MESSAGE INDICATION

When you are calling another station and no one answers or you receive a busy signal, you can set a message indication at that station. The MESSAGE key on keysets will flash and standard telephones will receive special dial tone.

- Hookflash and dial **43**.
  - Receive confirmation tone and hang up.
- If the keyset you are calling is in the Auto Answer mode, you must use the following procedure:
- Hang up for at least two seconds.
  - Lift the handset.
  - Dial **41** plus the extension number.
  - Receive confirmation tone and then hang up.

**NOTE:** A station can have up to and including five message indications. If you receive dial tone instead of confirmation tone, there are already five messages at this station. Try again later.

## RETURNING MESSAGES

When you lift the handset and receive special dial tone, another station has left a message for you. To return messages:

- Lift the handset.
- Dial **43**. The first station that left you a message will be called automatically. If it is not answered, your message indication will remain.
- Repeat the prior step until all messages have been returned in the order received.
- Dial tone will return to normal when all messages have been returned.

## CANCELING A MESSAGE

You can cancel a message indication that you have left at another station.

- Lift the handset.
  - Dial **42** plus the extension number of that station.
- To cancel all message indications left at your phone:
- Lift the handset and dial **42** plus your extension number.
  - Replace the handset.

## PROGRAMMED MESSAGES

When you will be away from your phone for any length of time, you may leave a programmed station message. Display stations calling you will see this message and be informed of your status or follow your instructions.

- Lift the handset and dial **48** plus any message code **01-20** listed on the back of this user guide.
- Listen for confirmation tone and hang up.
- To cancel this message, lift the handset and dial **48** plus **00**.

## CONVENIENCE FEATURES

### DO NOT DISTURB

Use Do Not Disturb (DND) when you want to block calls to your keyset.

- Lift the handset and then dial **401**.
  - To cancel DND, lift the handset and then dial **400**.
- You are able to make calls while in the DND mode.

### ANSWERING THE DOOR PHONE

When your station is programmed to receive calls from the door phone:

- You will receive three short rings repeatedly.
- Lift the handset and you will be connected to the door phone.
- If an electric door lock release is installed, hookflash, receive confirmation tone and dial **13** to release the lock.

### CALLING THE DOOR PHONE (ROOM MONITORING)

You can call the door phone and listen to what is happening outside or in another room.

- Lift the handset and then dial the extension number of the door box.
- You will be connected to the door phone. You can listen or have a conversation.
- If an electric door lock release is installed, hookflash, receive confirmation tone and dial **13** to release the lock.

### ACCOUNT CODES

When it is equipped with optional equipment, your PROSTAR DCS system allows calls to be charged to different accounts. You can enter an account code in two ways. To enter an account code by interrupting the conversation:

- While on an outside call, hookflash, receive confirmation tone and dial **47**.
- Dial the account code (it may be a maximum of 12 characters including \* and #).
- Hookflash to return to the conversation.
- If you make an error, repeat the procedure with the correct code. Only the last account code dialed will be recorded.

To enter an account code after the outside party hangs up.

- After the outside party hangs up, hookflash, receive confirmation tone and then dial 47.
- Dial the account code (it may be a maximum of 12 characters including \* and #).

NOTE: If you wait for the outside party to hang up, you must complete this procedure within ten seconds. You cannot repeat if you make a mistake.

## IN/OUT OF GROUP

If your station is assigned to a hunt group, this feature will allow you to dial 53 plus the group number, e.g., 501, plus 0 to temporarily prevent your station from receiving any group calls. You will still be able to receive calls that are dialed directly to your station. To reenter the group, dial 53 plus the group number, e.g., 501, plus 1.

## DIAL BY VOICE

If your station is assigned to a Dial by Voice group, this feature allows you to use Dial by Voice. Before using this feature, you must record a name and assign that name to a personal speed bin. This feature can be accessed only by a dial code. When you are recording a name, do not pause between the first and last names because the system will interpret the pause as the end of recording. Practice saying names as one word, i.e., JohnHannon, SteveDrage, RockyStump. Personal speed dial numbers must be programmed for you by your system administrator or by your installation and service company.

**IMPORTANT:** To record a name for one of your speed dial numbers, the following procedure must be followed in one complete step. Stopping causes recording to fail.

Lift the handset and dial 682. Dial the station passcode (1234). Dial the personal speed bin number. Upon completion of this entry, you will hear three short beeps. Immediately record the name. If you are successful, you will hear three more short beeps. If you hear error tone, the system was not able to recognize your voice. Try again. For example, your entry may be the following: 682123405 beeps VOICE entry beeps.

To place a call using Dial by Voice:

- Lift the handset.
- Dial 681 and speak the name.
- If the name is recognized, the call will be placed. If the name is not recognized, you will hear error tone. Hang up and try again.

NOTE: This feature requires optional hardware and/or software. Ask your installation and service company for details.

# PERSONAL SPEED DIAL NUMBERS

CODE	NAME	TELEPHONE NUMBER
00	_____	_____
01	_____	_____
02	_____	_____
03	_____	_____
04	_____	_____
05	_____	_____
06	_____	_____
07	_____	_____
08	_____	_____
09	_____	_____
10	_____	_____
11	_____	_____
12	_____	_____
13	_____	_____
14	_____	_____
15	_____	_____
16	_____	_____
17	_____	_____
18	_____	_____
19	_____	_____
20	_____	_____
21	_____	_____
22	_____	_____
23	_____	_____
24	_____	_____



# PERSONAL SPEED DIAL NUMBERS

# SYSTEM ACCESS CODES

CODE	NAME	TELEPHONE NUMBER
25	_____	_____
26	_____	_____
27	_____	_____
28	_____	_____
29	_____	_____
30	_____	_____
31	_____	_____
32	_____	_____
33	_____	_____
34	_____	_____
35	_____	_____
36	_____	_____
37	_____	_____
38	_____	_____
39	_____	_____
40	_____	_____
41	_____	_____
42	_____	_____
43	_____	_____
44	_____	_____
45	_____	_____
46	_____	_____
47	_____	_____
48	_____	_____
49	_____	_____

## LINE GROUPS

9	LOCAL/LCR	_____
80	_____	_____
81	_____	_____
82	_____	_____

## STATION GROUPS

501	_____	_____
502	_____	_____
503	_____	_____
504	_____	_____

## PAGING ZONES - Dial 55 plus

0	ALL INTERNAL ZONES	_____
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	ALL EXTERNAL ZONES	_____
*	ALL PAGE	_____

## FEATURE ACCESS CODES

10 + xxx	PICK UP A PARKED CALL	_____
11	SLT ON HOLD/OFF HOLD	_____
12 + xxx	PICK UP A HELD CALL	_____
16 + xxx	SPEED DIALING	_____
17	SAVE AND REDIAL NUMBER	_____
18	RECALL	_____
19	LAST NUMBER REDIAL	_____
400	CANCEL DO NOT DISTURB	_____
401	SET DO NOT DISTURB	_____
42 + xxx	CANCEL MESSAGE YOU LEFT	_____
43	RETURN MESSAGE	_____
44	CALLBACK	_____
45	BUSY STATION CAMP-ON	_____
46	CONFERENCE	_____
HF-47	ACCOUNT CODE	_____
48 + xx	SET PROGRAMMED MSG	_____
48 + 00	CANCEL PROGRAMMED MSG	_____

## PROGRAMMED MESSAGES

01	IN A MEETING	_____
02	OUT ON A CALL	_____
03	OUT TO LUNCH	_____
04	LEAVE A MESSAGE	_____
05	PAGE ME	_____
06	OUT OF TOWN	_____
07	IN TOMORROW	_____
08	RETURN AFTERNOON	_____
09	ON VACATION	_____
10	GONE HOME	_____
11	_____	_____
12	_____	_____
13	_____	_____
14	_____	_____
15	_____	_____
16	_____	_____
17	_____	_____
18	_____	_____
19	_____	_____
20	_____	_____

HF-49	SEND FLASH TO C.O. OR PBX	_____
53 + group # + 0	OUT OF GROUP	_____
53 + group # + 1	IN GROUP	_____
54 + zone	MEET ME PAGE	_____
56	MEET ME ANSWER	_____
600	CANCEL ALL CALL FORWARD	_____
601 + xxx	SET FORWARD ALL CALLS	_____
602 + xxx	SET FORWARD BUSY	_____
603 + xxx	SET FORWARD NO ANSWER	_____
604 + xxx	SET FWD BUSY/NO ANSWER	_____
65 + xxx	PICK UP RINGING EXT	_____
66 + xx	PICKUP GROUP	_____
67	UNIVERSAL ANSWER	_____
681	DIAL BY VOICE	_____
682	RECORD DIAL BY VOICE	_____
*	AUTHORIZATION CODE	_____

NOTE: HF indicates hookflash.

LINE	DESCRIPTION	AMOUNT	DATE
1	...	...	...
2	...	...	...
3	...	...	...
4	...	...	...
5	...	...	...
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8	...	...	...
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100	...	...	...

LINE	DESCRIPTION	AMOUNT	DATE
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100	...	...	...

**SYSTEM  
ADMINISTRATION  
AND  
SPECIAL FEATURES  
GUIDE**

**DCS**  
DIGITAL COMMUNICATIONS SYSTEM

**SAMSUNG**

PROSTAR DCS  
DIGITAL COMMUNICATIONS SYSTEM

**SPECIAL FEATURES**

**ABOUT THIS BOOK**

**SYSTEM  
ADMINISTRATION  
AND  
SPECIAL FEATURES GUIDE**

**PROSTAR DCS  
DIGITAL COMMUNICATIONS SYSTEM**

**August 1995**

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SYSTEM ADMINISTRATION

# TABLE OF CONTENTS

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## SPECIAL FEATURES

### NIGHT SERVICE OPERATION (AUTOMATIC OR MANUAL)

Your system is designed to have an alternate mode of operation generally designated as Night Service. Night Service permits incoming calls to ring differently than during normal day operation. Night Service is available on an individual tenant basis and may be set manually or automatically. While in the Night mode, each station will be limited to its individual night class of service dialing restrictions. You can put the system in or out of Night Service at any time. For Automatic Night Service, each tenant has an on-time and an off-time for each day. If no automatic timer is set, you must turn Night Service on and off manually.

### AUTOMATIC NIGHT SERVICE

Automatic Night Service is turned on or off according to the programmed on and off times. These programmed times use the system clock as a reference, so the system clock must be set correctly. Press the manual **NIGHT** key to override the automatic mode until the next programmed time.

### MANUAL NIGHT SERVICE

Press the **NIGHT** button on any keyset associated with the tenant group that wants to enter Night Service. Enter the night service passcode (see your service company for this number) and press **1** to turn Night Service on or **0** to turn Night Service off. The **NIGHT** key on all keysets in that tenant group will light red to indicate that Night Service has been set for that tenant.

### CALLING THE SYSTEM OPERATOR

Any station that dials **0** will ring its assigned operator. (If tenant service is used, each tenant may have a different operator or operator group.) Calls to the system or tenant operator are easily identified because the **CALL** key will have a fast flashing red light. Station users will never receive a busy signal when they dial **0** or the operator group number. The calls will continue ringing in queue until answered.

### OPERATOR RECALLS

Transferred calls that go unanswered will recall to the station that originated the transfer. Should the station that originated the transfer not answer the recall, the call will be sent to the operator as a transfer recall.

A call left on hold will recall the station that put it on hold. If the hold recall is unanswered at the station that originated the hold, the call is sent to the operator. Both types of recalls will ring and have a slow flashing amber light on the **LINE** key or **CALL** key.

### EXECUTIVE BARGE-IN

If you want to break into another station's conversation, you must be allowed to barge-in and the other station must not be secure.

- Dial the desired extension number and listen for the busy signal.
- Press the **BARGE-IN** button and begin speaking after the tone.
- Hang up when you are finished.

The system can be set for one of the three following barge-in options:

- No barge-in allowed
- Barge-in with intrusion tone
- Barge-in without intrusion tone (service observing)

When the third option is selected, the station that barges-in can monitor the conversation and no warning tone or display will be sent to the station being monitored. The handset transmitter and keyset microphone are disabled. The party that originated the barge-in may join the conversation by pressing the **MUTE** button on the keyset. Your service company must program these options for you.

#### WARNING

Barge-in without tone may violate state or federal laws concerning the right to privacy. Samsung Telecommunications America is in no way responsible for the possible misuse of this feature.

### WALKING CLASS OF SERVICE

You can change a restricted station's class of service to the same class as your station, allowing you to make calls or use features that would otherwise be restricted from that station.

- Lift the handset or press the **SPK** key.
- Dial **59** and then your extension number.
- Dial your station passcode and receive internal dial tone.
- Dial an access code and then the telephone number—**OR**—use the desired feature as usual.
- Hang up. The station will be returned to its restricted status.

NOTE: The default station passcode 1234 cannot be used.

### IN/OUT OF GROUP

Any station assigned to a station group can remove itself from that group and then reenter the group at a later time. When out of the group, a station can receive calls to its extension number but not to the group. There are 30 groups and the access codes are 500-529.



To create a backup or relief operator position, assign the main operator and one or more backup individuals to the operator group. All but the main operator should be out of the group. When it is necessary to use a backup operator, put the desired backup station in the group and remove the main operator. When incoming call traffic is heavy, you can have another station put itself in the operator group along with the main operator to handle the extra call load. If the station does not have an IN/OUT key:

- Lift the handset and dial 53.
- Dial the group number.
- Dial 0 to be out of the group or dial 1 to be in the group.
- Receive confirmation tone and hang up.

If the station has an IN/OUT key:

- Press the IN/OUT key. It will light red when the station is in the group.
- Press the IN/OUT key again. The light is off when the station is out of the group.

NOTE: A station can be in more than one group.

## DIRECT INWARD SYSTEM ACCESS (DISA)

From outside of the office, selected individuals can call into the PROSTAR DCS system on special DISA line(s). A security code must be entered to gain access. Once these individuals are in the system, they can make outside calls using the office lines or call stations within the system. Individuals who will use DISA must have their stations assigned for DISA access and must change their station passcodes. The default passcode 1234 cannot be used.

- Call in on the DISA line from any phone with tone dialing.
- You will hear DCS dial tone. Dial your security code (your extension number plus your station passcode).
- If you are allowed access, you will receive DCS dial tone.
- Dial any line access code, receive outside dial tone and then dial a telephone number

OR

Dial any extension number to call a station in the system.

- To make another call, press \*, receive dial tone and dial another number.
- Press # and hang up when finished.

NOTE: Outgoing DISA calls are controlled by the dialing class of the station identified by the security code. The DISA line must have disconnect supervision from the central office. Insist that this service is verified by your installation/service company.

## DISA SECURITY

A common practice among hackers is to repeatedly dial a known DISA access number (usually with a computer) and try a different passcode each time. The hacker hopes to eventually chance upon the correct passcode and thus gain access to your system. The PROSTAR DCS' security feature counts

the number of sequential incorrect passcode attempts. If a certain number is reached, DISA is disabled and the system sends an alarm to designated display stations. The number of passcode attempts and the disable duration are both programmable. In addition, the DCS system will print an SMDR record (a customer-provided printer and a SIM are required) each time an incorrect passcode is entered.

The DISA alarm will ring for a programmable time before canceling the ringing; however, the DISA alarm display will remain until the alarm is cleared. To clear the DISA alarm, follow the following procedure:

- Lift the handset and dial 58.
- Enter the DISA alarm passcode (see your service company).
- Replace the handset.

### WARNING

As it is impossible to prevent unauthorized access to your telephone system by hackers, we suggest that you do not turn the DISA feature on unless you intend to use it. If you do use this feature, it is good practice to frequently change passcodes and periodically review your telephone records for unauthorized use.

## FORCED ACCOUNT CODES

Account codes are used to provide accountability for the incoming and outgoing calls. If you do not have SMDR running, you cannot use this information. These account codes can be either forced or optional, but if forced, are always verified from a system list of up to 500 entries.

## USING FORCED ACCOUNT CODES

- Lift the handset and press the ACCT CODE key or dial 47.
- Enter the account code.
- Press the account code button again, press TRSF or hookflash (on an SLT). If a correct code is entered, you will hear DCS dial tone and you can make an outside call in the usual manner. If an incorrect code is entered, the station returns error tone.

This code will always print on SMDR reports. For information on entering and changing forced account codes, see the system administrator programming section of this book.

## AUTHORIZATION CODES

Authorization codes are used to validate a station user and give permission to make a call. These four digit authorization codes can be either forced or optional, but if used, are always verified from a system list of 250 entries. Each authorization code has an associated class of service. When the code is entered, the class of service is changed to that of the authorization code.

## USING AUTHORIZATION CODES

After going off-hook, the station user must dial \* followed by a four digit authorization code. If you enter a correct code, you will hear confirmation tone and then receive DCS dial tone and you can make an outside call in the usual manner. The station then follows the dialing class for that authorization code. If you enter an incorrect code, the station returns error tone. This code may or may not print on SMDR reports depending on SMDR programming.

## USING THE TIE LINE OUTGOING

Your office can be connected to another system with a tie line. Use this line to make calls to stations in the other system. If programming allows, you can access lines in the other system to make outside calls. Tie line calls can be put on hold, transferred and conferenced in the same manner as are other outside calls.

- Lift the handset or press the **SPK** key.
- Dial the tie line access code or press the tie line key.
- When you receive dial tone from the other system, you can dial extension numbers or access outside lines. You must know the extension numbers and the line access codes for the other system.
- Finish the call by replacing the handset or pressing the **ANS/RLS** key.

**NOTE:** Outgoing calls are controlled by the station's dialing class.

## INCOMING

Station users in the other system can access the tie line and make intercom calls to stations in your system. Answer tie line calls ringing at your station as you would any other outside call. They can be put on hold, transferred and conferenced in the same manner as are other outside calls.

## IN AND OUT ON TIE LINE

Users accessing the tie line from the other system can get a line in your system and make outgoing calls. These calls can be controlled by assigning a dialing class to the tie line. For further information, see your service company.

## ALARM SENSOR OPERATION

Your system may be equipped with an alarm sensor. When this sensor is activated, the designated display stations will ring and display a related message. The alarm will ring for a programmable time before cancelling the ringing; however, the alarm display will remain until the alarm is cleared. This message is programmable. To clear the alarm:

- Lift the handset and dial 57.
- Enter the alarm clear passcode (obtain from your service company).
- Repl the handset.

## CALLER ID SPECIAL FEATURES

### INVESTIGATE

Investigate allows selected stations with a special class of service to investigate any call in progress. If CID information is available for an incoming call, you will know to whom this station user is speaking. For outgoing calls, you can see the number that was dialed. After investigating, you may barge-in on the conversation, disconnect the call or hang up your phone to end the investigation.

- At your keyset, press the **INVESTIGATE** key.
  - Enter your station passcode. (Default passcodes cannot be used.)
  - Enter the station number to be investigated.
  - You can now press **BARGE** to barge-in on the conversation.
- OR**  
You can press **NND** to view more information about the call.
- OR**  
You can press **DROP** to disconnect the call.

#### NOTES:

1. If the call is an outgoing call, the **NND** key will not appear.
2. This feature requires optional software and/or hardware. Please ask your installation and service company for details.

# CALLER ID SPECIAL FEATURES

**NOTE:** The Caller ID features below require optional software and/or hardware. Please ask your installation and service company for details.

## ABANDON CALL LIST (50)

The system has a system-wide abandoned calls list that stores CID information for the last 50 calls that rang but were not answered and were accompanied with valid CID information. Calls with CID information consisting of OUT OF AREA, PAYPHONE or PRIVATE will not be stored in the list. The abandoned calls list is accessed using the system administrator's passcode. When reviewing this list, you are provided options to **CLEAR** the entry or **DIAL** the number. You can use the **NND** key to toggle between the CID name, CID number and the date and time the call came in. The system must be using LCR to dial numbers from the abandoned calls list.

To view the list of abandoned incoming calls for which CID information has been received:

- Dial **64** and dial the system administrator passcode.
- Scroll through the entries using the **VOL** keys.

## CALLER ID ON SMDR

The Station Message Detail Records (SMDR) report can be set to include the CID name and number for incoming calls. This format expands the printout to 113 characters. You must use a wide carriage printer or an 80 column printer set to the condensed print option.

## NUMBER TO NAME TRANSLATION (250)

The system provides a translation table of 250 entries for use in areas that do not provide name and number (sometimes called "deluxe") Caller ID. When the CID number is received, the table is searched. When a match is found, the system will display the corresponding name from the table. This will allow users in areas that do not support "deluxe" Caller ID to provide names for regular callers.

CUSTOMER LEVEL ACCESS

ПРОГРАММИНГ  
СИСТЕМ АДМИНИСТРАТОР

# SYSTEM ADMINISTRATOR PROGRAMMING

## CUSTOMER LEVEL ACCESS

Before any customer programs can be accessed, you must first open system programming using the passcode you have been assigned. You must use an LCD 12B or LCD 24B keyset. Should it become necessary to change this passcode, see your service company.

- While on-hook, press **TRSF** and then dial **200**. Your display shows [ENABLE CUS. PROG. PASSCODE].
- Dial the four digit passcode. The display shows [ENABLE CUS. PROG. - DISABLE].
- Dial **1** to enable. The display shows [ENABLE CUS. PROG - ENABLE].
- Press **TRSF**. The keyset returns to its idle condition.
- Press **TRSF** and then dial the three digit program code you want to access. Follow the instructions for that program.

**NOTE:** You must begin programming within 30 seconds. Once you are in programming, any delay of more than 30 seconds between key strokes will cause the system to automatically close programming.

## SET DATE AND TIME DISPLAY

Should it ever become necessary to correct the date and time displayed on all of the keysets, do so as soon as you notice that they are incorrect. Automatic Night Service will not work correctly and SMDR records will be of no value when the date and time are not correct.

The display format is the following:

**W** (Day of the week): Enter **0** for Sunday and **6** for Saturday.

**MM** (Month): Enter **01** for January and **12** for December.

**DD** (Day of the month): Enter a number in the range of **01–31**.

**YY** (Year): Enter the last two digits of the year.

**HH** (Hours): Use the 24 hour clock and enter a number in the range of **00–24**.

**MM** (Minutes): Enter a number in the range of **00–59**.

Failure to enter the time using the 24 hour clock will cause the date to change at 12:00 PM. Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **505**.  
Display shows

### DISPLAY

OLD: 6010184: 0047  
NEW: WMMDDYY: HHHM

2. Enter the new time and date using the above format

OLD: 6010184: 0047  
NEW: 3020994: 1445

3. Verify the time and date and reenter them if necessary

OLD: 3020994: 1445  
NEW: WMMDDYY: HHHM

4. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

If you have entered invalid data, you will receive an [INVALID ENTRY] message for three seconds. Reenter the correct date and time. If the information you entered is incorrect, repeat the procedure.

## RESET STATION PASSCODES TO DEFAULT

Individual keyset users can set or change their own individual passcodes. These passcodes are used to lock and unlock keysets, override toll restriction and access the DISA feature. At times, it may be necessary for the system administrator to reset a station's passcode to default "1234." This program cannot be used to display passcodes, only to reset them.

### PROGRAM KEYS

**UP & DOWN** - Select the extension number.  
**HOLD** - Press to reset the passcode.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **101**  
Display shows
2. Dial the station number OR use the **UP** and **DOWN** keys to scroll through the keyset numbers and press the right soft key to move the cursor right
3. Press **HOLD** to reset the passcode
4. Press the right soft key to return to step 2 OR press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

**DEFAULT DATA: ALL STATION PASSCODES = 1234**

## PROGRAM STATION NAMES

This program is used to assign a character name or identification for each extension. To verify the system software version, press **TRSF 727**. If the version is V1.x, you may assign a name ten characters long. If the version is V2.x, you may assign a name 11 characters long.

### PROGRAM KEYS

**UP & DOWN** - Used to scroll and move cursor.  
**KEYPAD** - Used to enter characters.  
**HOLD** - Press to clear entry.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **103**  
Display shows
2. Dial station number (e.g., **205**)  
OR press **UP** or **DOWN** to select the station and press the right soft key to move the cursor
3. Enter the station name using the procedure described on the next page and press the right soft key to return to step 2
4. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

**NOTE:** Directory information is always 11 characters.

**DEFAULT DATA: NONE**

### DISPLAY

[201] PASSCODE  
PASSCODE: \*\*\*\*

[205] PASSCODE  
PASSCODE: \*\*\*\*

[205] PASSCODE  
PASSCODE : 1234

### DISPLAY

[201] STN NAME

[205] STN NAME

[205] STN NAME  
SAM SMITH



Names are written using the keypad. Each press of a key will select a character. Pressing the dial pad key moves the cursor to the next position. For example, if the directory name is "SAM SMITH," press the number "7" three times to get the letter "S." Press the number "2" once to get the letter "A." Continue selecting characters from the table below to complete your message. Press the "A" key to change the letter from upper case to lower case.

**NOTE:** When the character you want appears on the same dial pad key as does the previous character, press the **UP** key to move the cursor to the right.

<b>COUNT</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>DIAL 0</b>	<b>Q</b>	<b>Z</b>	<b>.</b>	<b>)</b>	<b>0</b>
<b>DIAL 1</b>	<b>space</b>	<b>?</b>	<b>!</b>	<b>@</b>	<b>1</b>
<b>DIAL 2</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>@</b>	<b>2</b>
<b>DIAL 3</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>#</b>	<b>3</b>
<b>DIAL 4</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>\$</b>	<b>4</b>
<b>DIAL 5</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>%</b>	<b>5</b>
<b>DIAL 6</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>^</b>	<b>6</b>
<b>DIAL 7</b>	<b>P</b>	<b>R</b>	<b>S</b>	<b>&amp;</b>	<b>7</b>
<b>DIAL 8</b>	<b>T</b>	<b>U</b>	<b>V</b>	<b>*</b>	<b>8</b>
<b>DIAL 9</b>	<b>W</b>	<b>X</b>	<b>Y</b>	<b>(</b>	<b>9</b>
<b>DIAL #</b>	<b>:</b>	<b>=</b>	<b>[</b>	<b>]</b>	<b>#</b>

The # key can be used for the following special characters: #, space, &, !, ;, ?, ~, %, \$, ~, /, =, [, ], @, ^, (, ), -, +, {, }, I, ~, \, " and ~.

## PROGRAM TRUNK NAMES

This program is used to assign a character name or identification for each C.O. line. To verify the system software version, press **TRSF 727**. If the version is V1.x, you may assign a name ten characters long. If the version is V2.x, you may assign a name 11 characters long.

### PROGRAM KEYS

**UP & DOWN** - Used to scroll and move cursor.  
**KEYPAD** - Used to enter characters.  
**HOLD** - Press to clear entry.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **404**.  
Display shows
2. Dial trunk (e.g., **704**) OR press **UP** or **DOWN** to select trunk and press the right soft key to move the cursor
3. Enter the trunk name using the procedure in *Program Station Names* and press the right soft key to return to step 2

### DISPLAY

[701] TRUNK NAME

[704] TRUNK NAME

[704] TRUNK NAME  
SAMSUNG

4. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program



## PROGRAM STATION GROUP NAMES

This program is used to assign a character name or identification for each station group (501-529). To verify the system software version, press **TRSF** 727. If the version is V1.x, you may assign a name ten characters long. If the version is V2.x, you may assign a name 11 characters long.

### PROGRAM KEYS

**UP & DOWN** - Used to scroll and move cursor.  
**KEYPAD** - Used to enter characters.  
**HOLD** - Press to clear entry.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **602**.  
Display shows the first group
2. Dial the group number (e.g., **505**) OR press the **UP** or **DOWN** key to make a selection and press the left or right soft key to move the cursor
3. Enter the name using the method in *Program Station Names*
4. Press the left or right soft key to return to step 2 OR press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

### DISPLAY

[501] SGR NAME

[505] SGR NAME

[505] SGR NAME  
SAMSUNG

## PROGRAM SYSTEM SPEED DIAL NUMBERS

The system list starts with 200 numbers and can be increased in blocks of ten. The maximum amount is 500 numbers if no more than 1000 station speed dial numbers are assigned. See your service company to increase or decrease the system list.

The speed dial codes are 500-999. Each speed dial number consists of a line access code and the telephone number to be dialed. The access code can be any line group, individual line, station group or individual extension. The speed dial number can be up to 18 characters long including \*, #, **FLASH** and **PAUSE**.

**NOTE:** If Least Cost Routing (LCR) is being used, the LCR access code must be entered.

When you are entering a speed dial number, there are some special keys that you will need to use. These are the bottom row of programmable keys on the LCD 12B and LCD 24B keysets and are known as keys **A**, **B**, **C**, **D**, **E** and **F**.

### PROGRAM KEYS

- UP & DOWN** - Select the speed dial bin.  
**KEYPAD** - Used to enter number.  
**HOLD** - Press to clear entry.  
**SPK/RLS** - Save data and advance to next program.  
**A** - Does not have a function.  
**B** - Inserts a **FLASH**.  
**C** - Inserts a **PAUSE**.  
**D** - Changes the dialing type from pulse to tone.  
**E** - Hides and displays digits.  
**F** - Changes display to speed dial name entry.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **705**.  
Display shows the first number
2. Dial the speed bin desired (e.g., **505**) OR press **UP** or **DOWN** to choose and press the right soft key to move the cursor

### DISPLAY

SYS SPEED DIAL  
500:

SYS SPEED DIAL  
505:

3. Enter the access code (e.g., 9—the system will automatically insert a dash) followed by the phone number (up to 18 digits long) and press the right soft key to return to step 2

4. Press the **F** key to toggle to *Program System Speed Dial Names*, step 3 to enter the name

5. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

#### DEFAULT DATA: NO SPEED NUMBERS ASSIGNED

SYS SPEED DIAL  
505: 9-121223456789

SYS SPEED NAME  
505:

## PROGRAM SYSTEM SPEED DIAL NAMES

This program is used to assign a character name or identification for each system speed dial location. This name enables you to locate the speed dial number when you are using the directory dial feature. To verify the system software version, press **TRSF 727**. If the version is V1.x, you may assign a name ten characters long. If the version is V2.x, you may assign a name 11 characters long.

### PROGRAM KEYS

**UP & DOWN** - Used to scroll through speed dial bins.

**KEYPAD** - Used to enter selections.

**SOFT KEYS** - Move cursor left and right.

**SPK** - Used to store data and advance to next program.

**HOLD** - Used to clear previous entry.

### ACTION

1. Press **TRSF** and then **706**  
Display shows the first name

2. Dial the system speed number (e.g., 505)  
OR press **UP** or **DOWN** to select the entry number and press the right soft key to move the cursor

3. Enter the name as shown in *Program Station Names* and press the right soft key to return to step 2 OR press the **F** key to toggle to the speed dial number to return to *Program System Speed Dial Numbers*, step 4

4. Press the right soft key to return to step 2 above OR press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

### DISPLAY

SYS SPEED NAME  
500:

SYS SPEED NAME  
505:

SYS SPEED NAME  
505: SAMSUNG

## PROGRAM PERSONAL SPEED DIAL NUMBERS FOR OTHER STATIONS

Individual station users can program their own numbers, but in cases where this is not practical, or for single line telephone users, this program allows a system administrator to view or change any station's speed dial numbers. The station speed dial codes are 00-49. Each station begins with ten numbers (00-09) and can be assigned more in blocks of ten (up to a maximum of fifty numbers).

Each speed dial number consists of a line access code and the telephone number to be dialed. The access code can be any line group, individual line, station group or individual extension. The speed dial number can be up to 18 characters long including \*, #, FLASH and PAUSE.

**NOTE:** If Least Cost Routing (LCR) is used, the LCR access code must be entered.

When you are entering a speed dial number, there are some special keys that you will need to use. These are the bottom row of programmable keys on the LCD 12B and LCD 24B keysets and are known as keys **A**, **B**, **C**, **D**, **E** and **F**.

### PROGRAM KEYS

**UP & DOWN** - Scrolls through extension numbers and speed dial bins..

**KEYPAD** - Used to enter number.

**HOLD** - Press to clear entry.

**A** - Does not have a function.

**B** - Inserts a FLASH.

**C** - Inserts a PAUSE.

**D** - Changes the dialing type from pulse to tone.

**E** - Hides and displays digits.

**F** - Changes display to speed dial name entry.

Open customer programming and follow the instructions below.

### ACTION

1. Press TRSF and then dial 105  
Display shows

[201] SPEED DIAL  
00 :

2. Dial the station number (e.g., 205) OR press **UP** or **DOWN** to select the station and press the right soft key to move the cursor OR press the left soft key to go to step 4

3. If the selected station has no speed dial bins, this display will be shown and a new station may be selected

4. Dial the location number (e.g., 05) OR press **UP** or **DOWN** to select the location and press the right soft key to move the cursor OR press the left soft key to return to step 2

5. Enter the trunk access code (e.g., 9) followed by the number to be dialed (e.g., 4264100) OR press the right soft key to return to step 2 OR press the left soft key to return to step 3 OR press **HOLD** to clear an entry (if an error is made, use the **DOWN** key to step back)

6. Press the **F** key to access *Program Station Speed Dial Names* OR press **TRSF** to save and exit programming OR press **SPK** to save and advance to the next program

**DEFAULT DATA: NO SPEED DIAL NUMBERS PROGRAMMED**

# PROGRAM PERSONAL SPEED DIAL NAMES FOR OTHER STATIONS

Each individual station user can program his/her own names but in cases where it is impractical or for single line telephone users, this program allows a system administrator to view or change any station's speed dial names. The station speed dial codes are 00-49. Each station begins with ten numbers (00-09) and can be assigned more in blocks of ten up to a maximum of fifty numbers.

## PROGRAM KEYS

- UP & DOWN** - Used to scroll through extension numbers and speed dial bins.
- KEYPAD** - Used to enter selections.
- SOFT KEYS** - Move cursor left and right.
- SPK** - Used to store data and advance to next program.
- HOLD** - Used to clear previous entry.
- ANS/RLS** - Used to select ALL.

## ACTION

1. Press **TRSF** and then dial **106**  
Display shows
2. Dial the station number (e.g., 205) OR press **UP** or **DOWN** to select the station and press the right soft key to move the cursor
3. If the selected station has no speed dial bins, this display will be shown and a new station may be selected
4. Dial the speed dial location (e.g., 05) OR use **UP** or **DOWN** to scroll through the location numbers and use the right soft key to move the cursor OR press the left soft key to return to step 2 above

## DISPLAY

[201] SPEED NAME  
00:

[205] SPEED NAME  
00:

[205] SPEED DIAL  
SPDBLK NOT EXIST

[205] SPEED NAME  
01: \_

5. Enter the name using the procedure in *Program Station Names* and press the right soft key to return to step 2 OR press the left soft key to return to step 3
6. Press the **F** key to access *Program Personal Speed Dial Numbers for Other Stations* OR press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

[205] SPEED NAME  
01: SAM SMITH

## CREATING PROGRAMMED STATION MESSAGES

Messages 1–10 are programmed from the factory and cannot be changed. However, you can create ten additional sixteen character messages (11–20) that fit your company's needs. After programming these messages, inform other employees so the employees can add the new messages to the list on the back of their user guides.

### PROGRAM KEYS

**UP & DOWN** - Select the message number.  
**KEYPAD** - Used to enter characters.  
**HOLD** - Press to clear entry.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **715**  
Display shows the first message
2. Dial in the message number (e.g., 11)  
OR press **UP** or **DOWN** to scroll through the messages and press the right soft key to move the cursor
3. Enter in the message using the procedure in *Program Station Names* and press the right soft key to return to step 2 above
4. Press **TRSF** to store and exit programming  
OR press **SPK** to store and advance to the next program

### DISPLAY

VAC. MESSAGE (01)  
IN A MEETING

VAC. MESSAGE (11)  
—

VAC. MESSAGE (11)  
IN THE SHOWROOM

## SET ALARM/APPOINTMENT REMINDER WITH MESSAGE

Keyset users can set their own alarms but standard telephone users cannot. The system administrator can set alarm/appointment reminders for other stations in the system.

### PROGRAM KEYS

**UP & DOWN** - Scroll through extensions.  
**HOLD** - Press to clear data.  
**KEYPAD** - Used to enter data.

Open customer programming and follow the instructions below.

### ACTION

1. Press **TRSF** and then dial **116**  
Display shows
2. Dial the station number (e.g., 205) OR press **UP** or **DOWN** to select the station and press the right soft key to move the cursor OR press **ANS/RLS** to select all stations
3. Dial **1–3** to select the alarm (e.g., 2) OR press **UP** or **DOWN** to select the alarm and press the right soft key to move the cursor OR press the left soft key to return to step 2
4. Enter the alarm time in 24 hour clock format (e.g., 1300) and the display will automatically advance to step 5
5. Enter the alarm type from the list above  
OR press **UP** or **DOWN** to select the alarm type and press the right soft key to move the cursor

### DISPLAY

[205]ALM REM (1)  
HEMM: NOTSET

[205]ALM REM (1)  
HEMM: NOTSET

OR  
[ALL]ALM REM (1)  
HEMM: NOTSET

[201]ALM REM (1)  
HEMM: NOTSET

[205]ALM REM (2)  
HEMM: 1300NOTSET

[205]ALM REM (2)  
HEMM: 1300DAILY

6. Enter the messages using the procedure in *Program Station Names* and press the right soft key to return to step 2

7. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

[205] **CALL RECALL (2)**  
TAKE MEDICATION

## MANAGING KEY ASSIGNMENTS

You can view station key assignments and add extenders to some of the programmable keys for easy one touch operation of frequently used features.

An extender is a number that makes an otherwise general key very specific. Adding the digit "4" to a **PAGE** key defines this key for paging zone four. Adding "225" to a directed pickup key will define this key as pickup for extension 225 only. The key must already be assigned by the installing technician.

Use this program to assign extenders to the following keys:

KEY	EXTENDER
<b>BOSS</b> .....	Boss and Secretary (1-4)
<b>DP</b> .....	Direct Pickup (extension or station group number)
<b>DS</b> .....	Any extension or station group number
<b>FWRD</b> .....	Call Forward (0-5)
<b>GPIK</b> .....	Group Pick-Up (01-20)
<b>IG</b> .....	In/Out of Group (501-529)
<b>MMPG</b> .....	Meet Me Page (0-9, *)
<b>PAGE</b> .....	Page (0-9, *)
<b>SPD</b> .....	Speed Dial (00-49, 500-999)
<b>PSMG</b> .....	Programmed Message (01-20)
<b>DIR</b> .....	SYS (0), PERS (1) or STN (2)

### PROGRAM KEYS

- UP & DOWN** - Select the extension number.
- KEYPAD** - Used to enter extender codes.
- HOLD** - Used to clear the displayed data.

Open customer programming and follow the instructions below.

### ACTION

- Press **TRSF** and then dial **107**. Display shows the first station
- Dial the station number (e.g., 205) OR use **UP** or **DOWN** to scroll through the station numbers and press the right soft key to move the cursor

### DISPLAY

[201] KEY EXTEND  
01:CALL1

[205] KEY EXTEND  
01:CALL1



3. Enter the **entry number** (e.g., **18**) OR use **UP** and **DOWN** to scroll through the keys and use the right soft key to move the cursor OR press the key to be programmed
4. Dial the extender according to the list above and the system will display your selection  
If there are no more entries, press the left soft key to return to step 2
5. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

[205] KEY EXTEND  
18: DS

[205] KEY EXTEND  
18: DS207

# PROGRAMMING ACCOUNT CODES

This program is used to add or change account code entries.

## PROGRAM KEYS

- KEYPAD** - Used to enter the account code (allowable digits 0-9).
- UP & DOWN** - Used to select entry number.
- FLASH & TRSF** - Used to view and change only the used entries.
- SPK/RLS** - Used to clear data.

Open customer programming and follow the instructions below.

## ACTION

1. Press **TRSF** and then dial **708**  
Display shows
2. Dial the account code entry (e.g., **005**)  
OR press **UP** or **DOWN** to select the entry number and press the right soft key to move the cursor
3. Enter the account code via the dial pad, e.g., **1234** (maximum of 12 digits) and press the right soft key to move the cursor back to step 2
4. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

## DISPLAY

ACCOUNT CODE  
(001.)

ACCOUNT CODE  
(005)

ACCOUNT CODE  
(005) 123456789012

## SETTING INDIVIDUAL FORWARD NO ANSWER TIMERS

Each station can have an individual Forward No Answer timer to accommodate station users with different individual work habits. When adjusting this timer, take care that the value is not greater than the transfer recall timer. The range is 000–250 seconds.

Open customer programming and follow the instructions below.

### PROGRAM KEYS

- KEYPAD** - Used to set timer values.
- UP & DOWN** - Used to select extension number.
- SPK/RLS** - Save data and advance to next program.

### ACTION

1. Press **TRSF** and then dial **502**.  
Display shows
2. Dial the station number (e.g., **205**) OR press **UP** or **DOWN** key to select the station and press the right soft key OR press **ANS/RLS** to select all stations and press the right soft key
3. Enter the new value via the dial pad, e.g., **020** (must be three digits) and the system will return to step 2
4. Press **TRSF** to store and exit programming OR press **SPK** to store and advance to the next program

### DISPLAY

[201] FWD NO ANS  
0:10 SEC --

[205] NO ANS FWD  
0:10 SEC --  
OR

[ALL] NO ANS FWD  
SEC --

[205] NO ANS FWD  
0:10 SEC 0:20

## ADDING NAMES TO THE TRANSLATION TABLE

This program allows the system administrator or technician to associate a CID number received from the Central Office with a name programmed in this translation table. If there is no match between a received number and a name in this table, [no CID name] will be displayed.

The translation table consists of 250 entries with each entry comprised of a ten digit telephone number and a 16 digit name.

Names are written using the keypad. Each press of a key will select a character. Pressing the next key will move the cursor to the next position. For example, if the directory name is "SAM SMITH," press the number "7" four times to get the letter "S." Now press the number "2" twice to get the letter "A." Continue selecting characters from the table below to complete your message.

**NOTE:** When the character you want appears on the same dial pad key as the previous character, press the **VOL UP** key to move the cursor to the right.

COUNT	1	2	3	4	5
DIAL 0	Q	Z	.	)	0
DIAL 1	space	?	,	!	1
DIAL 2	A	B	C	@	2
DIAL 3	D	E	F	#	3
DIAL 4	G	H	I	\$	4
DIAL 5	J	K	L	%	5
DIAL 6	M	N	O	^	6
DIAL 7	P	R	S	&	7
DIAL 8	T	U	V	*	8
DIAL 9	W	X	Y	(	9
DIAL *	:	=	[	]	*

Open customer programming and follow the instructions below.

# ASSIGNING STATIONS TO THE VOICE DIAL BY VOICE FEATURE

This program allows stations to be assigned to a voice dialer (optional equipment required) to dial a personal speed dial number.

Open customer programming and follow the instructions below.

**NOTE:** This feature requires optional software and/or hardware. Please see your service and installation company for details.

## PROGRAM KEYS

- UP & DOWN** - Used to scroll through options.
- KEYPAD** - Used to enter selections.
- SOFT KEYS** - Move cursor left and right.
- SPK** - Used to store data and advance to next program.
- HOLD** - Used to clear previous entry.

## ACTION

1. Press **TRSF** and then dial **216**  
Display shows
2. Dial voice dial number (e.g., **3552**)  
OR use **UP** and **DOWN** to make selection  
Press right soft key to move cursor
3. Dial user number (1-7/1-5) dependent on number of users allowed via MMC 215  
OR press **UP** or **DOWN** to make selection  
Press right soft key to move cursor
4. Dial station number (e.g., **205**)  
OR Press **UP** or **DOWN** to make selection  
Press right soft key to return to step 3 to continue with entries

5. Press **TRSF** to store and exit  
OR press **SPK** to store and advance to next MMC

## PROGRAM 1:

- UP & DOWN** - Used to scroll through options.
- KEYPAD** - Used to enter selections.
- SOFT KEYS** - Move cursor left and right.
- SPK** - Used to store data and advance to next MMC.
- HOLD** - Used to clear previous entry.

## ACTION

1. Press **TRSF** and then dial **727**  
Display shows first entry
2. Dial entry number (e.g., **005**)  
OR use **UP** and **DOWN** to scroll through entries and press right soft key to select entry
3. Enter telephone number and press right soft key to advance to name entry  
OR enter telephone number and press left soft key to return to step 2 above
4. Enter associated name as described above and press right or left soft key to return to step 2 above  
OR press **SPK** to save and advance to next MMC OR press **TRSF** to save and exit programming

**DEFAULT DATA: NONE**

## DISPLAY

CID XLATION: (0011)  
DIGIT:

CID XLATION: (005)  
DIGIT: -

CID XLATION: (005)  
DIGIT: 3054264100

CID XLATION: (005)  
SAMSUNG TELSCOM

## DISPLAY

[3551]VOICE DIAL  
USER 1: NONE

[3552]VOICE DIAL  
USER 1: NONE

[3552]VOICE DIAL  
USER 5: NONE

[3552]VOICE DIAL  
USER 5: 205

# N O T E S

## SYSTEM ACCESS CODES

The PROSTAR DCS telephone system has preset (default) feature access codes that use the following number plan. These codes can be used if a key is not available for the feature you want to use. Standard telephone users must always dial these codes.

0	Call attendant or system operator	55 + 1	Page internal zone 1
10 + xxx	Retrieve parked calls	55 + 2	Page internal zone 2
11	Put calls on and take calls off hold	55 + 3	Page internal zone 3
12 + xxx	Retrieve calls on hold at another stn	55 + 4	Page internal zone 4
13	Door lock release	55 + 5	Page external zone 1
16 + xxx	Make speed dial calls	55 + 6	Page external zone 2
17	Save number and redial it	55 + 7	Page external zone 3
18	Recall dial tone for new call	55 + 8	Page external zone 4
19	Last number redial	55 + 9	Page all external zones
2xx	Extension numbers	55 + *	All Page
3xx	Extension numbers	56	Meet Me Answer
400	Cancel Do Not Disturb	57	Alarm sensor clear
401	Set Do Not Disturb	58	DISA alarm clear
41	Set Message No Ring	59	Walking class of service
42 + xxx	Cancel message	600	Cancel all call forwarding
43	Set/return messages	601 + xxx	Set Forward All Calls
44	Busy station/line callback	602 + xxx	Set Forward Busy
45	Busy station camp-on	603 + xxx	Set Forward No Ans
46	Set up a conference	604 + xxx	Set Fwd Busy/No Ans
47	Enter account code	605 + xxx	Set Fwd Follow Me
48	Set programmed station message	65	Directed call pickup
49	Send flash to outside line	66	Group call pickup
500	Station hunt groups	67	Universal Answer
to		681	Dial by Voice
529	Station hunt groups	682	Dial by Voice Record
53 + grp + 0	Out of group	7xx	Individual line numbers
53 + grp + 1	In group	8x	Trunk groups
54 + zone	Meet Me Page	9	Trunk group 9 (Local)
55 + 0	Page all internal zones		

These codes are used to access features that are not available on the standard telephone.

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# AUTO ATTENDANT AND UNIFORM CALL DISTRIBUTION ADMINISTRATION GUIDE

PROSTAR DCS  
DIGITAL COMMUNICATIONS SYSTEM

AUTO ATTENDANT  
AND  
UNIFORM CALL DISTRIBUTION  
ADMINISTRATION GUIDE

May 1996

UNIFORM CALL DISTRIBUTION

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## OVERVIEW

Your DCS telephone system is equipped with an integrated option package to enhance call processing. The improved feature support is in the form of Auto Attendant and Uniform Call Distribution. One or both may be activated in your system.





## AUTO ATTENDANT

The auto attendant will answer and process incoming calls without human intervention. The caller is answered and hears a message prompting him/her to dial numbers to reach extensions in the phone system or follow other options provided by the AA card.

Your installation and service company has already designed and programmed these options for you, including the greetings and messages that play at different times while the call is being processed.

The only administration associated with this card is the greeting change. Different day and night greetings may be programmed. These change when the DCS system changes between day mode and night mode. Additionally, an alternate greeting may be recorded to indicate a holiday, an emergency or another temporary closure. From time to time, it may be necessary to manually change the active greeting from the current (day or night) to the alternate (holiday).

## CHANGING THE GREETING

The AA card allows the system administrator to call in and change the current greeting to day, night or alternate:

- Call the auto attendant and listen to the greeting you wish to change.
- Dial a special passcode while you are listening to the greeting. The special passcode is programmed by your service company technician.
- Dial **1** for the day greeting, **2** for the night greeting or **3** for the alternate greeting.
- Hang up. The new greeting is set until the next scheduled change.

## UNIFORM CALL DISTRIBUTION

UCD is used to distribute calls to a group of agents. If the group members are all busy, UCD controls queue patterns and information messages. It also provides agent and call statistics in both real time on a keyset display and in the form of printed reports at a customer-provided printer.

Your installation and service company has already designed and programmed these options for you, including the group members, timing parameters, greetings and messages that play at different times while the call is being processed.

## SUPERVISOR

Each UCD group can be assigned one or more optional supervisors. A supervisor can be responsible for more than one UCD group. If you are a supervisor, you will have a special key assigned to your display keyset that will allow you to administrate the UCD group. Your keyset will have a separate **SUPERVISOR** key for each UCD group. UCD alarm conditions will show by flashing these keys.

## ALARMS

Your installation and service company may have programmed alarm conditions to alert you to the following:

- The number of calls waiting at the UCD group has exceeded a specific programmed number
- The amount of time a caller has been waiting has exceeded a specific programmed time
- Both options above

When the alarm is activated at your keyset, one of the following will occur:

- Your **SUPERVISOR** key will flash and the keyset display will indicate the type of alarm condition (time or number of calls).

ALARM REMINDER  
UCD 5XX: TIMER

OR

ALARM REMINDER  
UCD 5XX: QUEUES

- Your **SUPERVISOR** key will flash and the keyset display will indicate the type of alarm condition (time or number of calls) and an audible alarm will sound.

#### NOTES:

1. Pressing the **SUPERVISOR** key has no effect on the visual alarm but it will cancel the audio alarm (stop it from ringing until the next activation—it is not disabled permanently).
2. Your keyset will indicate a visual alarm condition for as long as the alarm condition exists.

## SUPERVISOR KEY

Throughout this guide, the displays used are for example only. The numbers and names on your display may differ slightly.

Press the **SUPERVISOR** key. You will be presented with three options:

```
523: SALES  
CALL ADMIN AGENT
```

The **CALL** and **AGENT** options allow the supervisor to view statistics for each of these areas while **ADMIN** is used to clear the saved data and run reports. Let's explore each of these options by pressing the key directly below the word on the display.

## CALL

When you press **CALL**, you will be presented with the following display. It shows you how many calls are *currently* in queue.

```
000 calls in  
queue now
```

Press the **UP** key. You will be presented with the following display. It shows you the average amount of time it takes a caller to be answered after the call begins ringing at a station.

```
average ring  
time is 00:00
```

Press the **UP** key. You will be presented with the following display. It shows you the number of C.O. calls that rang in when all members of the group were busy. It is possible for this total to represent more than one day's calls if the **AUTO CLEAR** option is not turned on.

```
000 times all  
busy today
```

Press the **UP** key. You will be presented with the following display. It shows you the average time a caller waits in queue before being answered by an agent.

```
average time in  
queue is 00:00
```

Press the **UP** key. You will be presented with the following display. It shows you the total number of calls received. It is possible for this total to represent more than one day's calls if the **AUTO CLEAR** option is not turned on.

```
0000 calls  
received today
```

Press the **UP** key. You will be presented with the following display. It shows you the longest time a caller waited in queue before answered by an agent.

```
longest queue  
time is 00:00
```

## AGENT

Throughout the **AGENT** menu, you can press the **SCROLL** key at any time to view an individual station's data. You can also use the **UP** and **DOWN** keys to move between stations.

When you press **AGENT**, you will be presented with the following display. The "available" number shows how many agents are programmed in this particular UCD group. The "logged in" number shows how many agents are currently available to take calls (not in Do Not Disturb (DND), logged out or busy).

```
05 available  
05 logged in
```

Press the **UP** key. You will be presented with the following display. It shows you the first station in the UCD group, its associated directory name and the status of that station (in group, out of group or in DND).

```
212: FRED SMITH  
status: IN
```

**NOTE:** Press the key directly below the word **IN** or **OUT** to change the status of the station to the opposite condition. DND cannot be changed here.

Press **SCR** You will be presented with the following display. It shows you how many calls station 212 answered. It is possible for this total to represent more than one day's calls if the **AUTO CLEAR** option is not turned on.

```
212: answered
000 calls today
```

Press **SCROLL**. You will be presented with the following display. It shows you the average call duration for this agent.

```
212: average
call time 00:00
```

Press **SCROLL**. You will be presented with the following display. It shows you the average amount of time it takes for this agent to answer a call.

```
212: average
ring time 00:00
```

## ADMIN

When you press **ADMIN**, you will be presented with the following display. The **CLEAR** option is used to clear (set to 0) the **CALL** and **AGENT** data for the current group (in this case 529, the sales group). The **PRINT** option is used to print the **CALL** and **AGENT** data for the current group (in this case, 529, the sales group). It requires a customer-provided printer.

```
529: Sales group
PRINT CLEAR
```

## CLEARING STORED DATA

Select the **CLEAR** option. You will be presented with two options—**MANUAL** and **AUTO**.

```
CLEAR GROUP DATA
MANUAL AUTO
```

- If you select **MANUAL**, choose **YES** or **NO** to immediately clear the data.
- If you select **AUTO**, you can turn the automatic clear function **ON** or **OFF** to clear the data automatically at a programmed time. If you select **ON**, you will be prompted to enter a new time to automatically clear the data. The time is entered in 24 hour format, for example, 11:30 p.m. is entered 2330. Select **VIEW** to see or change the currently selected **AUTO** option. Press the right soft key to turn automatic clearing **ON** and **OFF**.

## PRINTING DATA/RUNNING REPORTS

Select the **PRINT** option. You will be presented with two options—**MANUAL** and **AUTO**.

```
PRINT GROUP DATA
MANUAL AUTO
```

- If you select **MANUAL**, choose **YES** or **NO** to immediately print the data to your customer-provided printer.
- If you select **AUTO**, you can turn the automatic print function **ON** or **OFF** to print the data automatically at a programmed time. If you select **ON**, you will be prompted to enter a new time to automatically print the data. The time is entered in 24 hour format, for example, 11:30 p.m. is entered 2330. Select **VIEW** to see or change the currently selected **AUTO** option. Press the right soft key to turn automatic printing **ON** and **OFF**.

## SAMPLE UCD REPORT

```
=====
UCD GROUP 529 : SALES

FROM: SUN 02 Jan 00:00
TO : SUN 02 Jan 02:54

CALL STATISTICS
=====
AVERAGE RING TIME (TIME TO ANSWER) .....00:40
NUMBER OF TIMES ALL AGENTS BUSY .....00002
AVERAGE TIME IN QUEUE .....00:51
TOTAL CALLS RECEIVED .....00011
LONGEST QUEUE TIME .....02:14
```

## AGENT STATISTICS

```
=====
MEMBER AGENT NAME CALLS RECEIVED AVERAGE CALL TIME RING TIME
-----
01 210 JOHN 0002 01:55 00:05
02 211 SAM 0003 02:18 00:06
03 208 MIKE 0005 01:22 00:04
04 207 PETER 0001 03:16 00:05
```



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## PART 1. SITE REQUIREMENTS

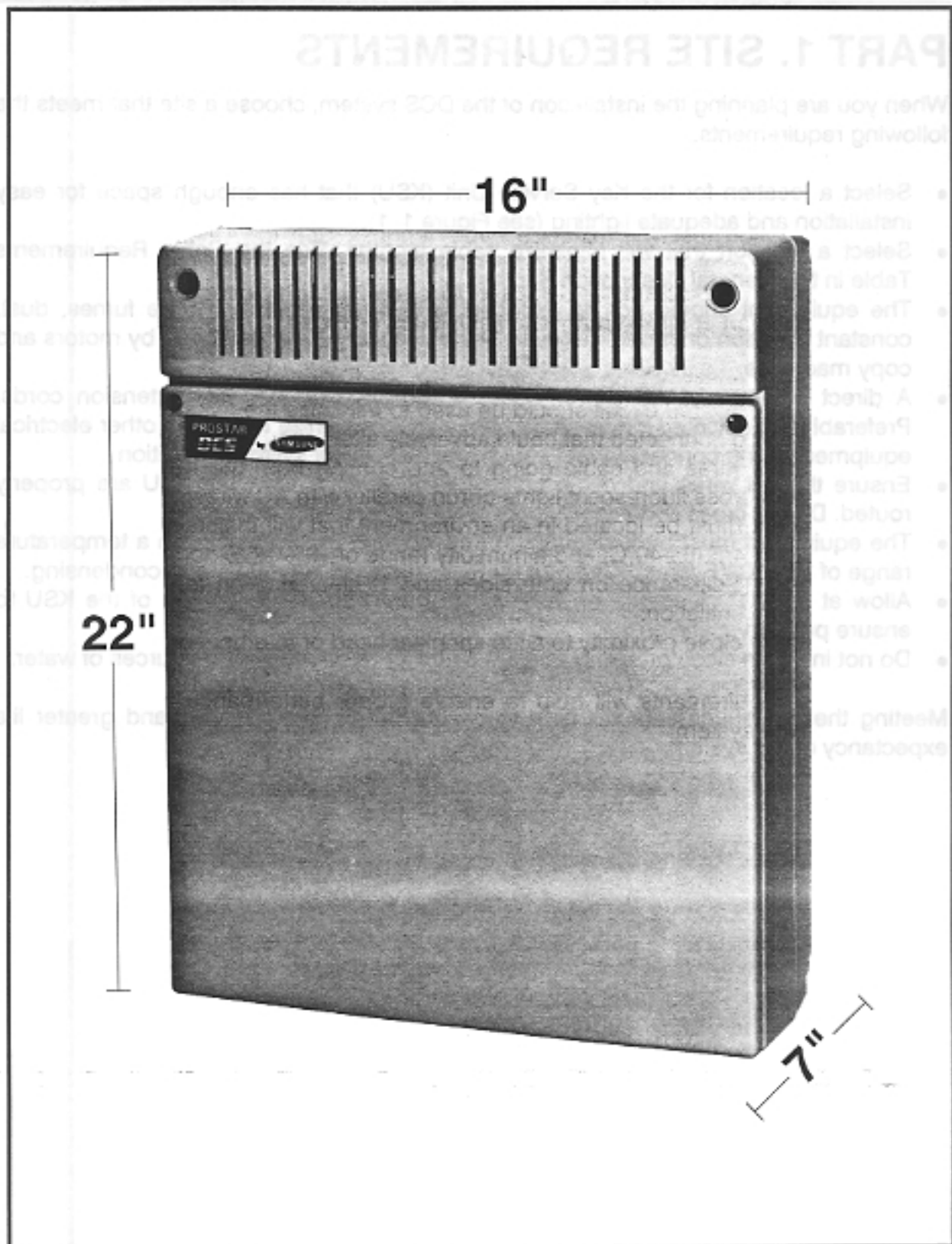
When you are planning the installation of the DCS system, choose a site that meets the following requirements:

- Select a location for the Key Service Unit (KSU) that has enough space for easy installation and adequate lighting (see Figure 1-1).
- Select a location that will minimize cable lengths. See the Cable Requirements Table in the General Description Section.
- The equipment should not be exposed to direct sunlight, corrosive fumes, dust, constant vibration or strong magnetic fields such as those generated by motors and copy machines.
- A direct commercial AC power outlet is required. Do not use extension cords. Preferably, a dedicated circuit should be used to minimize the risk of other electrical equipment being connected that could adversely affect system operation.
- Ensure that all wires and cable going to and coming from the KSU are properly routed. Do not cross fluorescent lights or run parallel with AC wires.
- The equipment must be located in an environment that will maintain a temperature range of 32°–104°F (0°–40°C) and a humidity range of 10%–90% non-condensing.
- Allow at least 1" clearance on both sides and 1" clearance on top of the KSU to ensure proper ventilation.
- Do not install in close proximity to a fire sprinkler head or to other sources of water.

Meeting these requirements will help to ensure proper performance and greater life expectancy of the system.

FIGURE 1-1

KEY SERVICE UNIT DIMENSIONS



KEY SERVICE UNIT DIMENSIONS

**FIGURE 1-1**

## PART 2. INSTALLING BASIC KSU AND EXPANSION CABINETS

### 2.1 UNPACKING AND INSPECTION

After unpacking the KSU and expansion cabinets, inspect for signs of physical damage. If any damage is detected, do not attempt installation. Contact Samsung Telecommunications America's Technical Support Department.

Check to see that the KSU carton includes the following items:

- Key Service Unit
- Wall-mount bracket and four (4) screws—two long with washers and two short
- Power cord—three conductor grounding

Check to see that each expansion cabinet carton includes the following items:

- Expansion cabinet
- Power extension cable
- Expansion B card
- Wall-mount bracket and four (4) screws—two long with washers and two short
- HDLC cable

### 2.2 SINGLE CABINET INSTALLATION

The Key Service Unit (KSU) must be wall-mounted using the bracket supplied. The KSU should be mounted on a plywood backboard at least 5/8" thick. Attach the mounting bracket to the backboard with the two shorter screws supplied (see Figure 2-1). Next, hang the KSU on the mounting bracket and secure it to the backboard with the remaining two screws and washers (see Figure 2-2). A separate ground must be connected to the main KSU prior to installing the power supply or any cards (refer to Part 2.5 Grounding). The power supply can now be removed from its unit carton and installed in the slot labeled PSU. If a PSU-60 is to be installed, verify that the power switch is in the proper voltage setting, i.e., 110 (see Figure 2-9).

The final step in installing the KSU is performing a manual RAM clear (see Figure 2-5). Clear KSUs with RAM clear pins by using an electrically conductive tool (e.g., a metal screwdriver) to short out the two RAM clear pins located below the ROM card connector. The short should be held in place for at least ten seconds to ensure that the super capacitor is discharged. KSUs with the RAM power switch are shipped with RAM power in the OFF position. The slide switch (SW 1) replaces the RAM pins. Move it to the ON position. Clear RAM via MMC 811.

### 2.3 MULTIPLE CABINET INSTALLATION

1. Mount the expansion cabinets in the same manner as the basic KSU. They may be mounted above, below, to the left or to the right of the KSU within the limits of the power extension cord and the HDLC cable (see Figure 2-3).

2. Insert an Expansion A or Expansion A1 card into the slot labeled Slot 7/Expansion A in the basic KSU. See Figures 2-4 and 2-7.
3. Insert an Expansion B card into the slot labeled Expansion B in each expansion cabinet. See Figures 2-4 and 2-8.
4. Connect the first expansion cabinet to the basic KSU by plugging one end of the HDLC cable into the lower position of the Expansion A or Expansion A1 card (marked FIRST) and the other end into the Expansion B card.
5. Connect the second expansion cabinet (if required) to the basic KSU by plugging one end of the HDLC cable into the upper position of the Expansion A or Expansion A1 card (marked SECOND) and the other end into the Expansion B card.
6. Connect AC power to each expansion cabinet using the power extension cables provided (see Figure 2-4).

**CAUTION:** Use only the type of power extension cables supplied with the expansion cabinets. DO NOT CONNECT EXPANSION CABINETS DIRECTLY TO AN AC OUTLET. This is to prevent the connection of multiple grounds to the system in violation of the National Electrical Code. If a PSU-60 is to be installed, verify that the power switch is in the proper voltage setting, i.e., 110. See Figure 2-9.

## 2.4 ADDING EXPANSION CABINETS TO BASIC KSU

**WARNING:** Unplug all sources of AC electricity from the KSU before attempting this procedure.

1. Unplug the KSU.
2. Disconnect all cables and wires from the KSU (and the first expansion cabinet if installed).
3. Remove any card installed in slot 7 in the KSU. If a card is installed in slot 7 in the KSU, it must be removed at this time and reinstalled in the new expansion cabinet.
4. Proceed as instructed in Part 2.3 Multiple Cabinet Installation.

**NOTE:** To activate the new cabinet, open system programming and use MMC 806 (see the Programming Section) to reinstall slot 7 in the basic KSU. The data pertaining to the card removed from slot 7 will be lost and must be reentered for its new position.



## 2.5 GROUNDING

In order to comply with the revised UL 1459 Telephone Equipment document, the following paragraphs must be incorporated into this Installation Section.

"UL 1459 Paragraph 66. To be included in Installation Instructions.

"66.1.A An equipment grounding conductor that is not smaller in size than the ungrounded branch-circuit supply conductors is to be installed as part of the circuit that supplies the product or system. Bare, covered, or insulated grounding conductors are acceptable. Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green, green with one or more yellow stripes. The equipment grounding conductor is to be connected to ground at the service equipment.

"66.1.B The attachment-plug receptacles in the vicinity of the product or system 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.

"Paragraph 66.1 revised December 13, 1991."

**WARNING: HIGH LEAKAGE CURRENT!** Earth connection is essential before connecting supply.

The DCS system requires that a supplementary (see below) earth ground be connected to the KSU. This is the preferred method of grounding the DCS. It has been observed that the third wire ground may be inferior or can contain noise that may prevent the digital data bus from canceling out noise. This would result in erratic operation of the DCS. Another problem that has occurred is that some UPS battery systems do not pass the ground through to the power cord of the DCS resulting in no ground to the system. The grounding lug on the bottom of the KSU must be connected to one of the following: bonded building steel, cold water pipe or a ground rod using at least #16 AWG copper wire (see Figure 2-5). The third wire ground must be removed as previously stated in early release manuals.

The following is a definition of a supplementary ground as defined by UL 1459 Telephone Equipment.

"Paragraph 66. To be included in the Installation Instructions.

"66.2.A A supplementary equipment grounding conductor shall be installed between the product or system and ground that is in addition to the equipment grounding conductor in the power supply cord.

"66.2.B The supplementary equipment grounding conductor shall not be smaller in size than the ungrounded branch-circuit supply conductors. The supplementary equipment grounding conductor shall be connected to the product at the terminal provided, and shall be connected to ground in a manner that will retain the ground connection when the product is unplugged from the receptacle. The connection to ground of the supplementary equipment grounding conductor shall be in compliance with the rules for terminating bonding jumpers in Part K of Article 250 of the National Electrical Code ANSI/NFPA 70. Termination of the supplementary equipment grounding conductor is permitted to be made to building steel, to a metal electrical raceway system, or to any grounded item that is permanently and reliably connected to the electrical service equipment ground.

"66.2.C Bare, covered, or insulated grounding conductors are acceptable. A covered or insulated grounding conductor shall have a continuous outer finish that is either green, or green with one or more yellow stripes.

"Paragraph 66.2 revised September 20, 1993."

Failure to provide an adequate ground may cause a safety hazard, confusing trouble symptoms or even circuit card failure.

**WARNING:** Unplug the power cord from the AC outlet before attempting to connect the ground. Hazardous voltage may cause death or injury. Observe extreme caution when working with AC power. Remove champ connectors from trunk cards.

What the above paragraphs mean is when conventional analog telephone circuits are connected to the DCS system, under fault conditions (e.g., the tip and/or ring conductor is crossed with a power line, the circuit is affected by lightning during a storm), it is possible for hazardous potentials to appear across the tip and ring wiring coming into the DCS cabinet from the outside plant (e.g., overhead cables, buried cables, cable head pedestal). These circuits are provided with both primary and secondary protection circuitry which will attempt to drain off these high voltages and currents to earth ground. Obviously, it is important to have a good source of ground connected to the DCS system to which to drain this energy off. Also, certain metallic analog circuits (e.g., E & M trunks) require a current flow to earth ground to accommodate normal operating conditions and/or to resolve fault conditions. Again, a good earth ground source is required by the DCS system.

The DCS system is grounded in two ways. One way is via the green wire in the power cord connected to the AC power outlet. However, this can be disconnected either intentionally or unintentionally. Consequently, a second or supplementary more permanent ground connection is provided by connecting a high current/voltage capacity ground wire which is bonded to ground at the electric service power entrance or via some other method approved by the National Electrical Code to the DCS system

ground lug. This is a more secure ground connection which can only be disconnected intentionally. These precautions are taken for safety reasons to protect personnel working on the DCS system and also for operational reasons to accommodate ground return and/or ground-referenced analog telephone circuits which require this solid earth ground connection for normal functioning.

**WARNING:** If the power cords to the expansion cabinets are removed, there will be an interruption of the ground to the cabinets. It is advisable to remove the champ connectors from the trunk cards. If the power supply is removed from the cabinet, the ground will be interrupted to the cabinet. It is advisable to remove the champ connectors from the trunk cards.

## 2.6 MDF CABLING

All connections to the DCS system are made by way of a customer-provided main distribution frame (MDF). Each interface card is connected to the MDF using a 25 pair female amphenol-type cable. These cables can be routed into the KSU and expansion cabinet from below.

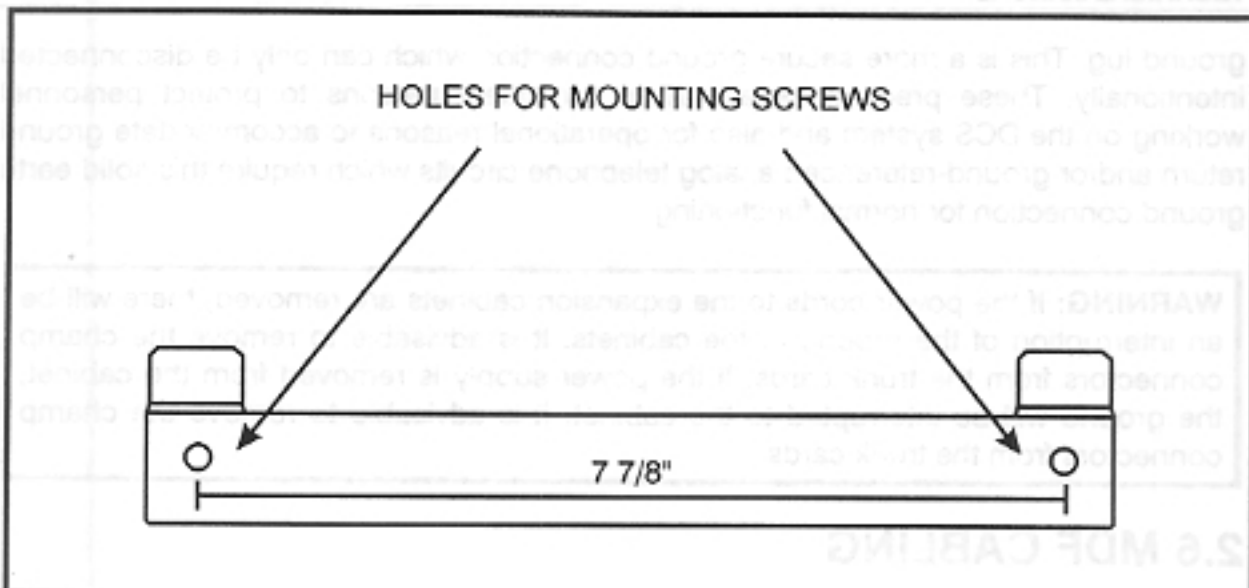
Label each cable to correspond with the slot numbers (see Figure 2-6). Label each 66 type terminating block to identify the port, slot and cabinet numbers.

Use one pair twisted jumper wire to cross-connect stations or lines to their associated port.



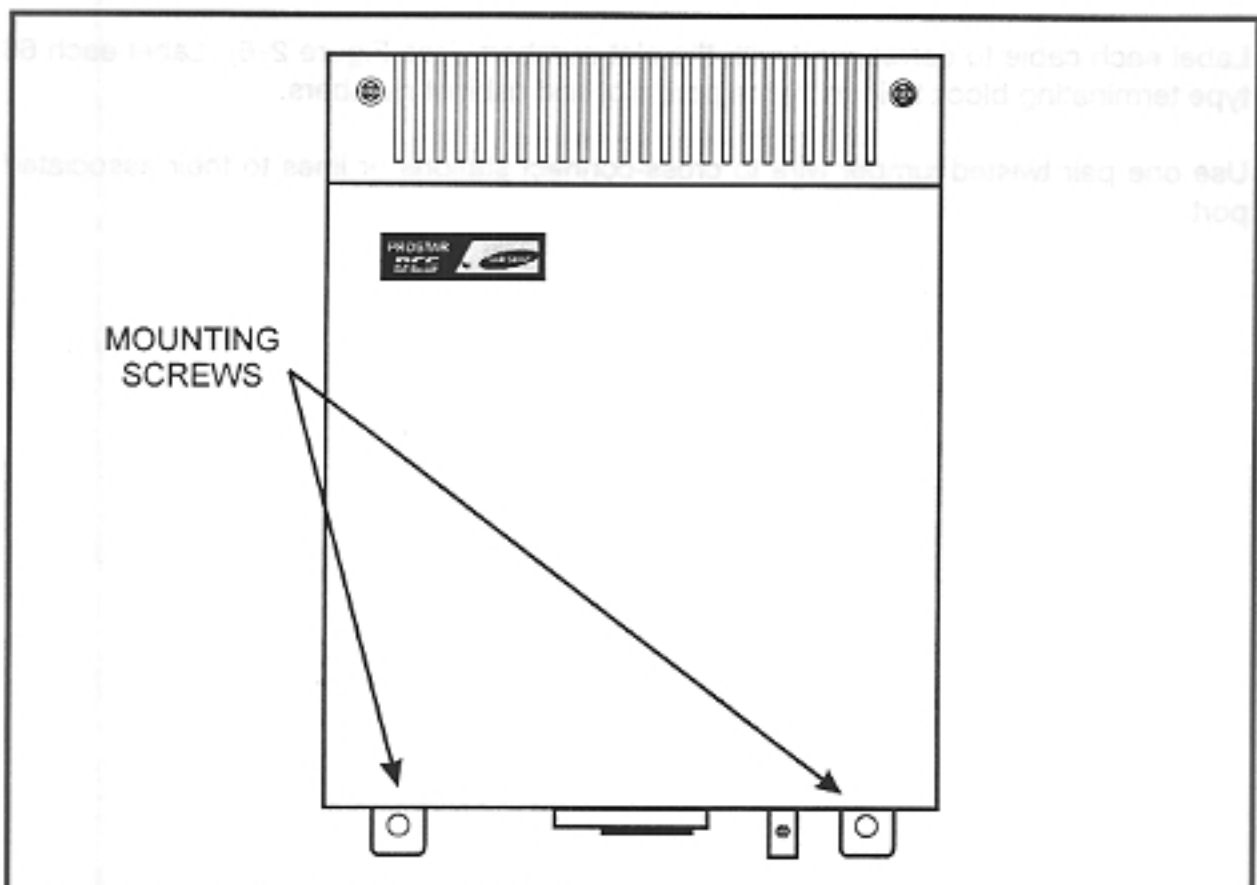
FIGURE 2-5

SECURING KSU TO BACKBOARD



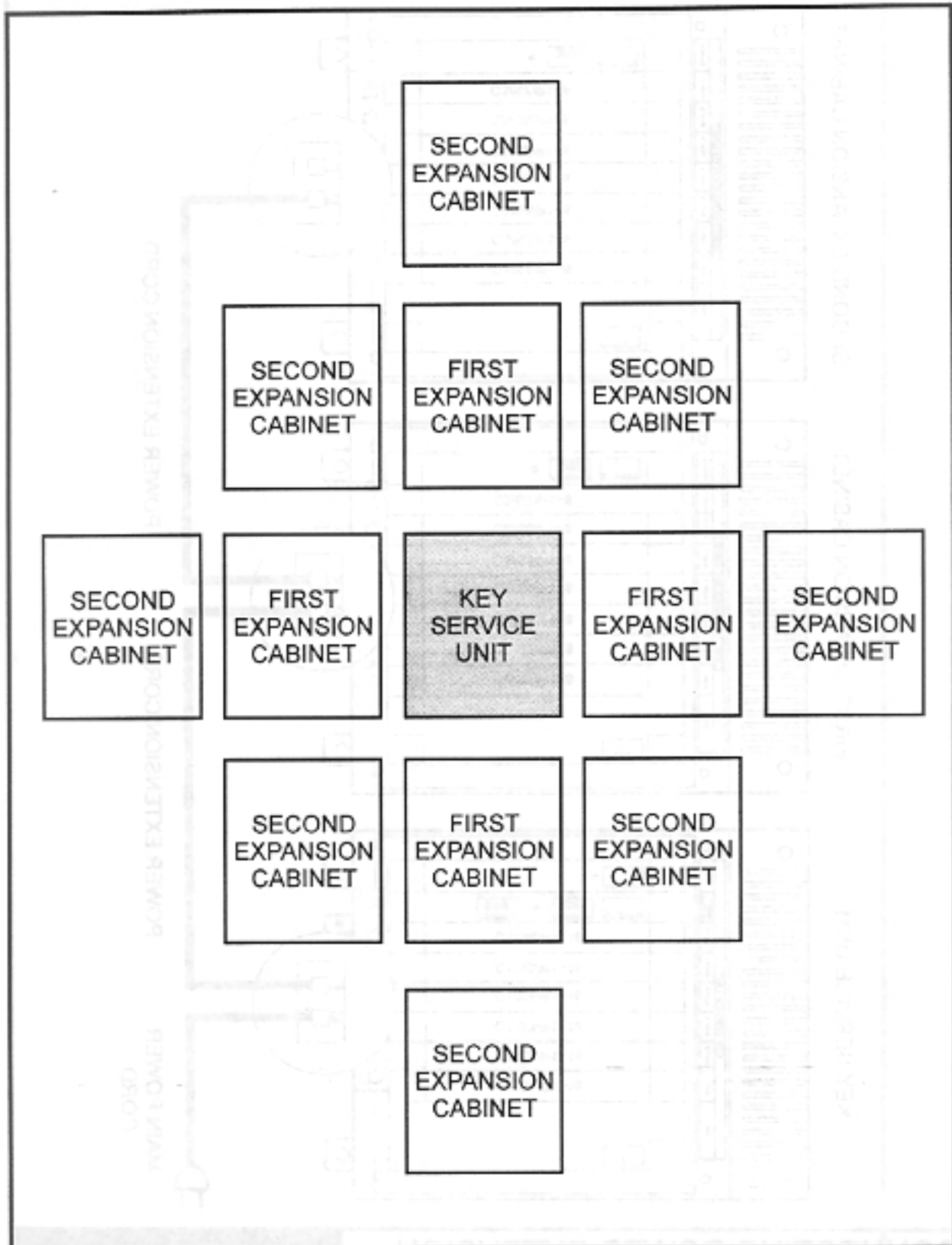
ATTACHING MOUNTING BRACKET  
TO BACKBOARD

**FIGURE 2-1**



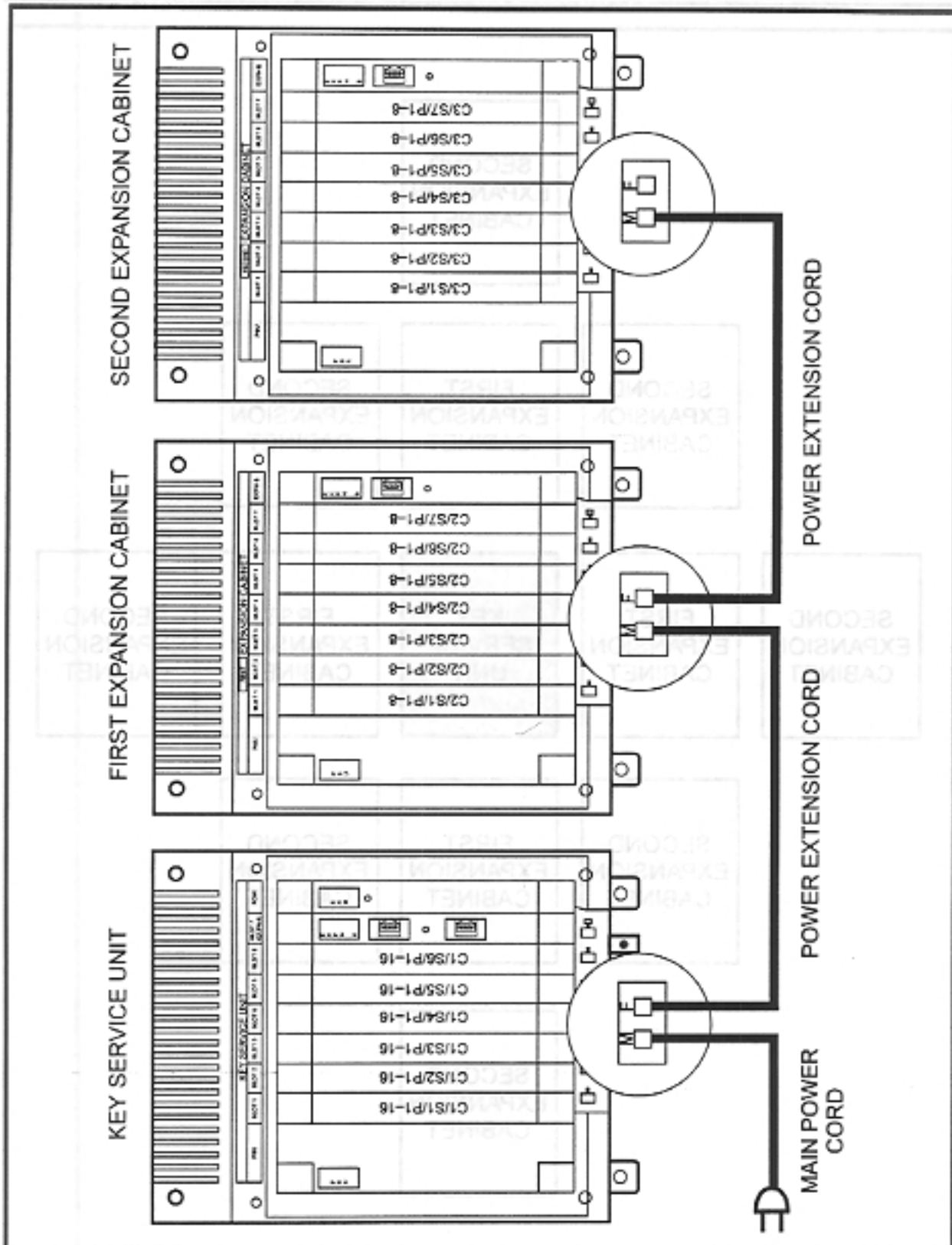
SECURING KSU TO BACKBOARD

**FIGURE 2-2**



MOUNTING LOCATIONS FOR  
EXPANSION CABINETS

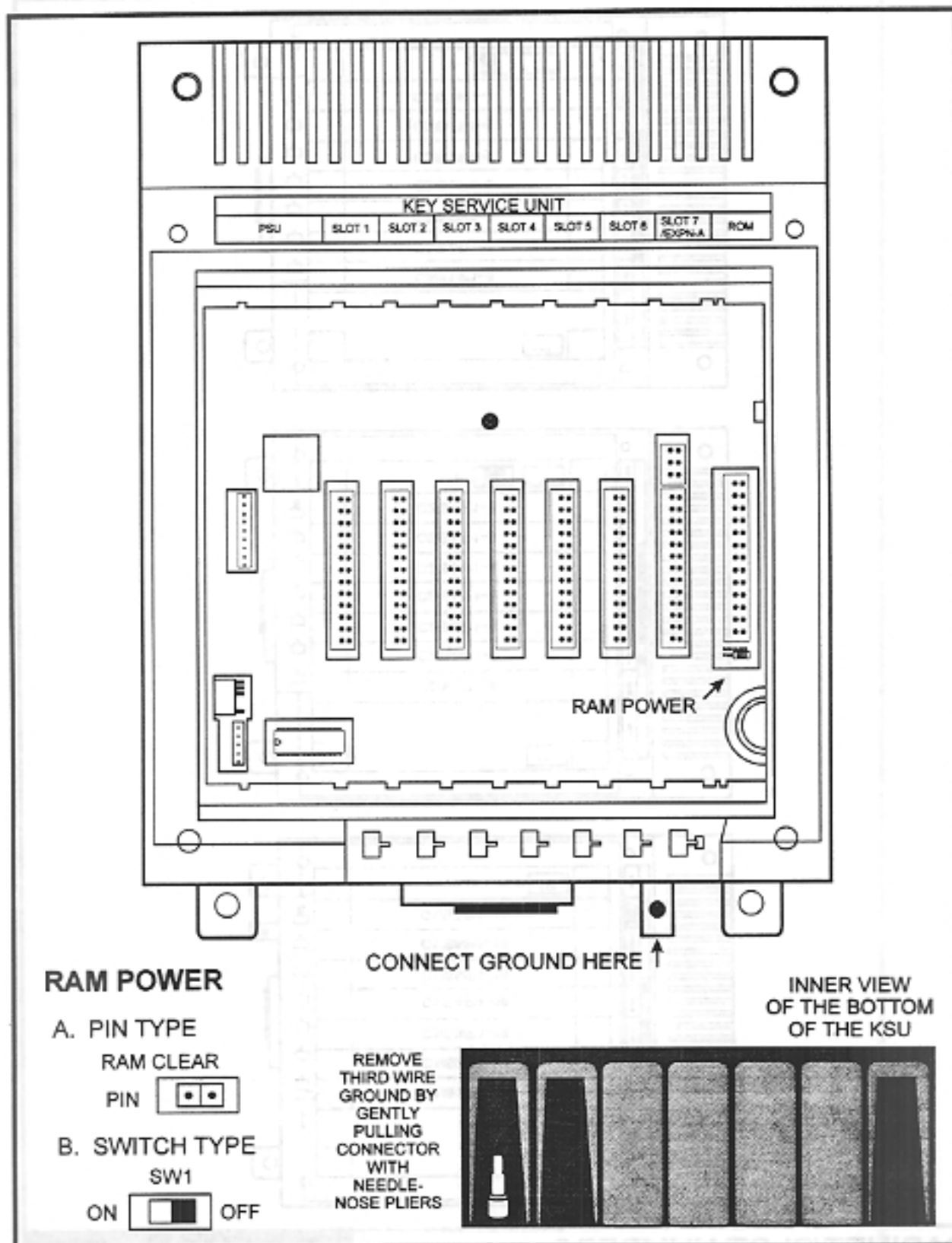
**FIGURE 2-3**



CONNECTING POWER EXTENSION CORDS

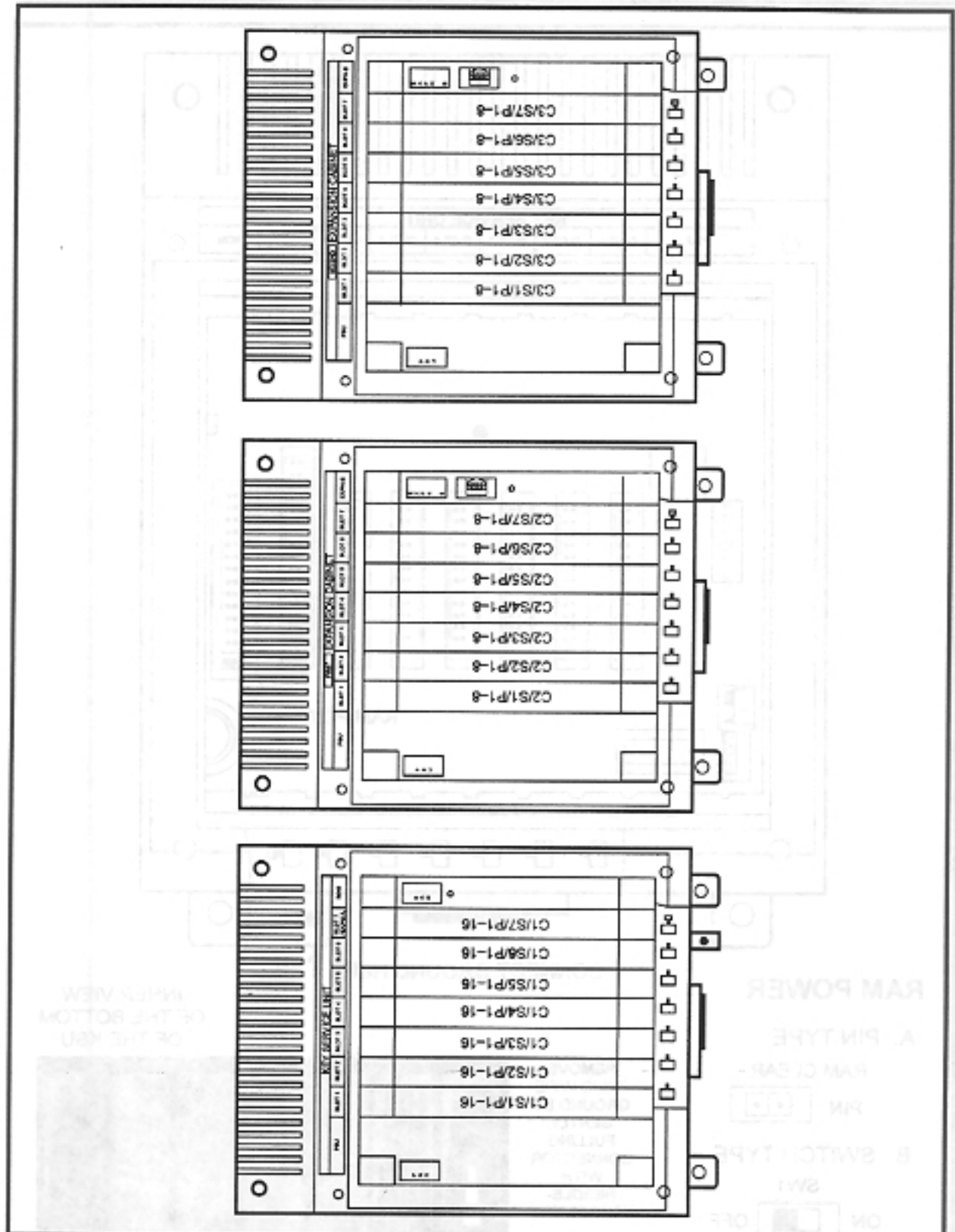
**FIGURE 2-4**





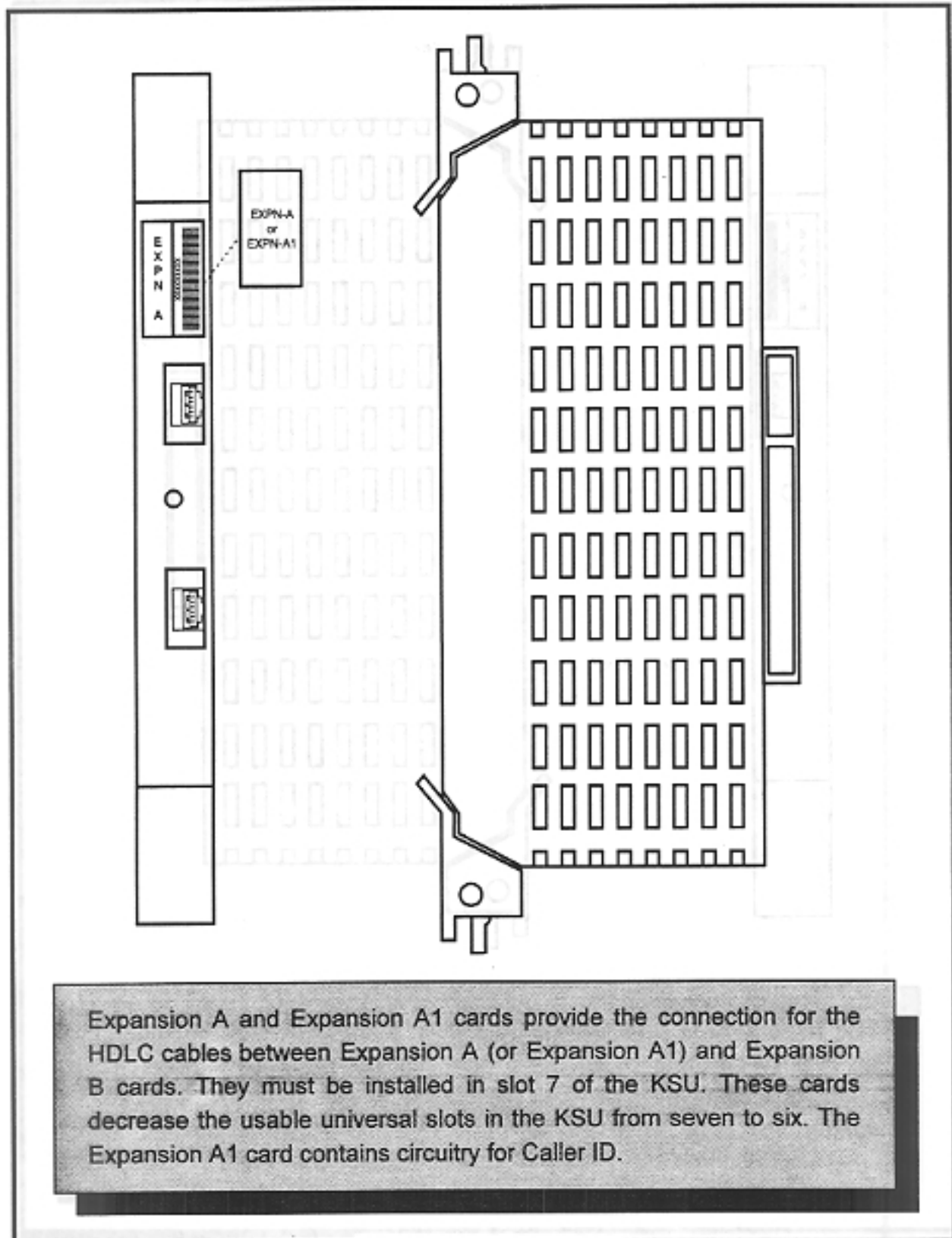
GROUNDING THE KSU

**FIGURE 2-5**



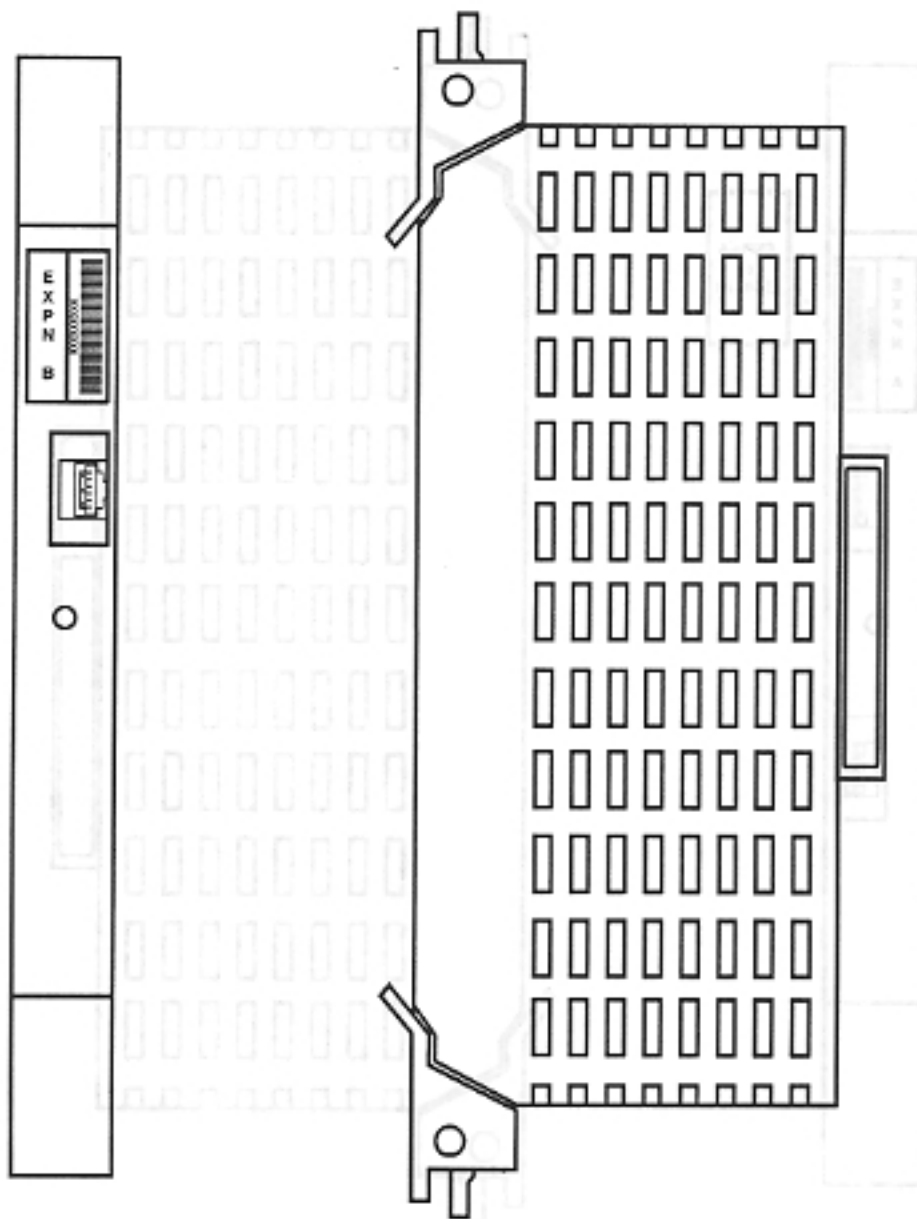
CABINET/SLOT NUMBERS

**FIGURE 2-6**



EXPANSION A AND  
EXPANSION A1 CARDS

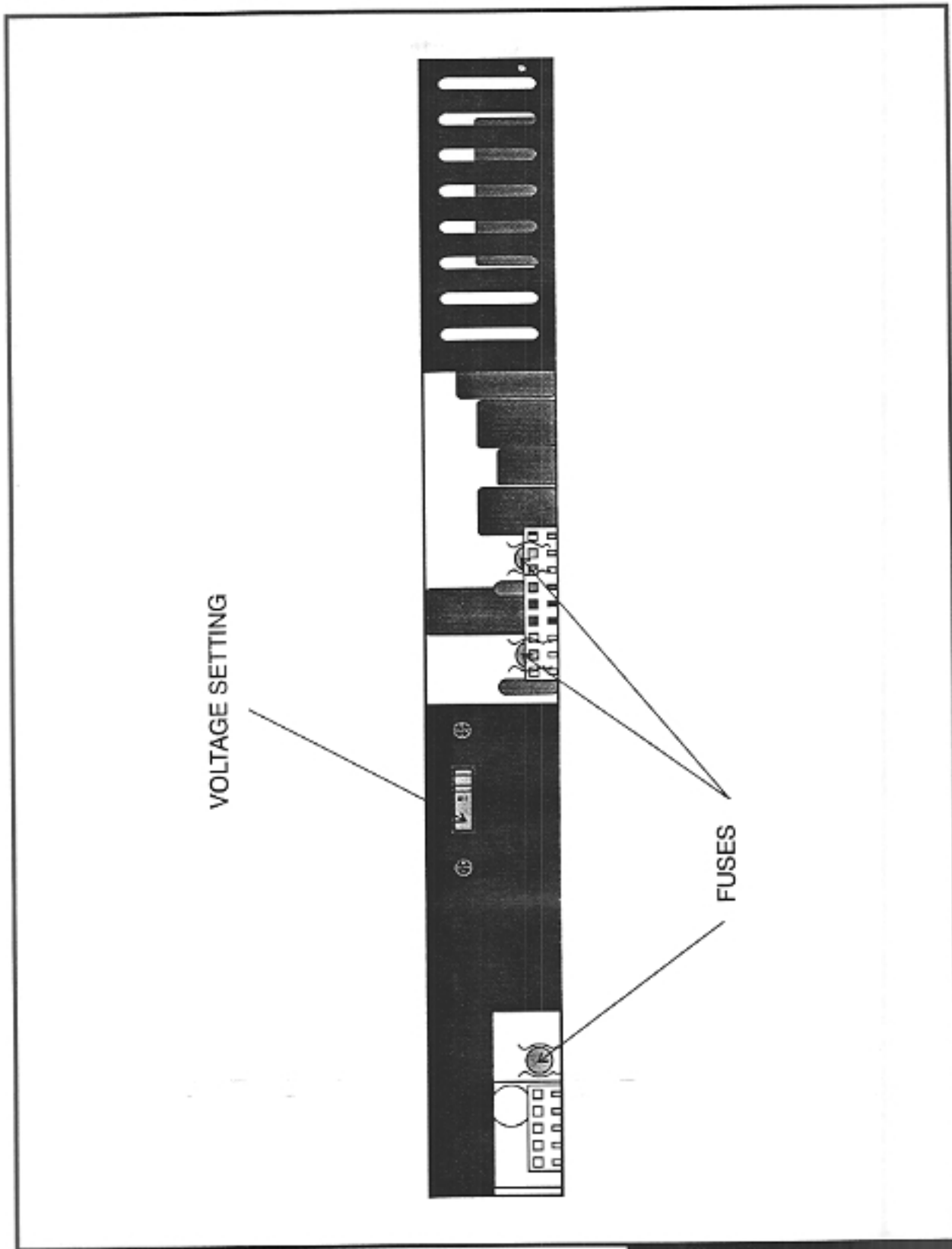
**FIGURE 2-7**



The Expansion B card provides the connection for the HDLC data cable between the Expansion A (or Expansion A1) and Expansion B cards. It is always installed in the dedicated slot in an expansion cabinet.

EXPANSION B CARD

FIGURE 2-8



SETTING VOLTAGE ON PSU-60

**FIGURE 2-9**



FIGURE 2-8

SETTING VOLTAGE ON PSU-60



## PART 3. INSTALLING PRINTED CIRCUIT CARDS

Before installing each card, unpack it and check it for signs of physical damage. If you detect any, do not attempt to install. Call Samsung Technical Support immediately.

### 3.1 ROM CARD (see Figure 3-2)

Select the appropriate type of ROM card for the system. Most systems can utilize a ROM 1 card but systems requiring the simultaneous use of SMDR and remote programming must use the ROM 2 card. There are no options to select. Insert the ROM card in the KSU slot labeled ROM (see Figure 3-1). Push firmly in the middle of both card ejectors on the card to ensure that it is fully inserted into the back plane connector.

To prevent accidental damage to the ROM card, the ROM connector on the back plane is positioned to mate only with the ROM card. Other interface cards will not mate with this connector and the ROM card will not mate with any other connector.

### 3.2 TRUNK A CARD (see Figure 3-3)

This card has no selectable options. Insert as many Trunk A cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

NOTE: If the alarm sensor is to be used, the Trunk A card must be installed in the KSU.

### 3.3 TRUNK A1 CARD (see Figure 3-4)

This card has no selectable options. Insert as many Trunk A1 cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector. NOTE: If the alarm sensor is to be used, the Trunk A1 card must be installed in the KSU.

### 3.4 TRUNK B CARD (see Figure 3-5)

This card has no selectable options. Insert as many Trunk B cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

### 3.5 TRUNK B1 CARD (see Figure 3-5)

This card has no selectable options. Insert as many Trunk B1 cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

### 3.6 TRUNK C1 CARD (see Figure 3-6)

This card has no selectable options. Insert as many Trunk C1 cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

### 3.7 GTRK CARD (see Figure 3-7)

This card has no selectable options. Insert as many GTRK cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

### 3.8 DID CARD (see Figure 3-8)

This card has no selectable options. Insert DID cards into any available slot numbers 2 through 7 (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

### 3.9 E & M CARD (see Figure 3-9)

This card has no selectable options. Insert as many E & M cards as are needed into any universal slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

### 3.10 DLI CARD (see Figure 3-10)

There are no options to select on this card. Insert up to and including seven DLI cards per cabinet as needed into any universal slots (see note below). See Figure 3-1. Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

NOTE: If a cabinet is equipped with the standard power supply unit (PSU-40), a maximum of 40 station devices may be connected to that cabinet. However, if the cabinet is equipped with the upgraded power supply unit (PSU-60), a maximum of 60 station devices may be connected to that cabinet. See the configuration section of the General Description Section for more details.

### 3.11 SLI CARD (see Figure 3-11)

There are no options to select on this card. Insert as many SLI cards as are needed into universal slots 1 through 7 (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

This card will automatically detect DTMF or dial pulse signals from the single line telephone set. There are no software or hardware settings required.

#### NOTES:

1. If a cabinet is equipped with the standard power supply unit (PSU-40), a maximum of 40 station devices may be connected to that cabinet. However, if the cabinet is equipped with the upgraded power supply unit (PSU-60), a maximum of 60 station devices may be connected to that cabinet. See the configuration section of the General Description Section for more details.
2. Do not connect devices with a total REN greater than 2.5 to any port on this card.
3. Do not connect devices with a total REN greater than 2.5 to this card.
4. Ring Frequency: 20 Hz square wave  
Ring Voltage: 120 volts peak to peak, 20 milliamps of current

### 3.12 8SLI CARD (see Figure 3-12)

There are no options to select on this card. Insert as many 8SLI cards as are needed into universal slots 1 through 7 (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

This card automatically detects DTMF or dial pulse signals from the SLT. Software and hardware settings are not required. The 8SLI has no DTMF receivers; it will share the system resources. If in a medium to high concentration of 8SLI cards or traffic, an Expansion A or Expansion A1 card should be added to relieve congestion.

#### NOTES:

1. If a cabinet is equipped with the standard power supply unit (PSU-40), a maximum of 40 station devices may be connected to that cabinet. However, if the cabinet is equipped with the upgraded power supply unit (PSU-60), a maximum of 60 station devices may be connected to that cabinet. See the configuration section of the General Description Section for more details.
2. Do not connect devices with a total REN greater than 3.0 to any port on this card.
3. Do not connect devices with a total REN greater than 5.0 to this card.
4. Ring Frequency: 20 Hz square wave  
Ring Voltage: 120 volts peak to peak, 20 milliamps of current
5. This card does not contain OPX circuitry.

### 3.13 T1 CARD (see Figure 3-13)

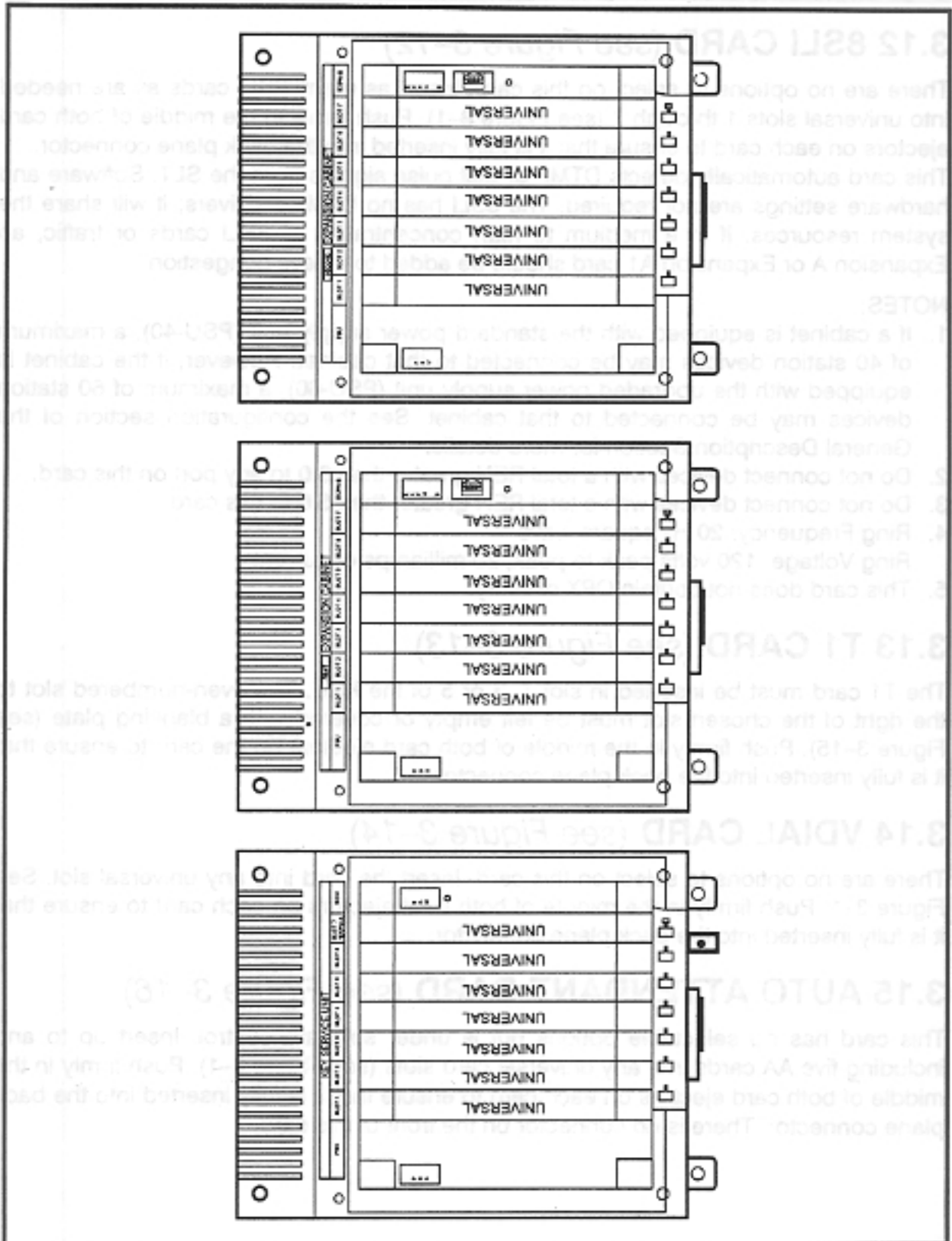
The T1 card must be inserted in slot 1, 3 or 5 of the KSU. The even-numbered slot to the right of the chosen slot must be left empty or covered with a blanking plate (see Figure 3-15). Push firmly in the middle of both card ejectors on the card to ensure that it is fully inserted into the back plane connector.

### 3.14 VDIAL CARD (see Figure 3-14)

There are no options to select on this card. Insert the card into any universal slot. See Figure 3-1. Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

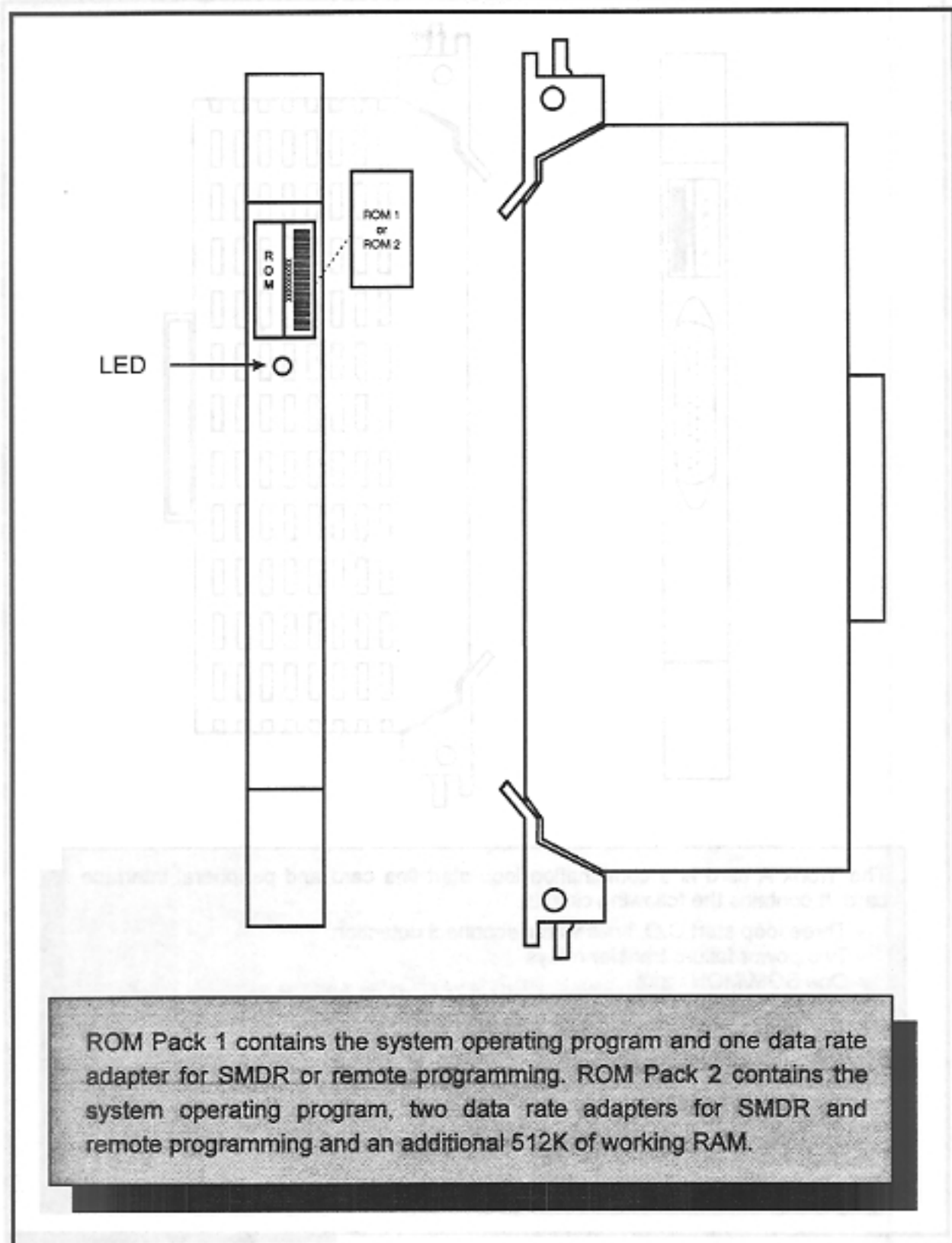
### 3.15 AUTO ATTENDANT CARD (see Figure 3-16)

This card has no selectable options but is under software control. Insert up to and including five AA cards into any universal card slots (see Figure 3-1). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector. There is no connector on the front of this card.



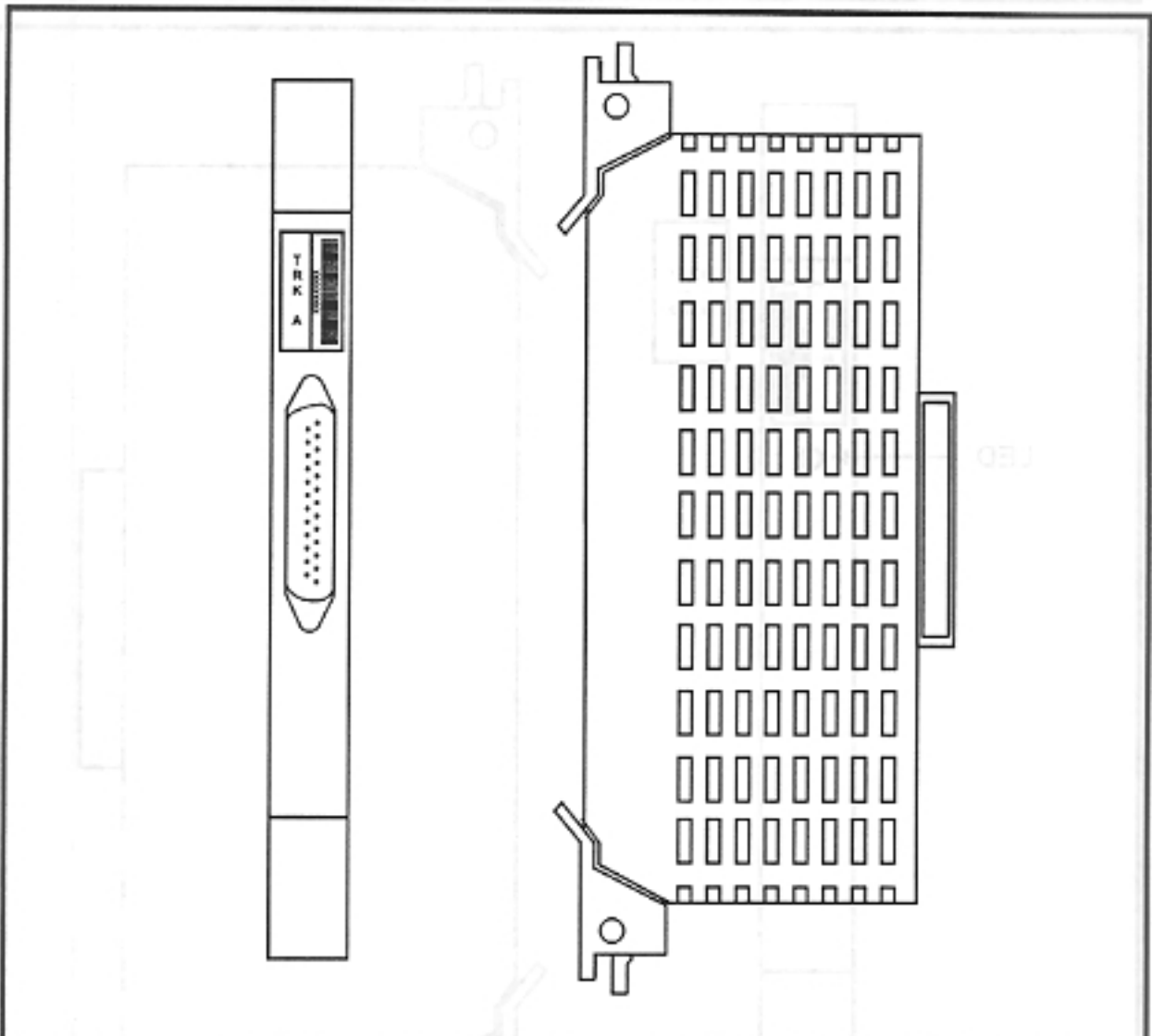
KSU CARD SLOT TYPES

**FIGURE 3-1**



ROM 1 AND ROM 2 CARDS

**FIGURE 3-2**



The Trunk A card is a combination loop start line card and peripheral interface card. It contains the following circuits:

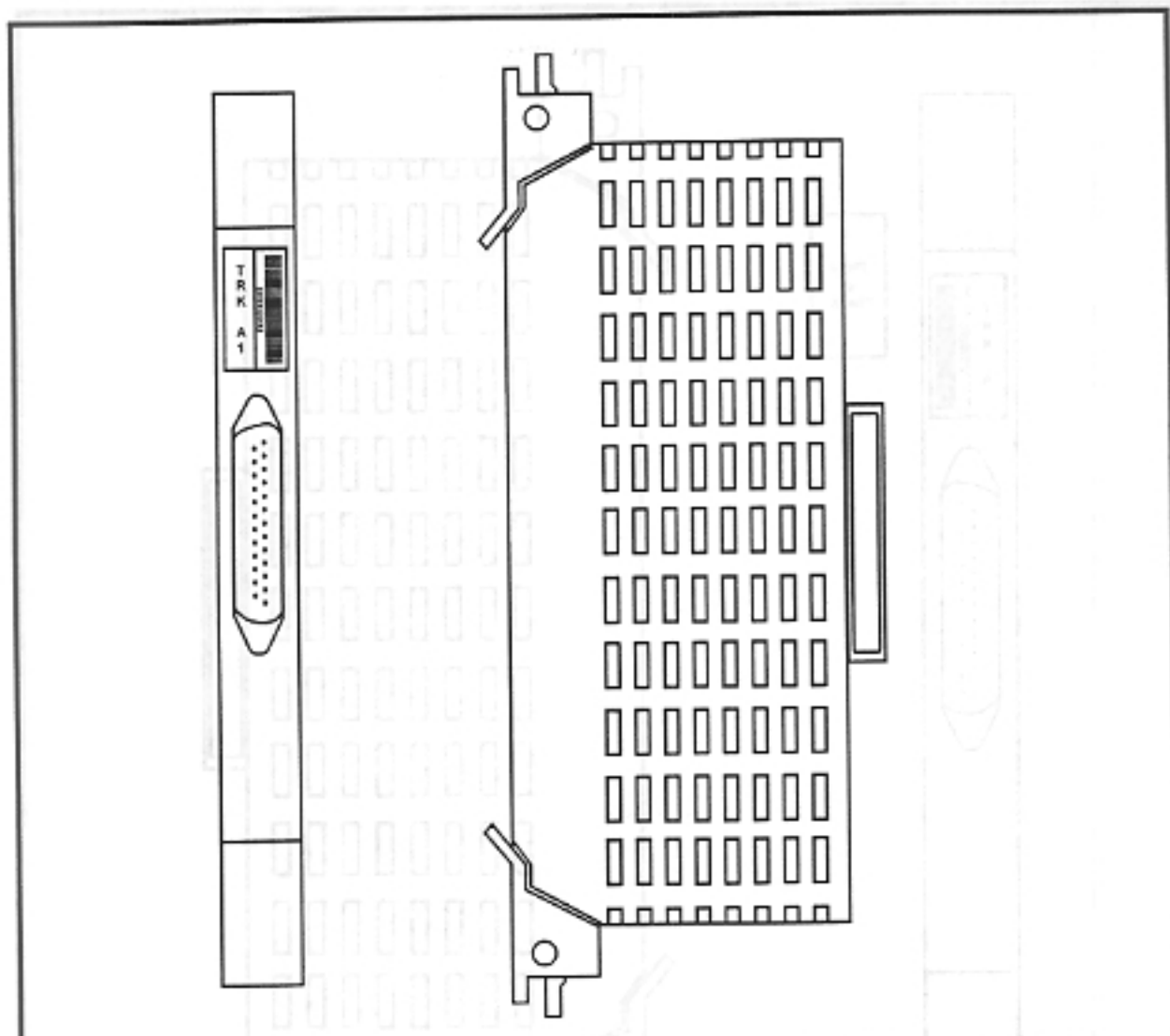
- ◆ Three loop start C.O. lines with disconnect detection
- ◆ Two power failure transfer relays
- ◆ One BGM/MOH input
- ◆ One page output
- ◆ Two page zone control relays
- ◆ One common bell relay
- ◆ One keyset ring output
- ◆ One alarm detection sensor

NOTE: The alarm sensor operates only when the Trunk A card is installed in the basic KSU.

TRUNK A CARD

FIGURE 3-3





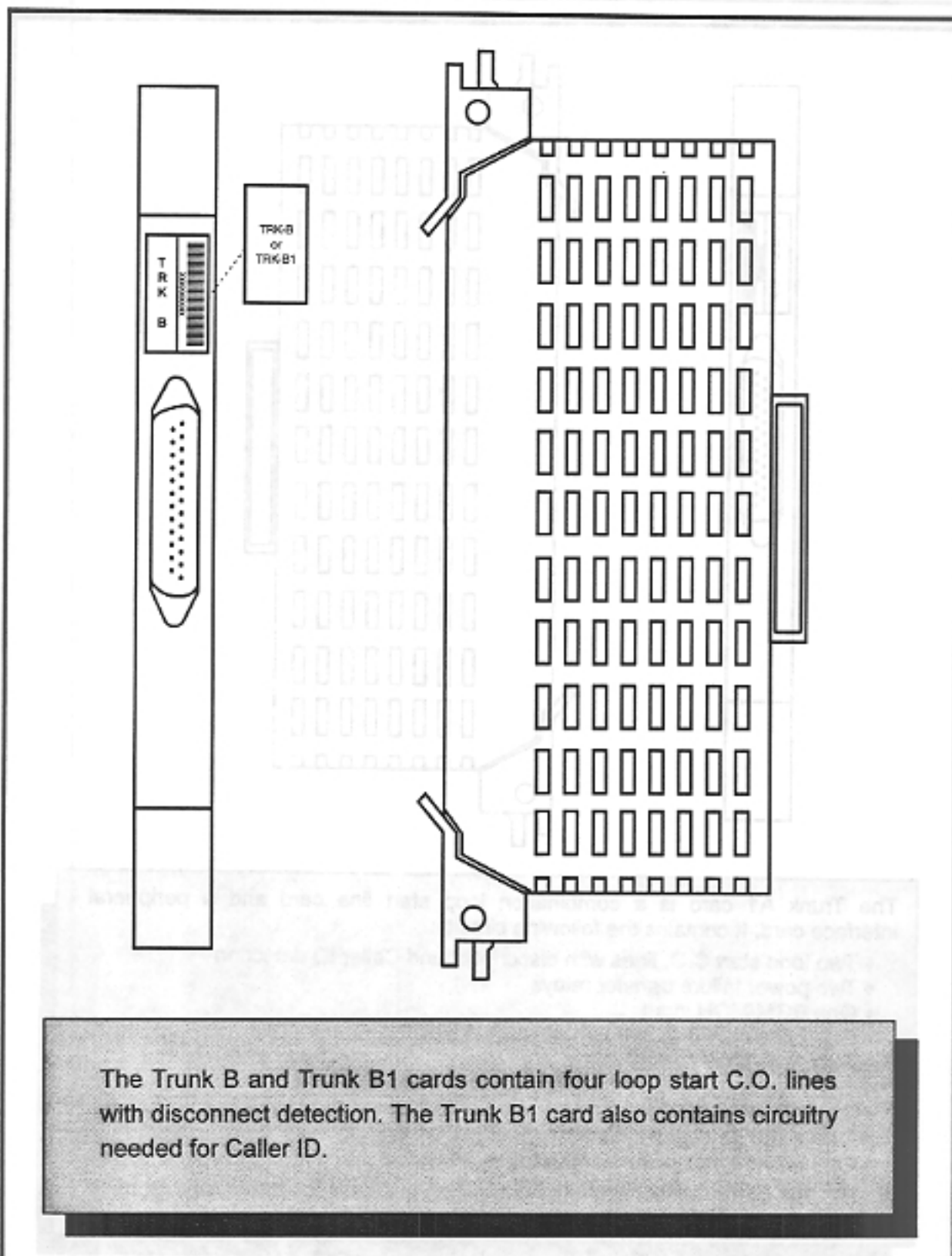
The Trunk A1 card is a combination loop start line card and a peripheral interface card. It contains the following circuits:

- ◆ Two loop start C.O. lines with disconnect and Caller ID detection
- ◆ Two power failure transfer relays
- ◆ One BGM/MOH input
- ◆ One page output
- ◆ Two page zone control relays
- ◆ One common bell relay
- ◆ One keyset ring output
- ◆ One alarm detection sensor
- ◆ One internal music source (Für Elise)

NOTE: The alarm sensor operates only when this card is installed in the basic KSU.

TRUNK A1 CARD

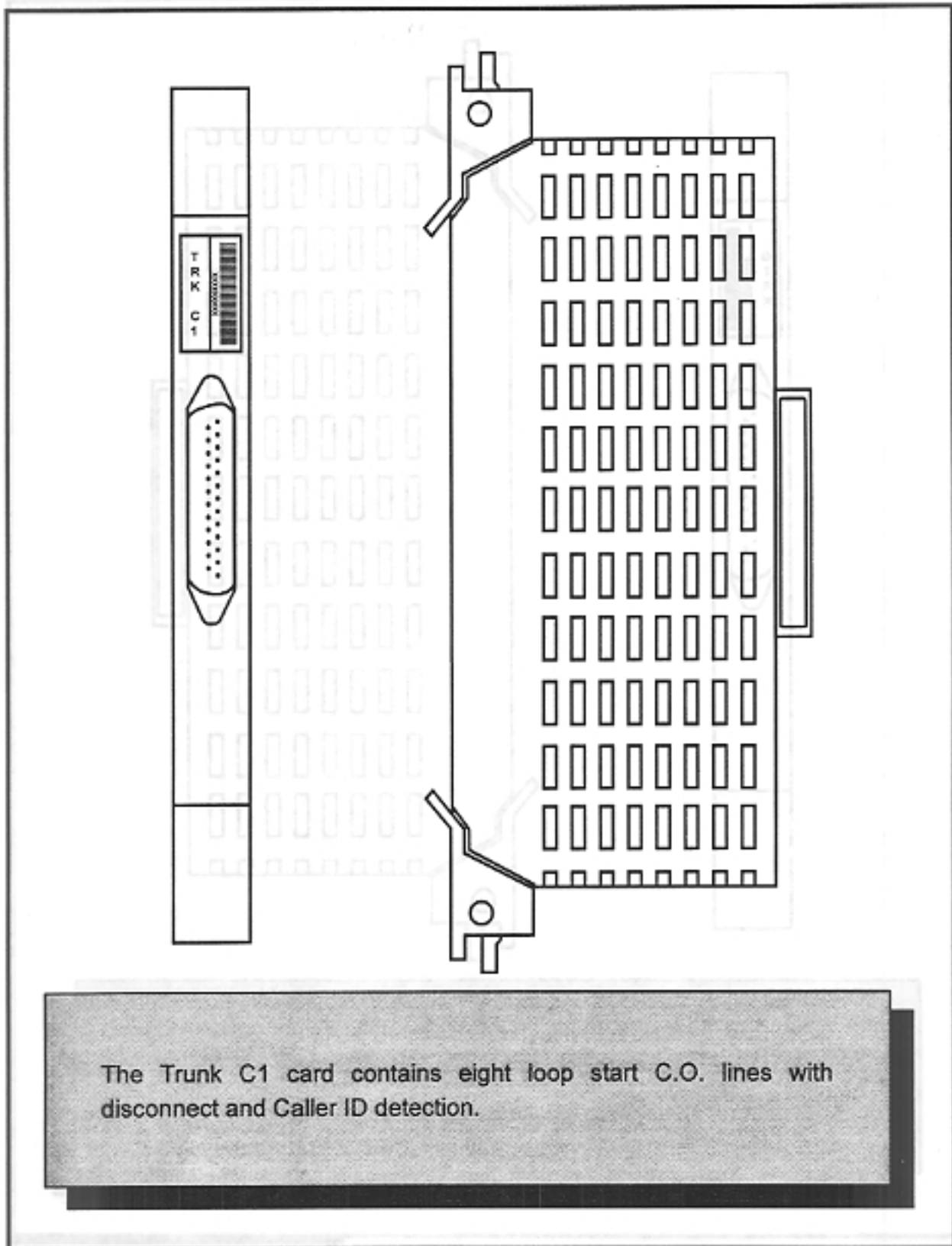
FIGURE 3-4



The Trunk B and Trunk B1 cards contain four loop start C.O. lines with disconnect detection. The Trunk B1 card also contains circuitry needed for Caller ID.

TRUNK B AND TRUNK B1 CARDS

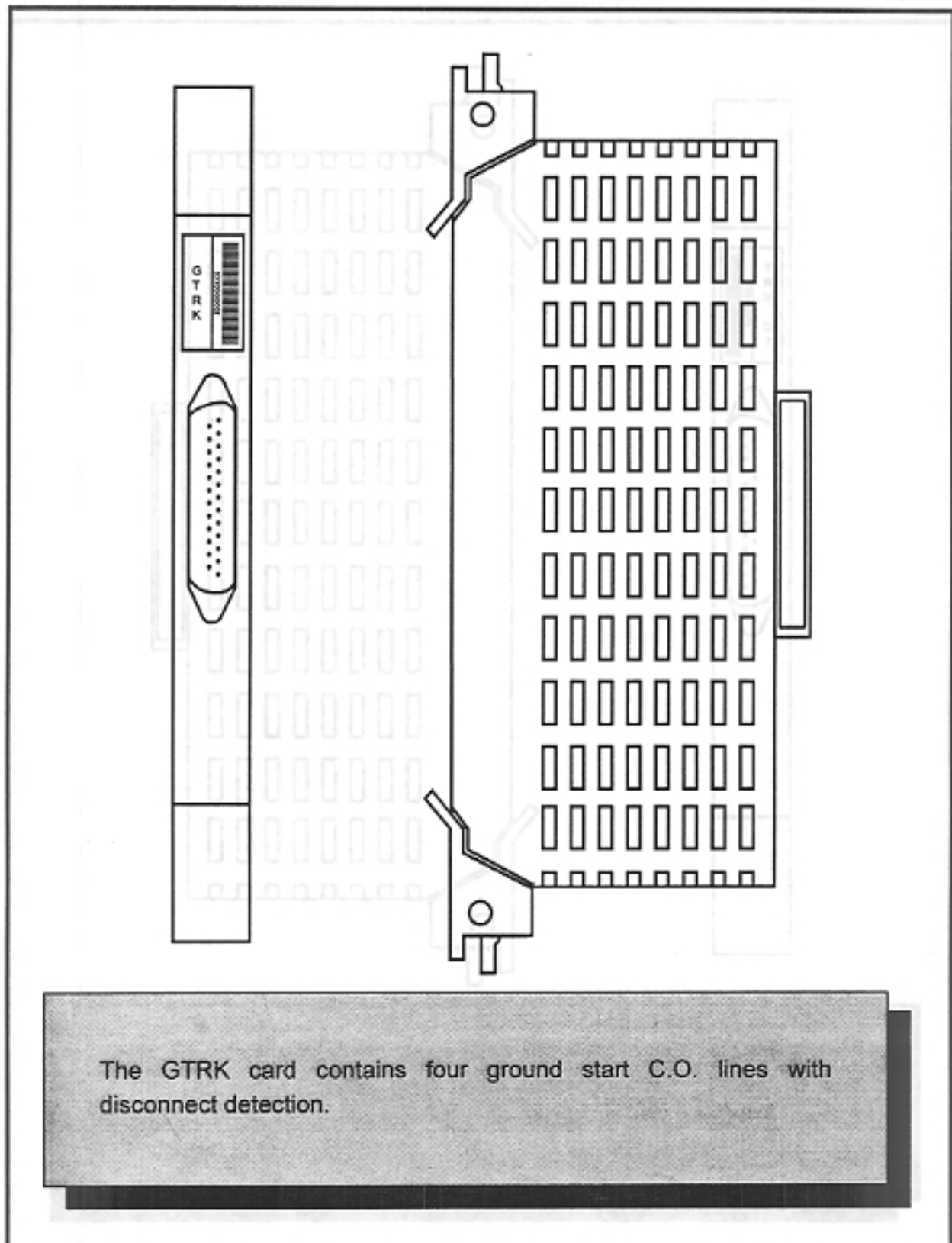
**FIGURE 3-5**



The Trunk C1 card contains eight loop start C.O. lines with disconnect and Caller ID detection.

TRUNK C1 CARD

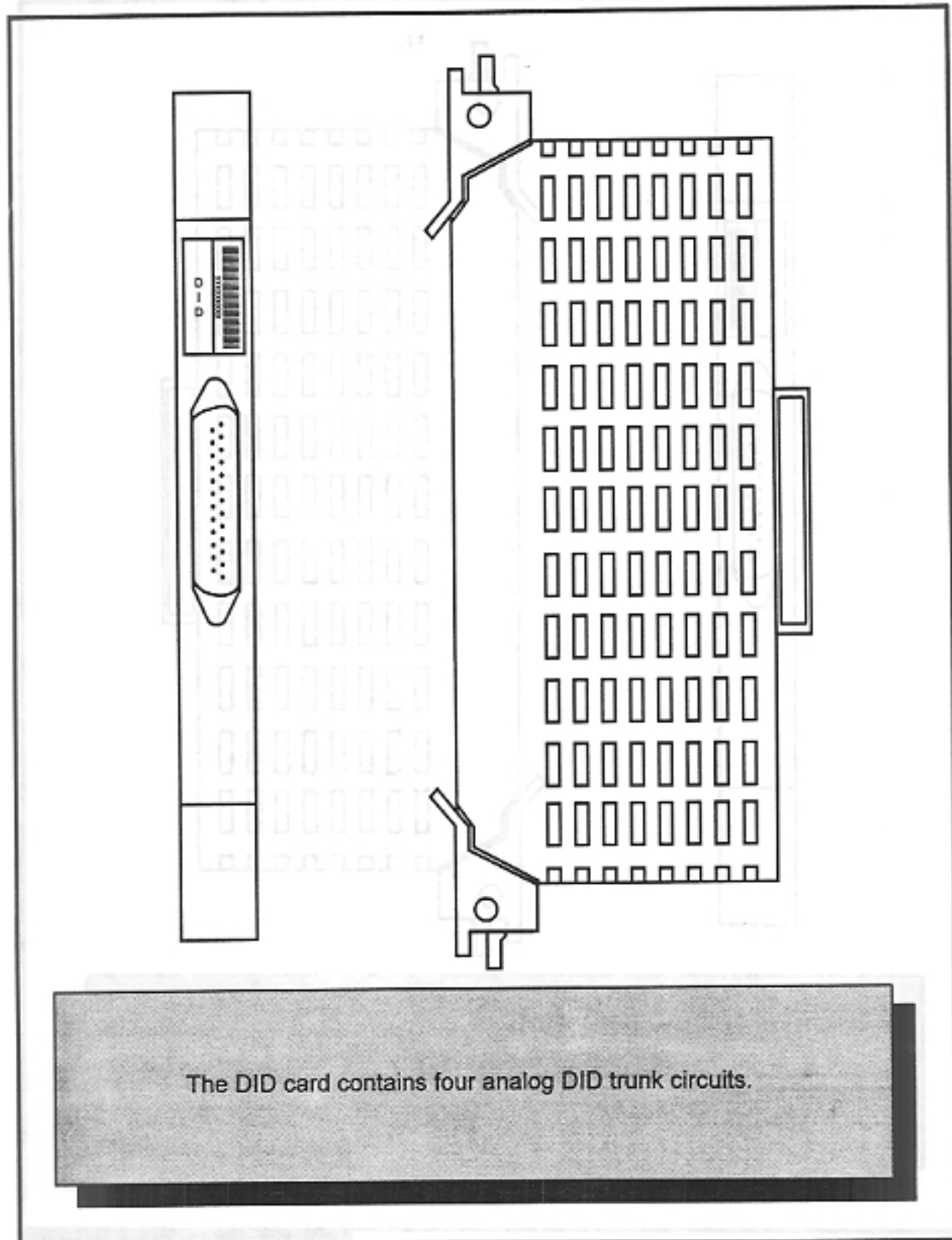
**FIGURE 3-6**



The GTRK card contains four ground start C.O. lines with disconnect detection.

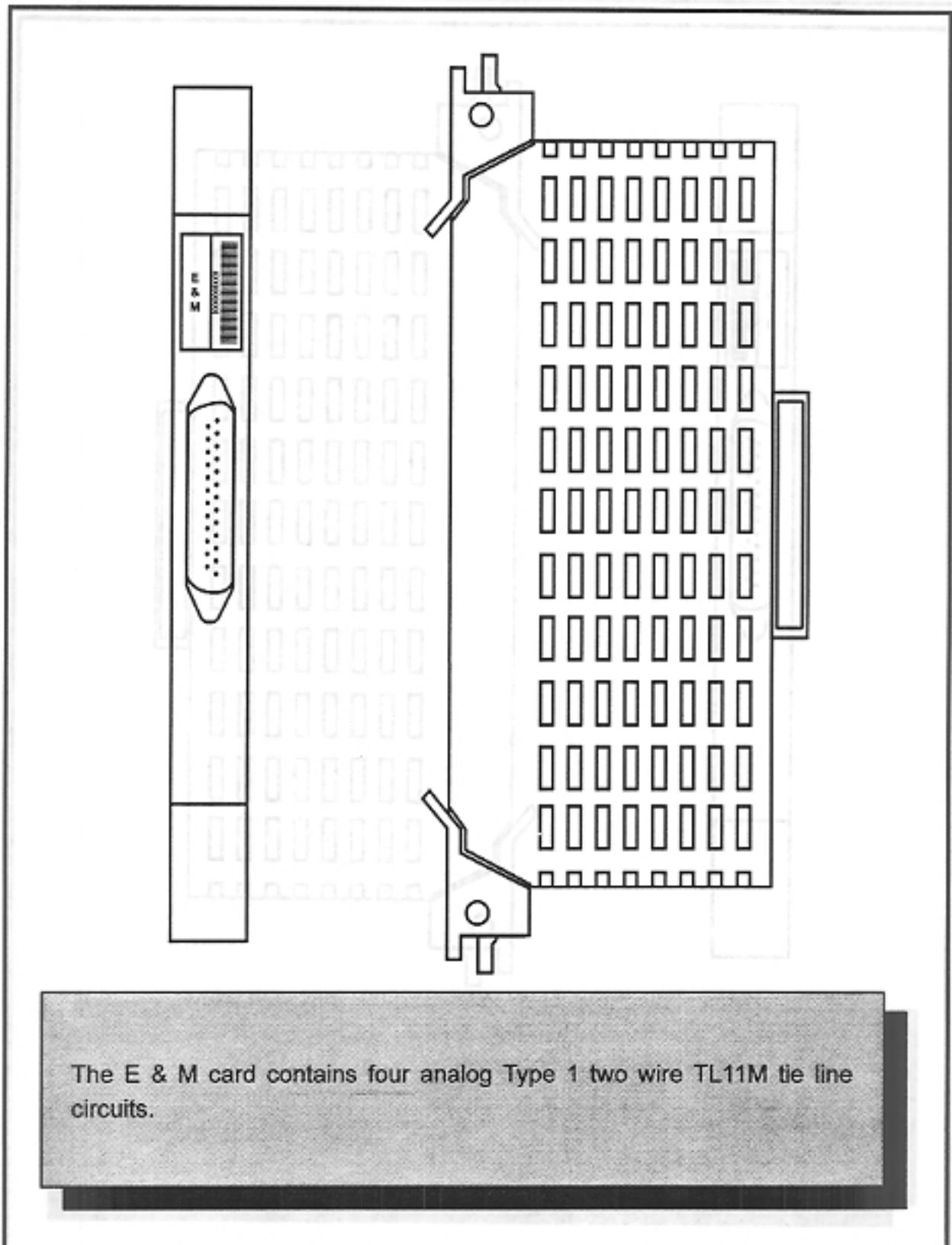
GTRK CARD

FIGURE 3-7



DID CARD

**FIGURE 3-8**

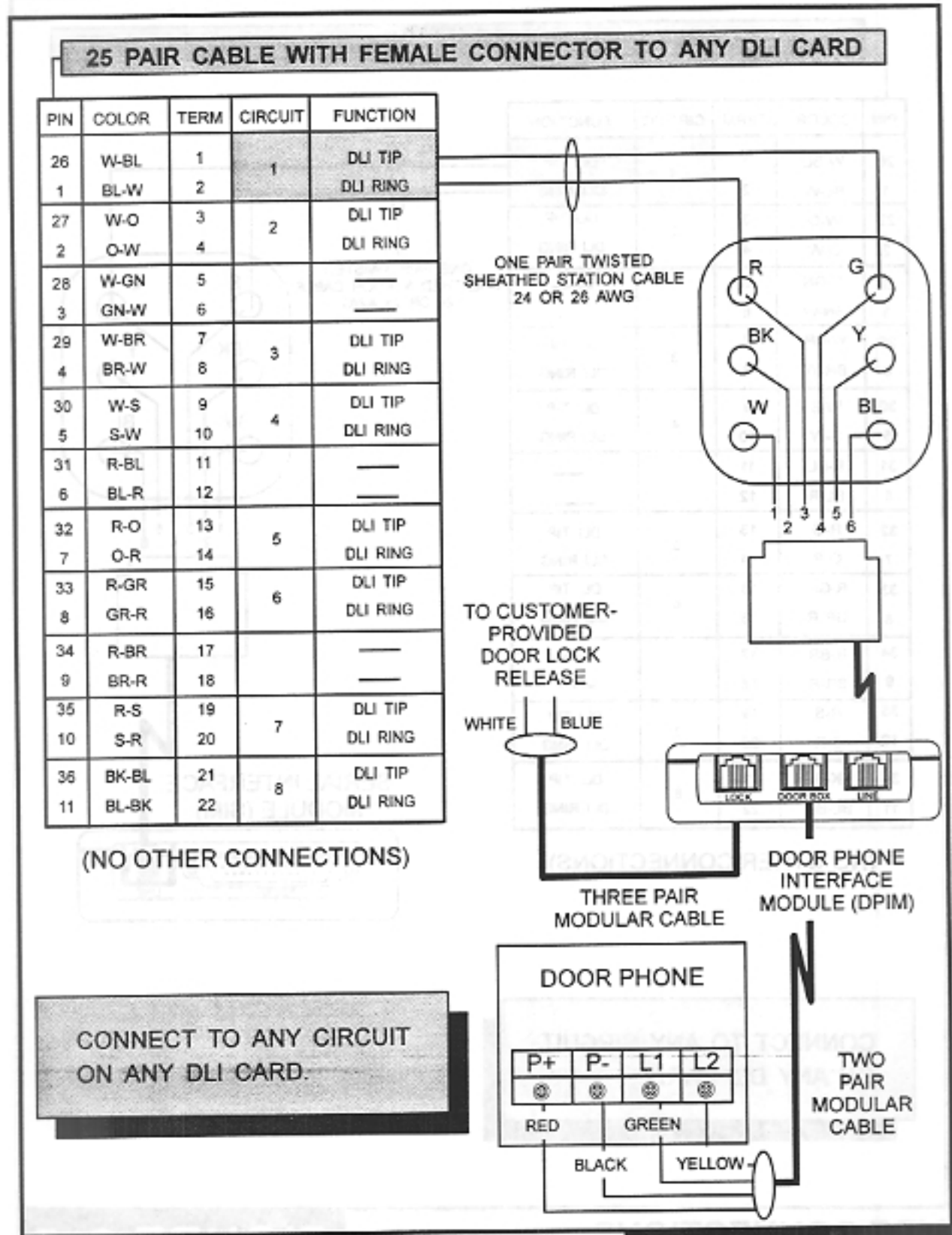


The E & M card contains four analog Type 1 two wire TL11M tie line circuits.

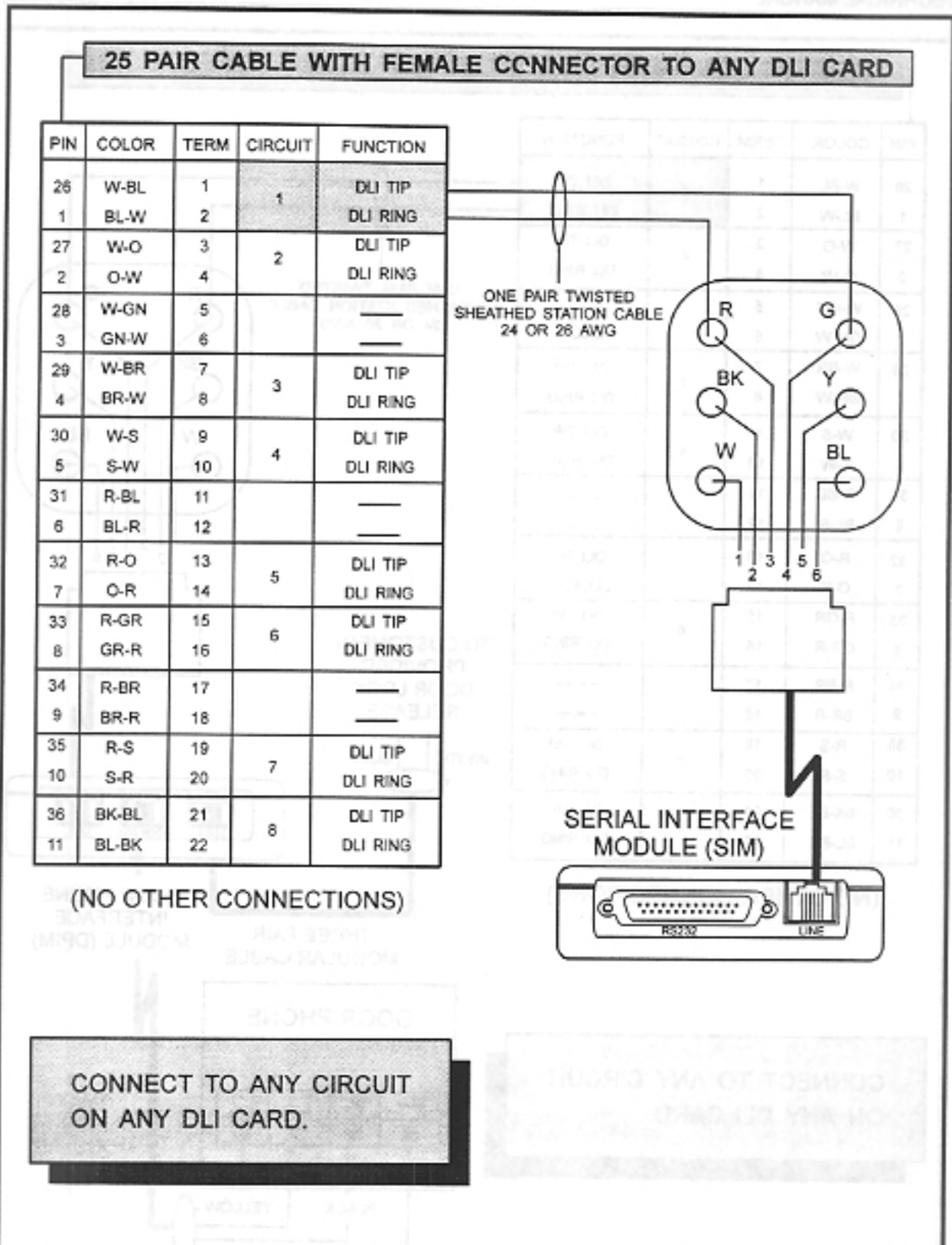
E & M CARD

**FIGURE 3-9**



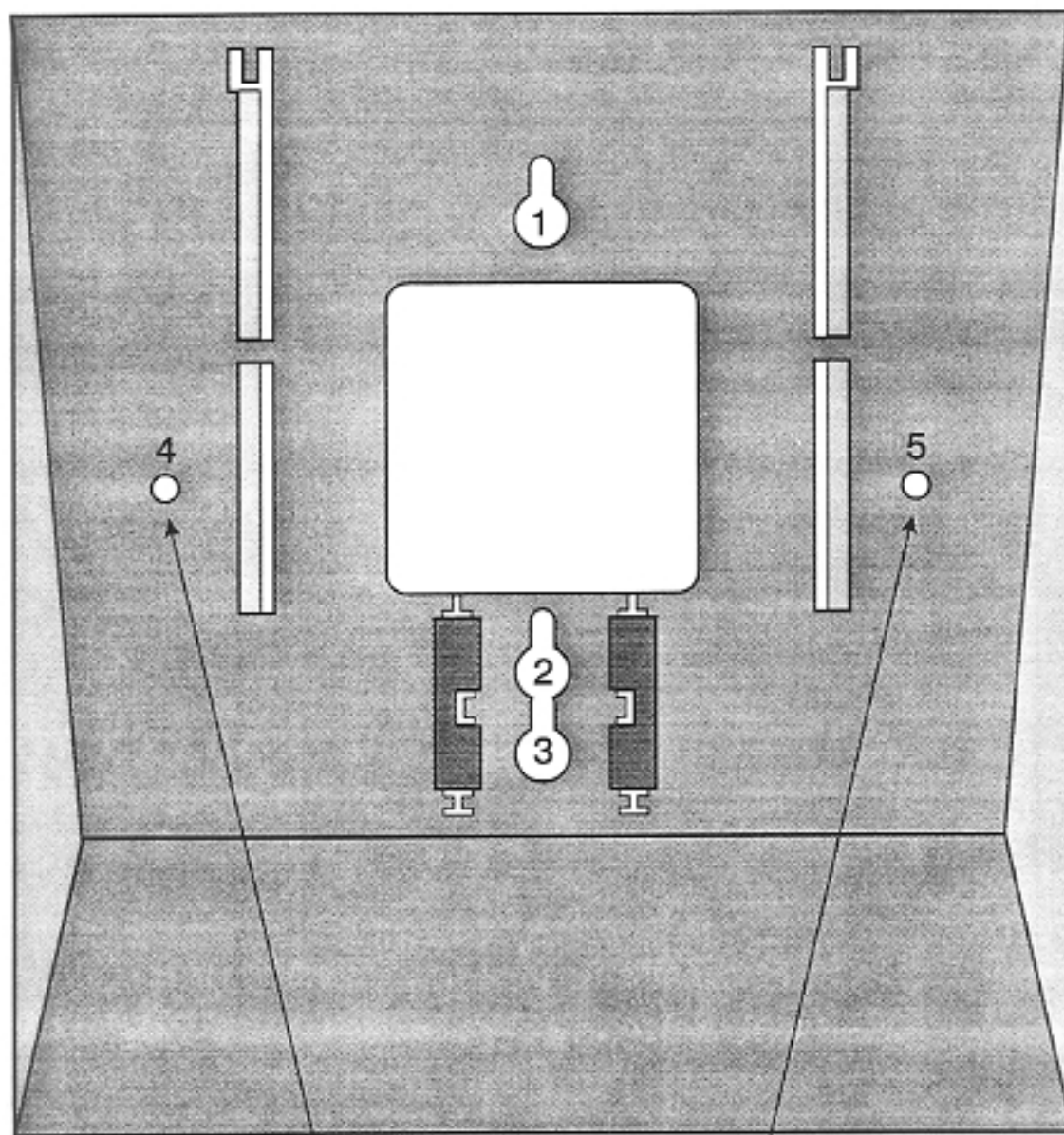


MDF CONNECTIONS  
DOOR PHONE AND DPIM  
TO DLI CARD



**MDF CONNECTIONS  
SIM TO DLI CARD**

**FIGURE 6-5**



HOLES FOR MOUNTING SCREWS

NOTE: THE DIRECTORY CARD SLIDE TRAY IS NOT USED WHEN THE  
KEYSET IS WALL-MOUNTED.

WALL-MOUNTING A KEYSET

**FIGURE 6-6**



## PART 7. CONNECTING OPTIONAL EQUIPMENT

### 7.1 MUSIC ON HOLD/BACKGROUND MUSIC

Connect each customer-provided music source to the music input on a Trunk A or Trunk A1 card connecting block (see Figure 7-1). The music input on the Trunk A and Trunk A1 cards has internal automatic gain compensation features.

#### IMPORTANT NOTICE

In accordance with US copyright law, a license may be required from the American Society of Composers, Authors and Publishers (ASCAP) or another similar organization if copyrighted music is transmitted through the Music on Hold feature. Samsung Telecommunications America hereby disclaims any liability arising out of failure to obtain such a license.

Each C.O. line (trunk) can be programmed to receive a music source, system-generated tone or NO MUSIC when it is put on hold. See MMC 408. Each keyset can receive a music source or NO MUSIC for background music. See the Programming Section for instructions (MMC 308).

### 7.2 EXTERNAL PAGING

Trunk A and Trunk A1 cards provide a voice pair and two dry contact pairs to be used with customer-provided paging equipment. Connect the customer-provided paging equipment to the page output pins of a Trunk A or Trunk A1 connecting block (see Figure 7-2). The relays must be assigned to the page zone in MMC 605.

The page voice pair is 600 ohm impedance. When the amplifier page input is not 600 ohm, use an impedance matching transformer. The paging contact pairs are for control of low voltage circuits or amplifier output. The contacts are rated at 24 VDC-1 amp.

**WARNING:** Do not attempt to connect commercial AC power to these contacts.

### 7.3 COMMON BELL

A customer-provided loud ringing device can be controlled using the dry contact pair on the Trunk A or Trunk A1 card. See Figure 7-3. By using MMC 204, programming allows for interrupted or continuous operation of the contacts. The interrupted selection follows the C.O. ring cadence—one second ON/three seconds OFF.

After connecting a common bell, you must assign it in MMC 601 to a group as a ring destination by using the code for common bell. The basic steps for common bell operation are the following:

- a. Wire the loud ringing device to the common bell control contact pair.
- b. Set contacts for continuous or steady operation.
- c. Program the hunt group to include the common bell.
- d. Assign the trunk to ring the hunt group containing the common bell.

Common bell control can be used with station hunt groups, individual stations and Universal Answer. Contacts are rated at 24 VDC–1 amp.

**WARNING:** Do not attempt to connect commercial AC power to these contacts.

## 7.4 RING OVER PAGE

When a customer-provided paging system is installed, incoming calls can be assigned to ring over page. Program the line or lines to ring a hunt group. Using MMC 601, assign ROP as a destination in this hunt group. Ring over page can be used for day or night operation or both.

## 7.5 LOUD RINGER

Trunk A and Trunk A1 cards are equipped with a ring output. Connect this pair to a customer-provided amplifying device (see Figure 7-1). Assign the output to a station in MMC 205 (Assign Loud Bell). After the loud ring output has been assigned, the loud ringer will ring when the station rings.

## 7.6 SMDR

To receive an SMDR (Station Message Detail Recording) printout, connect a customer-provided printer to the serial interface connector on the back of a SIM (see Figure 7-4). Use a pin to pin RS232C cable. Only pins 2, 3, 7 and 20 are required (see Figure 7-7). When the printer or optional call accounting device needs to be more than 15 feet away from the KSU, use shielded computer cable. Attach a male DB25 connector to the SIM end and one that meets the requirements of the call accounting device or printer to the other end. This cable must not exceed 300 feet. Use MMC 725 to set SMDR print options and use MMC 804 to set the transmission parameters and the SIM port.

**NOTE:** The SIM has a minimum transmission speed of 1200 baud. If Caller ID is to be printed out, a wide carriage printer or a printer with condensed print is required. Caller ID uses all 132 columns for reporting SMDR.

## 7.7 PC PROGRAMMING

To program the system via a personal computer (PC), connect a PC equipped with PCMMC to the serial interface connector on the back of a SIM (see Figure 7-5). Use an RS232C cable with connections as shown in Figure 7-8. When the PC needs to be more than 15 feet away from the KSU, use shielded computer cable. Attach a male



DB25 connector to the SIM end and one that meets the requirements of the PC to the other end. This cable must not exceed 300 feet. Use MMCs 311 and 804 to set the transmission parameters for the SIM port.

NOTE: The SIM has a minimum transmission speed of 1200 baud.

## 7.8 REMOTE PROGRAMMING

To remotely program a system, connect a customer-provided modem to the serial interface connector on the back of a SIM (see Figure 7-6). Use an RS232C cable as shown in Figure 7-9. When the modem needs to be more than 15 feet away from the KSU, use shielded computer cable. Attach a male DB25 connector to the SIM end and one that meets the requirements of the modem to the other end. This cable must not exceed 300 feet. Use MMCs 311 and 804 to set the transmission parameters for the SIM port to be used.

NOTE: The SIM has a minimum transmission speed of 1200 baud.

## 7.9 POWER FAILURE TRANSFER (PFT)

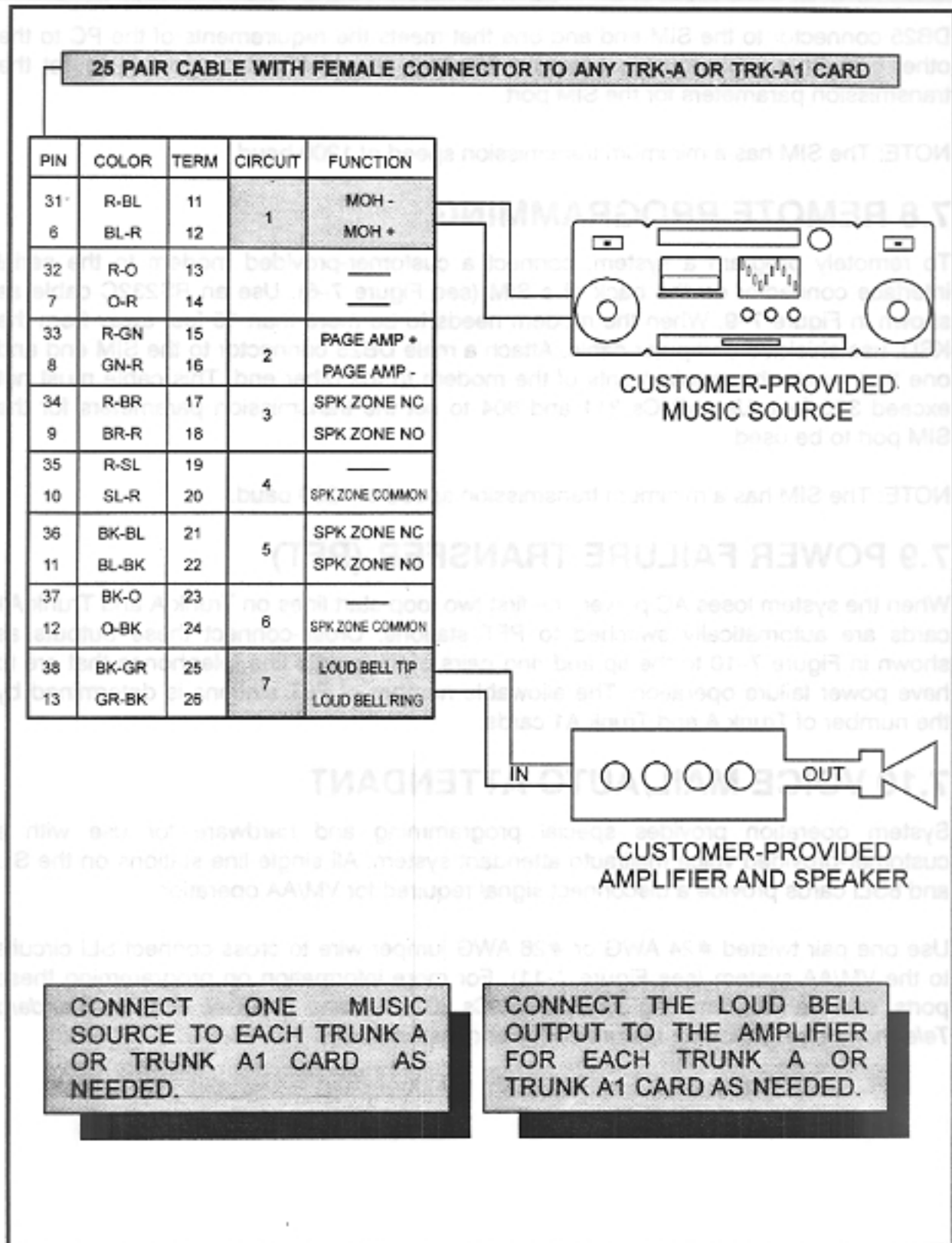
When the system loses AC power, the first two loop start lines on Trunk A and Trunk A1 cards are automatically switched to PFT stations. Cross-connect these outputs as shown in Figure 7-10 to the tip and ring pairs of the single line telephones that are to have power failure operation. The allowable number of PFT stations is determined by the number of Trunk A and Trunk A1 cards.

## 7.10 VOICE MAIL/AUTO ATTENDANT

System operation provides special programming and hardware for use with a customer-provided voice mail/auto attendant system. All single line stations on the SLI and 8SLI cards provide a disconnect signal required for VM/AA operation.

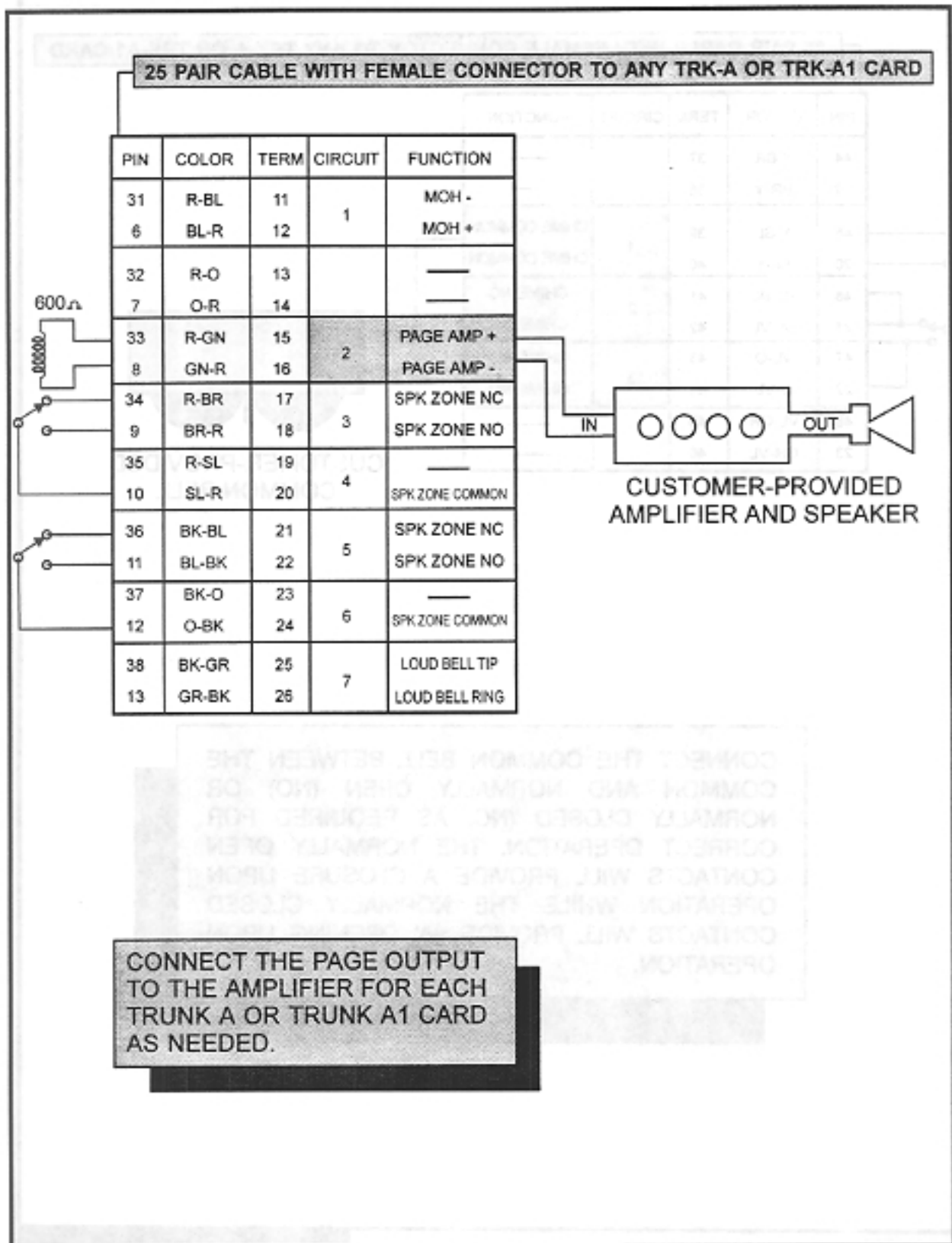
Use one pair twisted #24 AWG or #26 AWG jumper wire to cross-connect SLI circuits to the VM/AA system (see Figure 7-11). For more information on programming these ports, see the Programming Section, MMCs 207, 601 and 726. See also the *Standard Telephone User Guide* for feature codes and instructions.

FIGURE 7-1



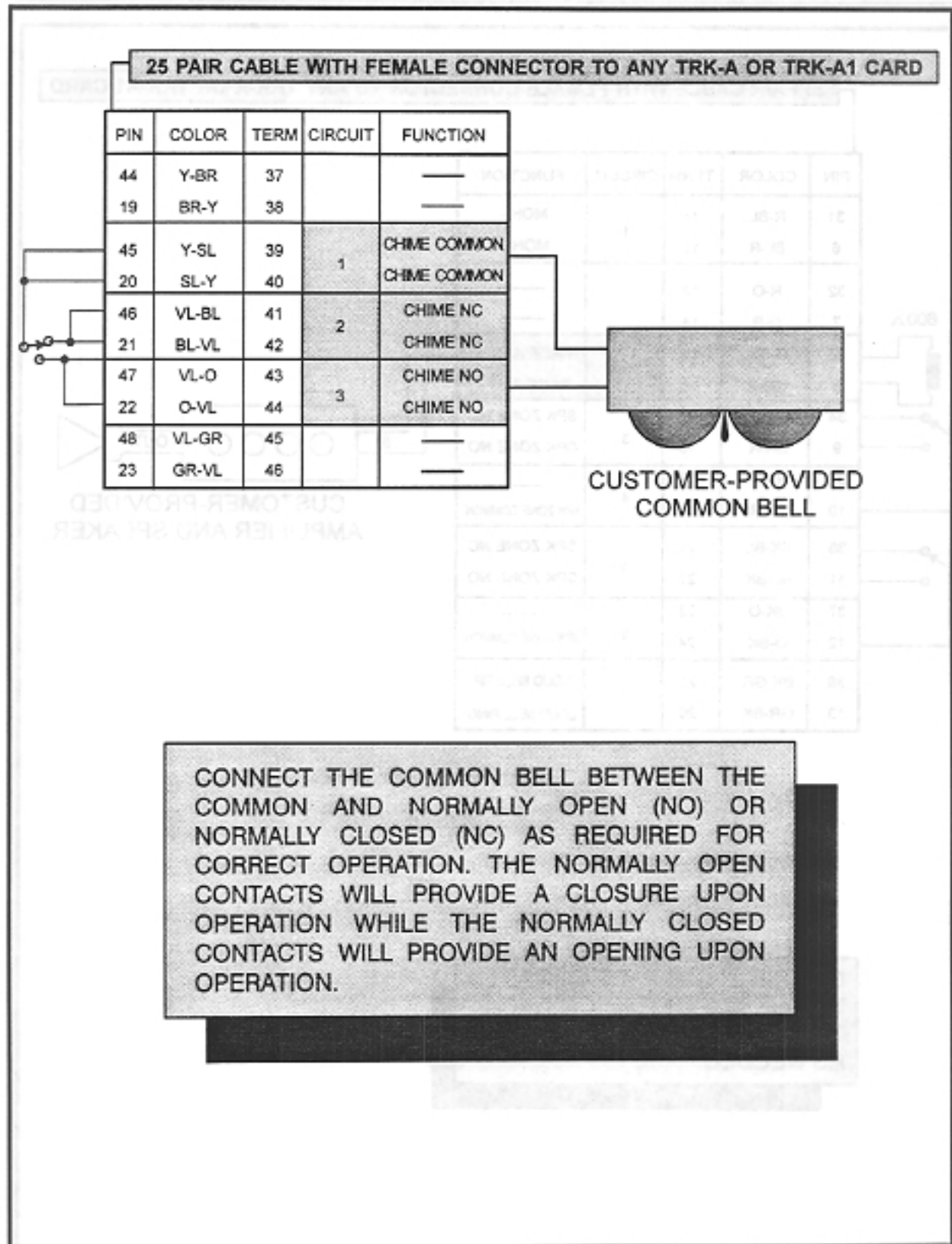
**MDF CONNECTIONS  
MOH SOURCE AND LOUD BELL  
TO TRUNK A OR TRUNK A1 CARD**

**FIGURE 7-1**



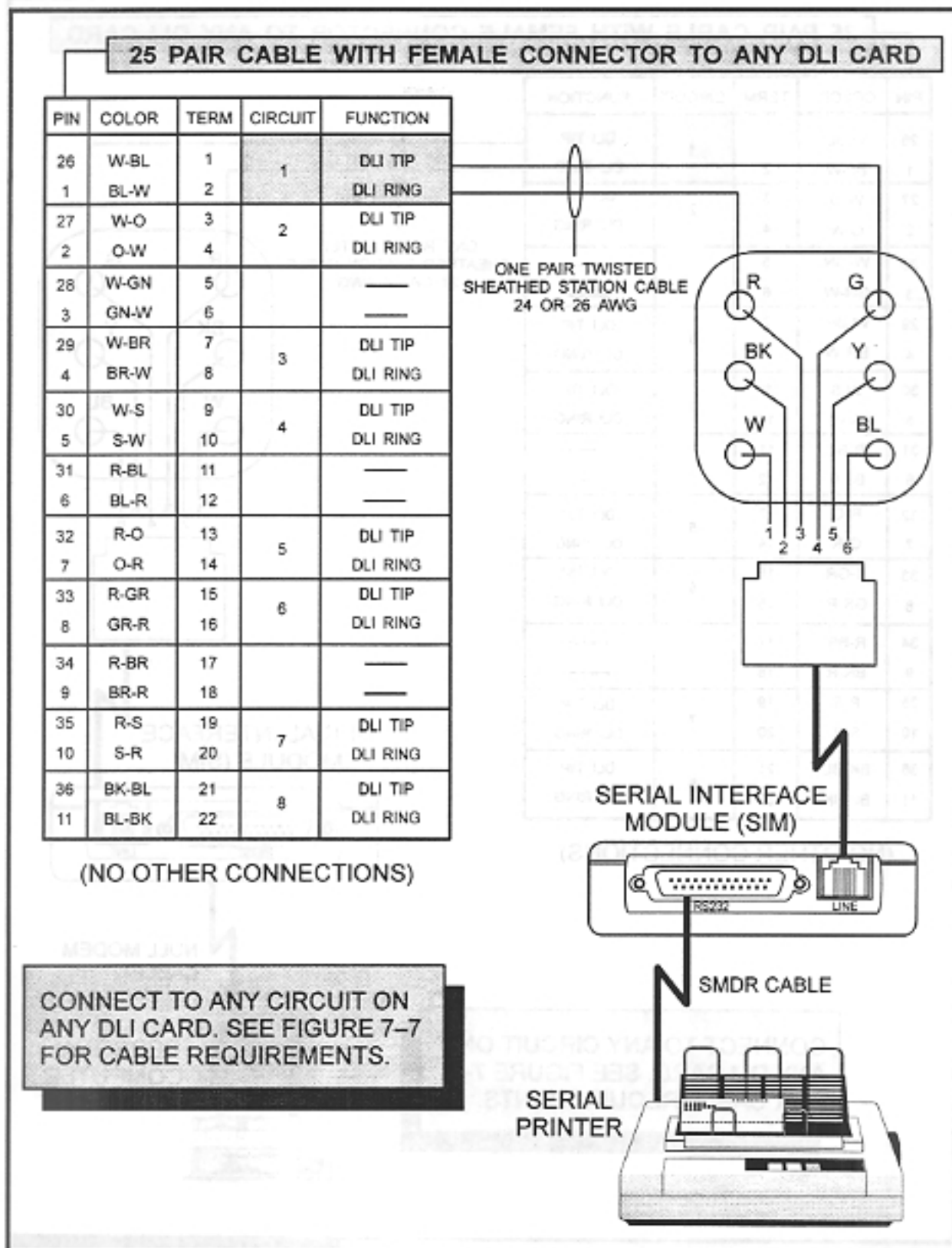
**MDF CONNECTIONS  
PAGING AMPLIFIER TO TRUNK A  
OR TRUNK A1 CARD**

**FIGURE 7-2**



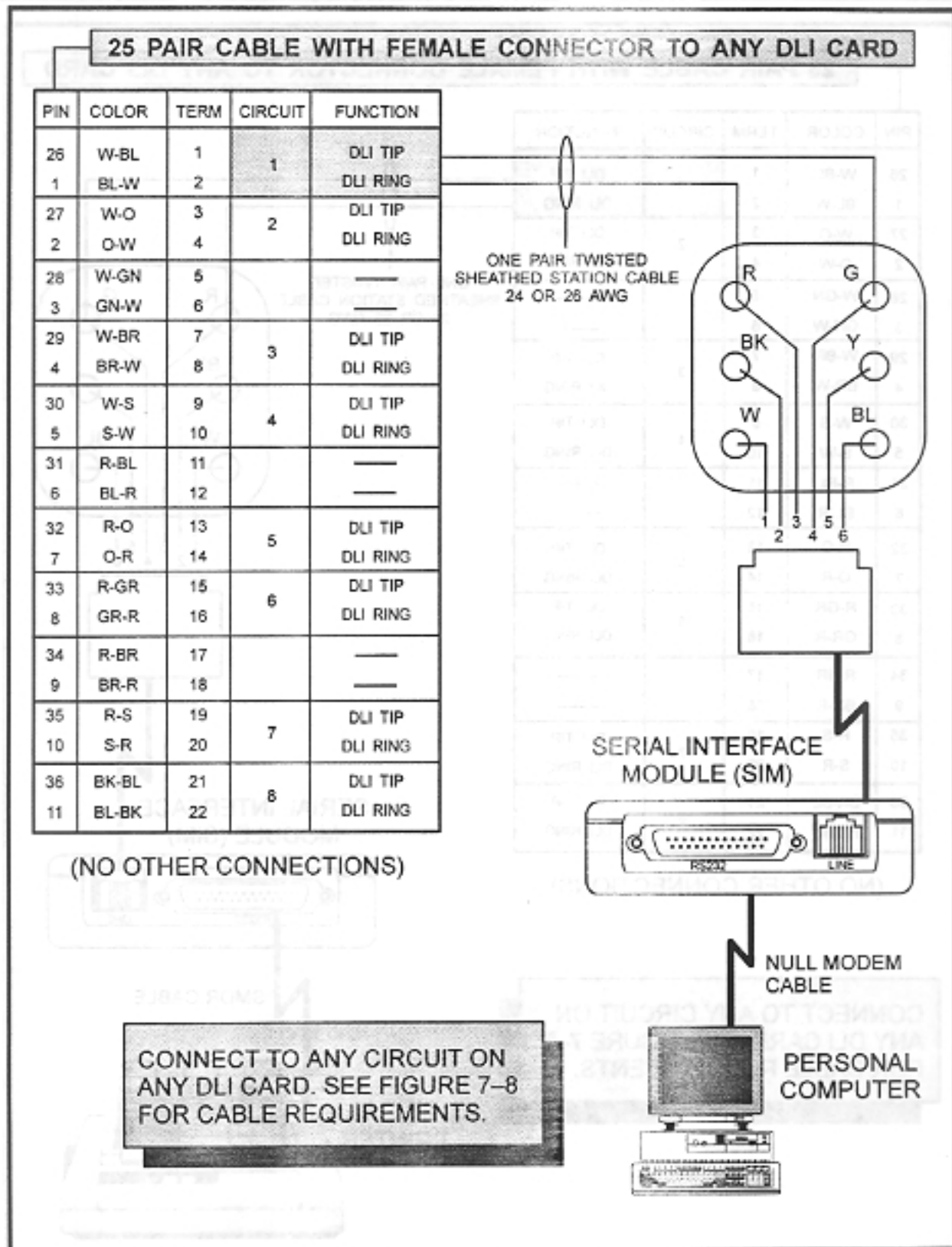
**MDF CONNECTIONS  
 COMMON BELL TO TRUNK A  
 OR TRUNK A1 CARD**

**FIGURE 7-3**



**MDF CONNECTIONS  
SIM TO DLI CARD FOR SMDR**

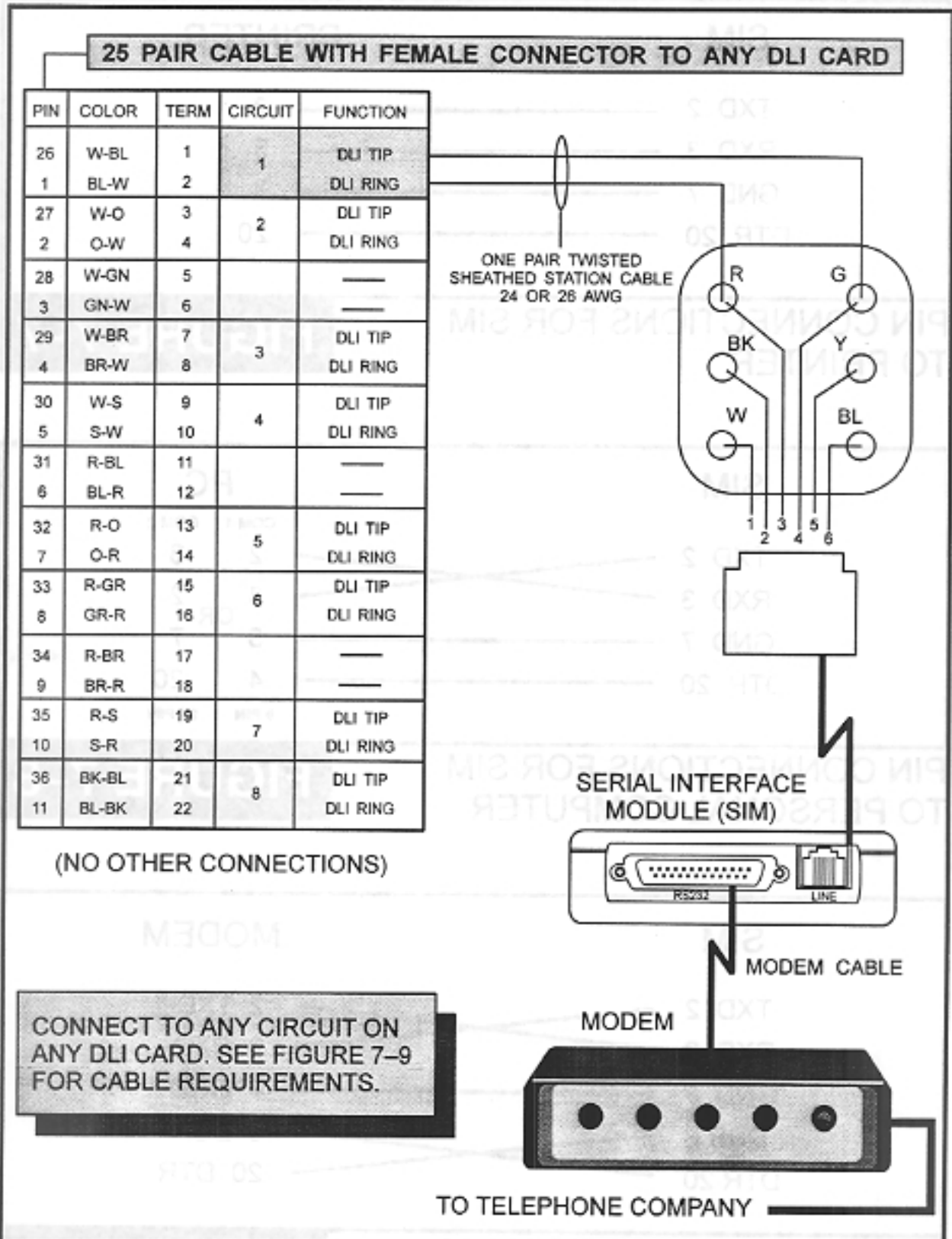
**FIGURE 7-4**



**MDF CONNECTIONS  
SIM TO DLI CARD FOR ON-SITE  
PC PROGRAMMING**

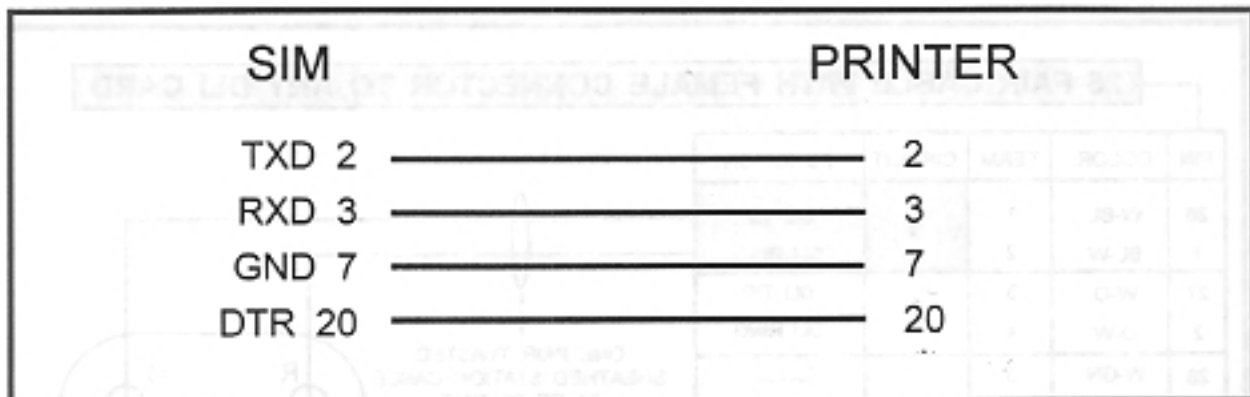
**FIGURE 7-5**





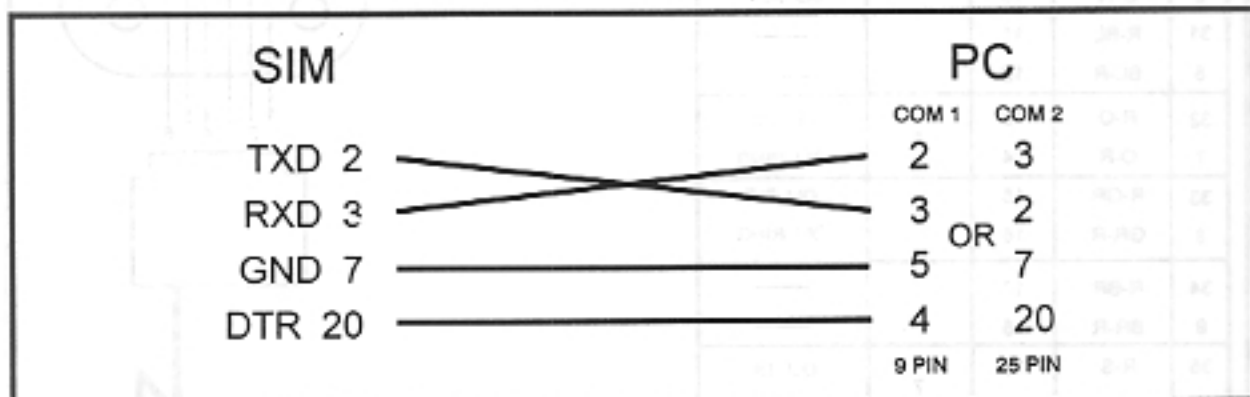
**MDF CONNECTIONS  
SIM TO DLI CARD FOR REMOTE  
PROGRAMMING**

**FIGURE 7-6**



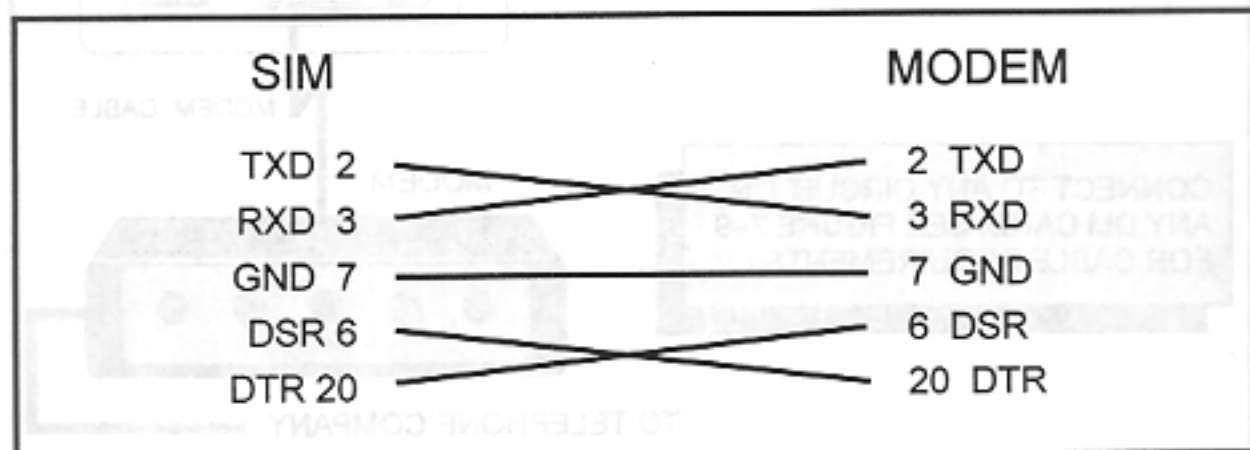
PIN CONNECTIONS FOR SIM TO PRINTER

**FIGURE 7-7**



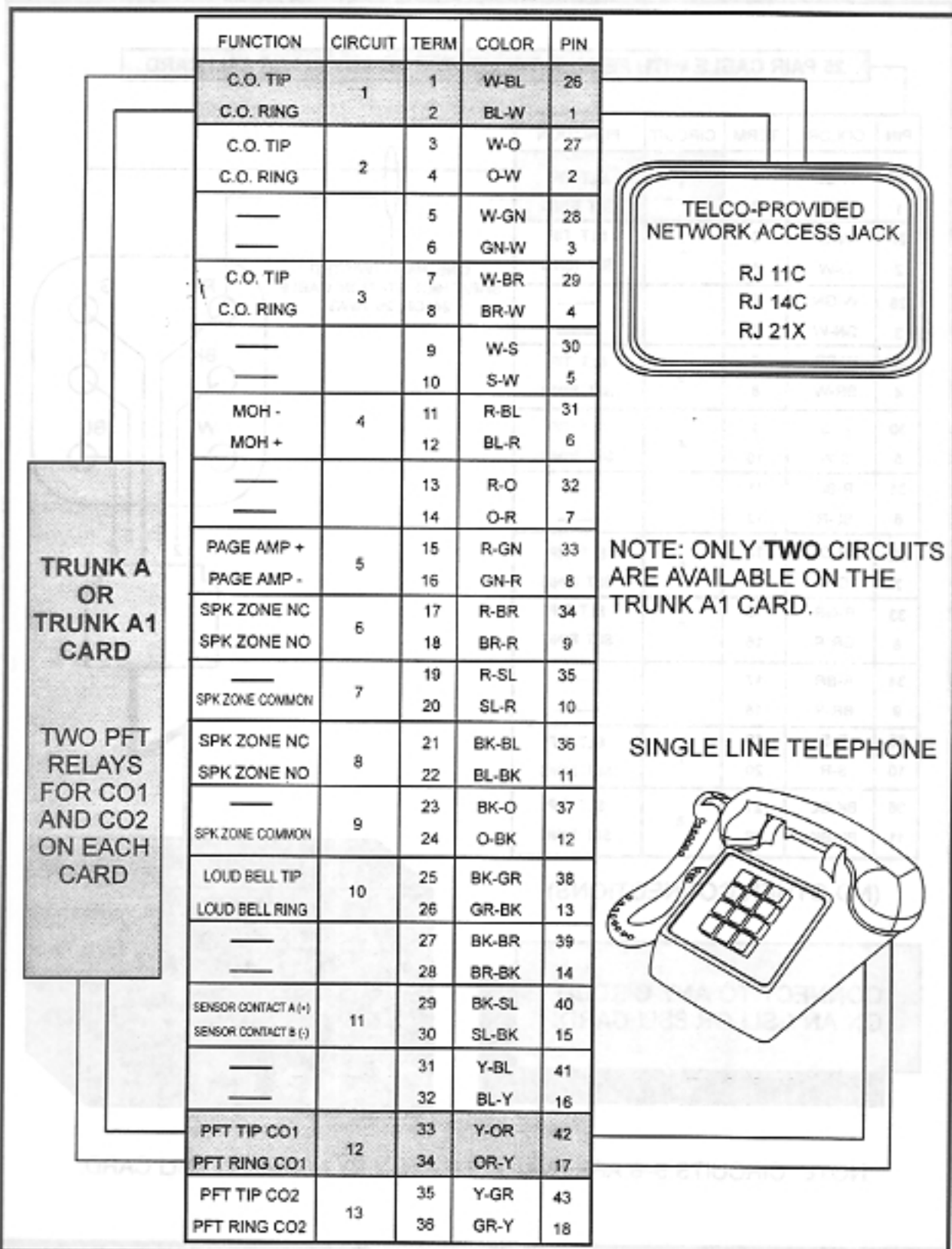
PIN CONNECTIONS FOR SIM TO PERSONAL COMPUTER

**FIGURE 7-8**



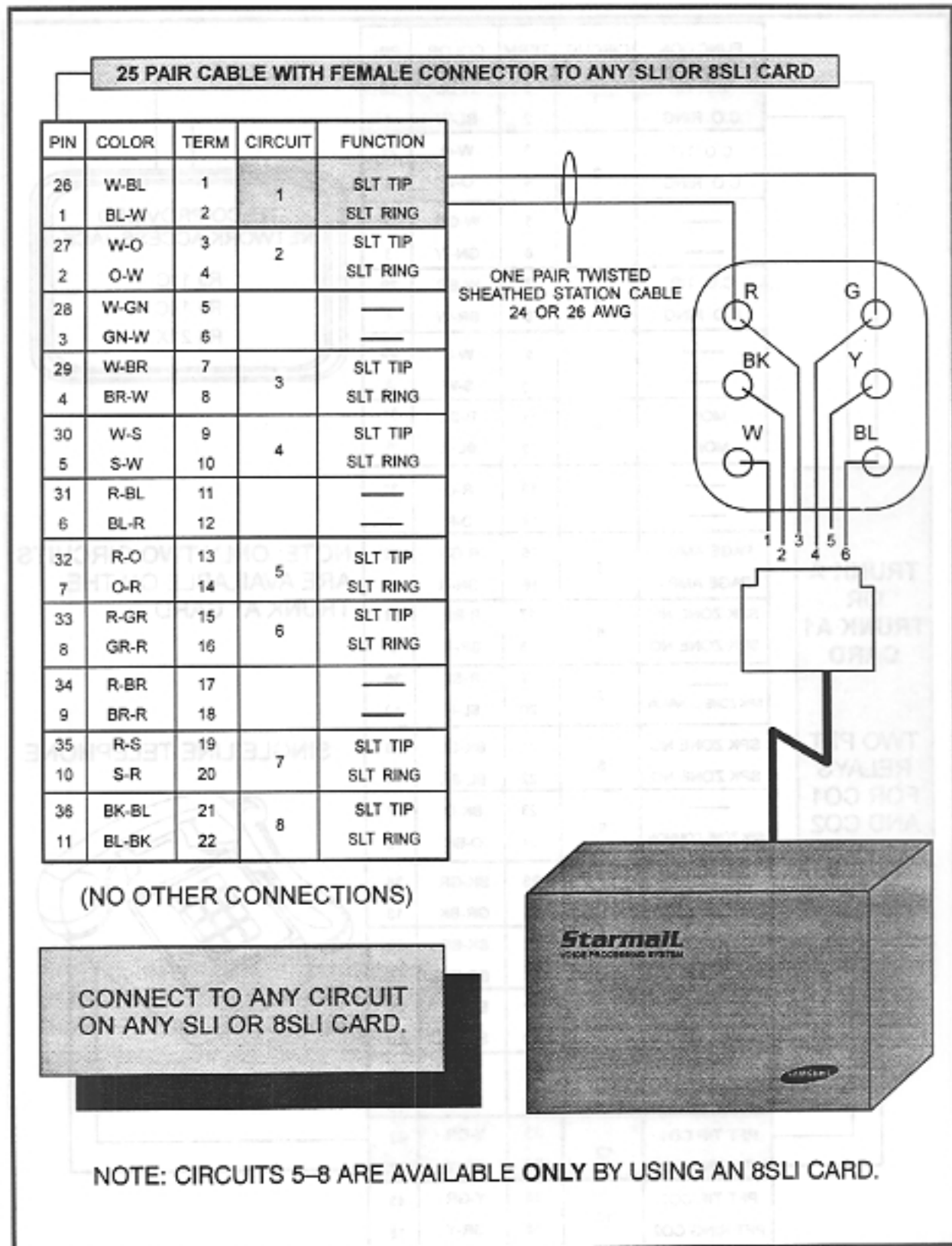
PIN CONNECTIONS FOR SIM TO MODEM

**FIGURE 7-9**



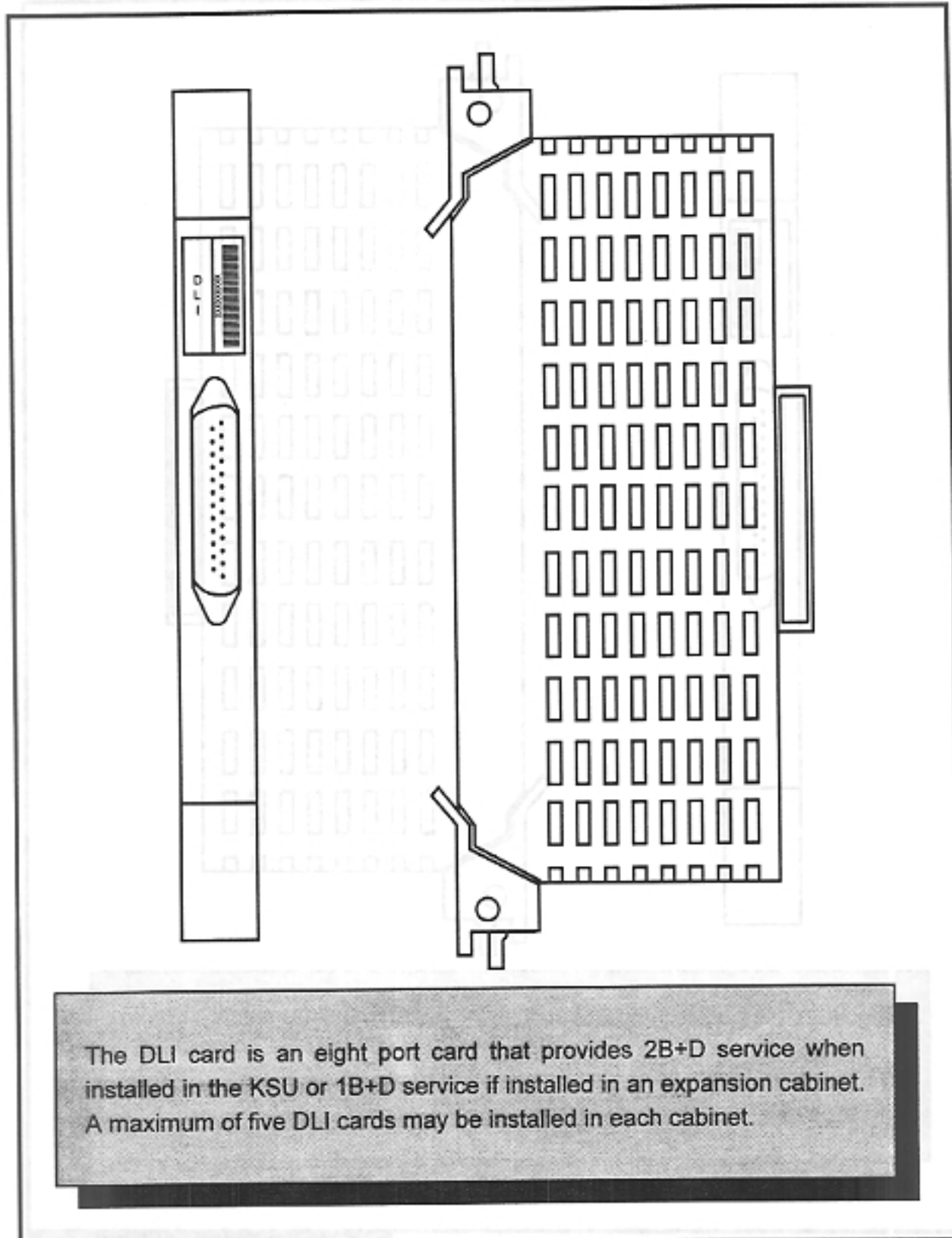
POWER FAILURE TRANSFER CONNECTIONS TO TRUNK A OR TRUNK A1 CARD

**FIGURE 7-10**



MDF CONNECTIONS  
VOICE MAIL TO SLI OR  
8SLI CARD

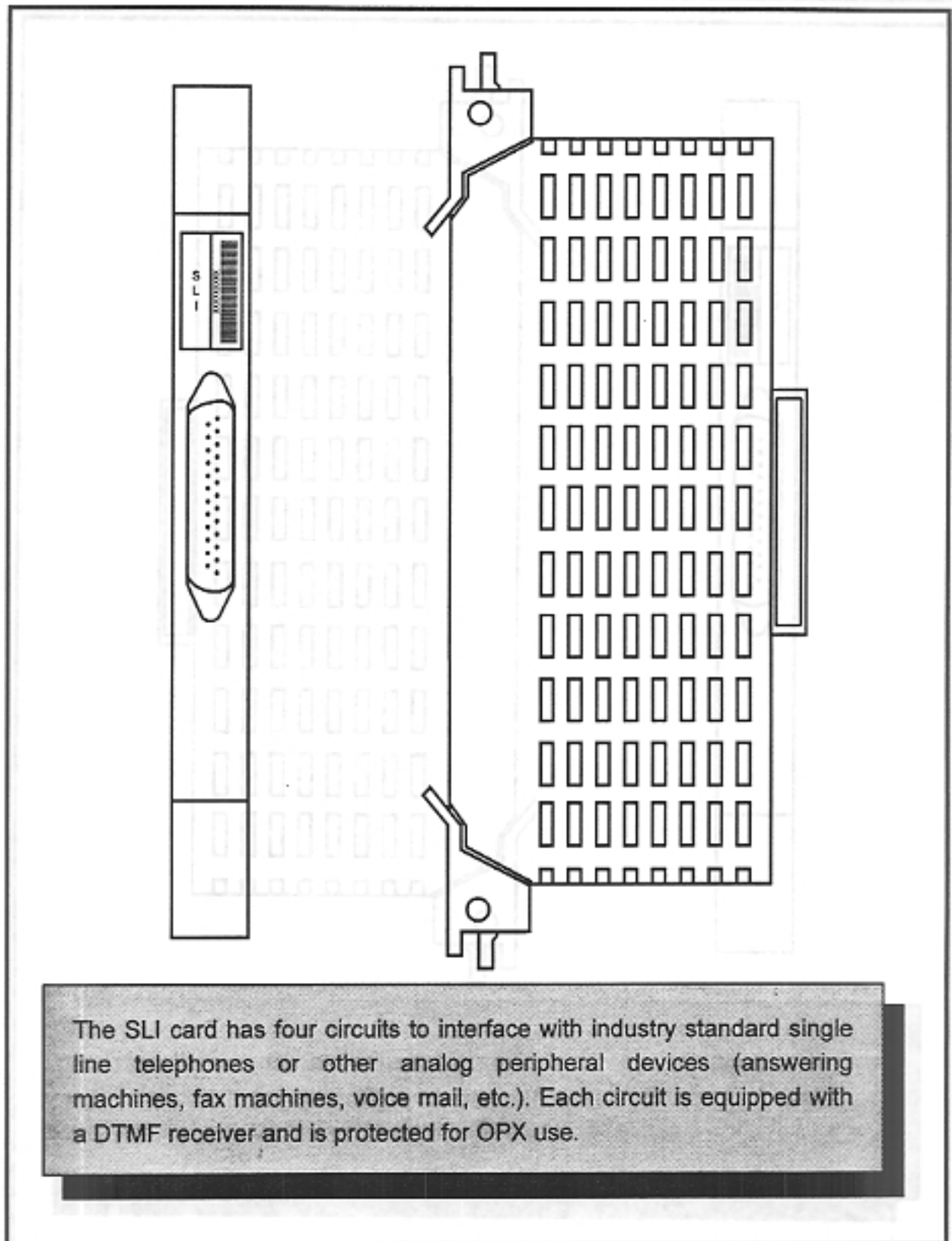
**FIGURE 7-11**



The DLI card is an eight port card that provides 2B+D service when installed in the KSU or 1B+D service if installed in an expansion cabinet. A maximum of five DLI cards may be installed in each cabinet.

DLI CARD

**FIGURE 3-10**

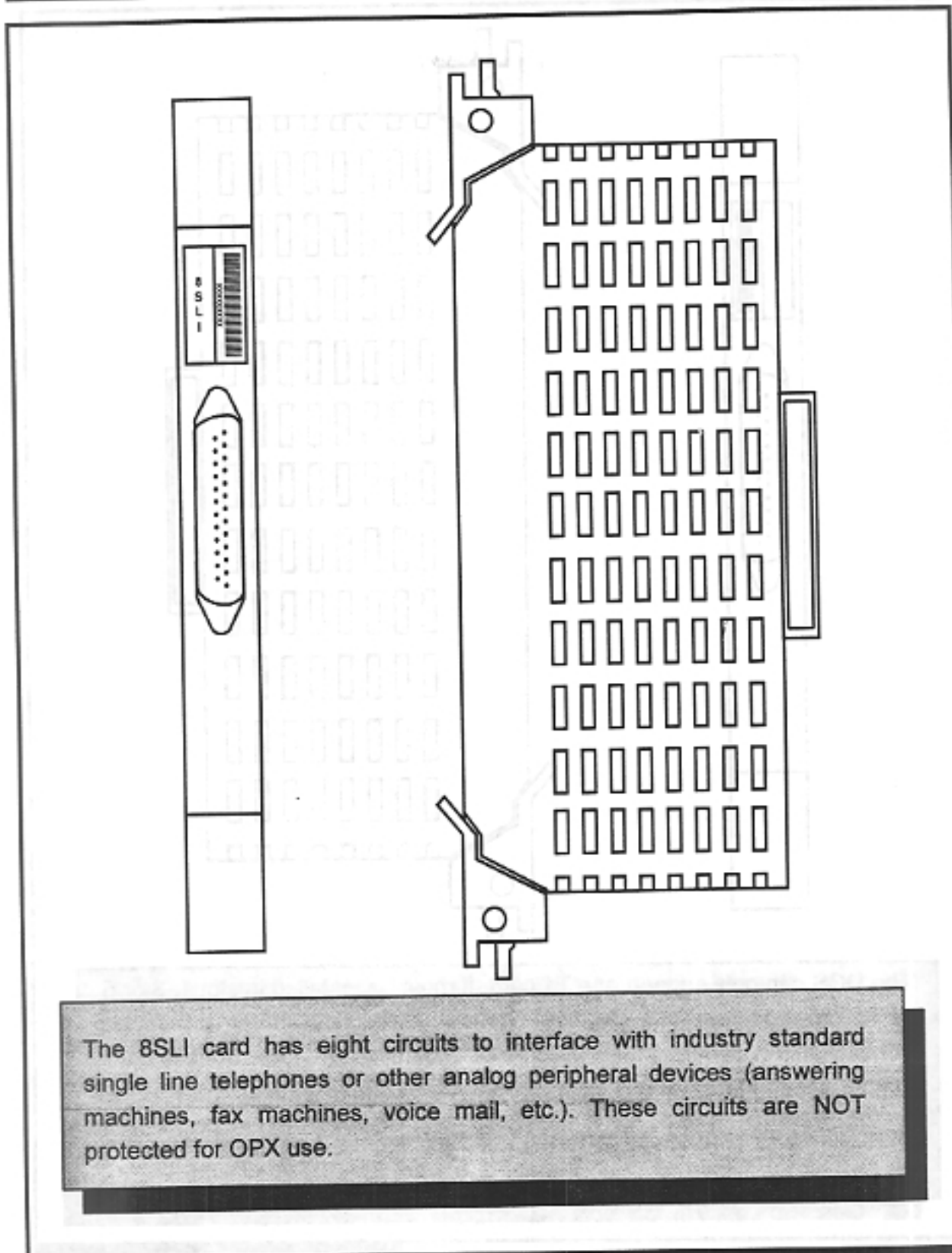


The SLI card has four circuits to interface with industry standard single line telephones or other analog peripheral devices (answering machines, fax machines, voice mail, etc.). Each circuit is equipped with a DTMF receiver and is protected for OPX use.

SLI CARD

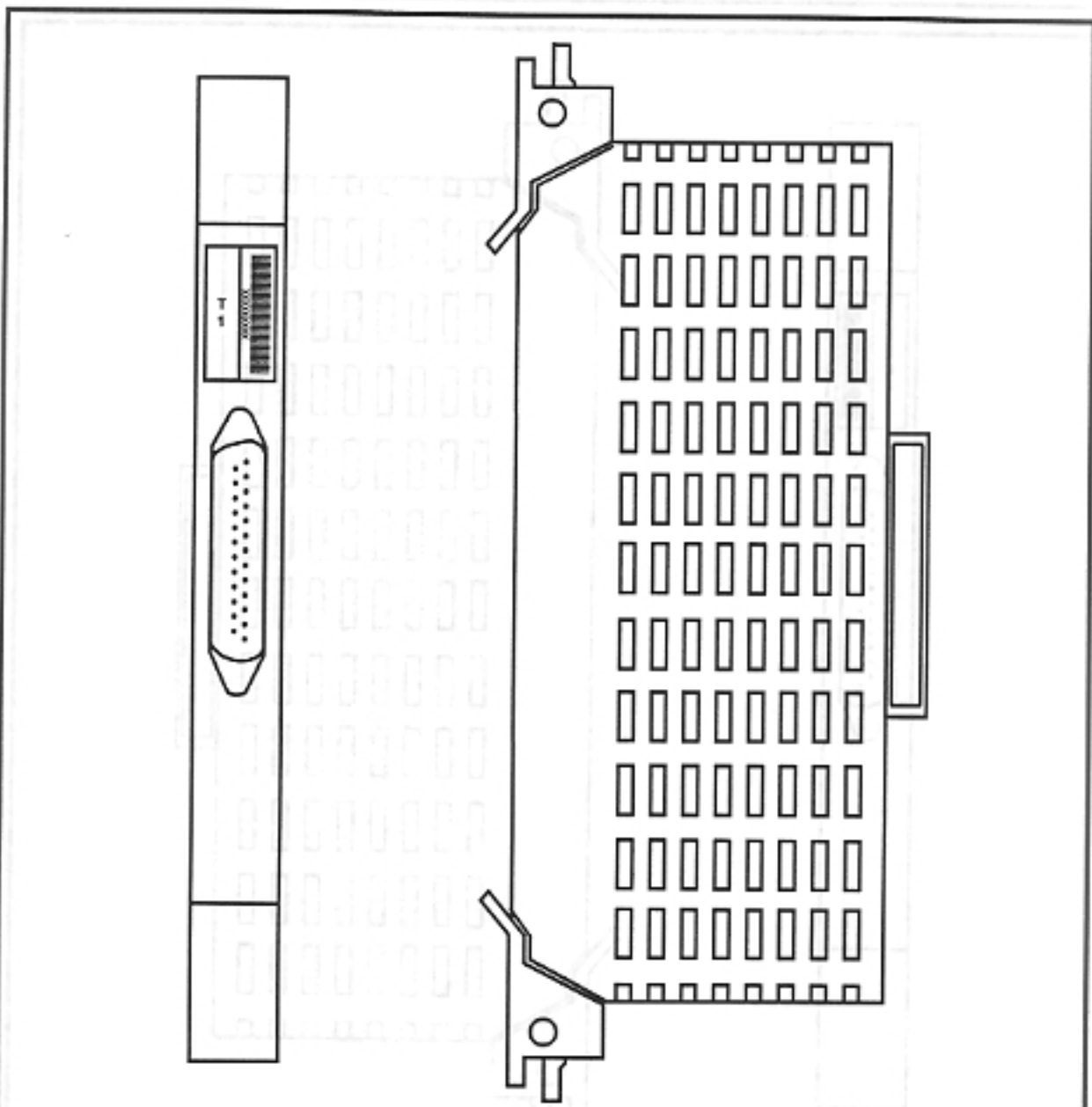
**FIGURE 3-11**





8SLI CARD

**FIGURE 3-12**

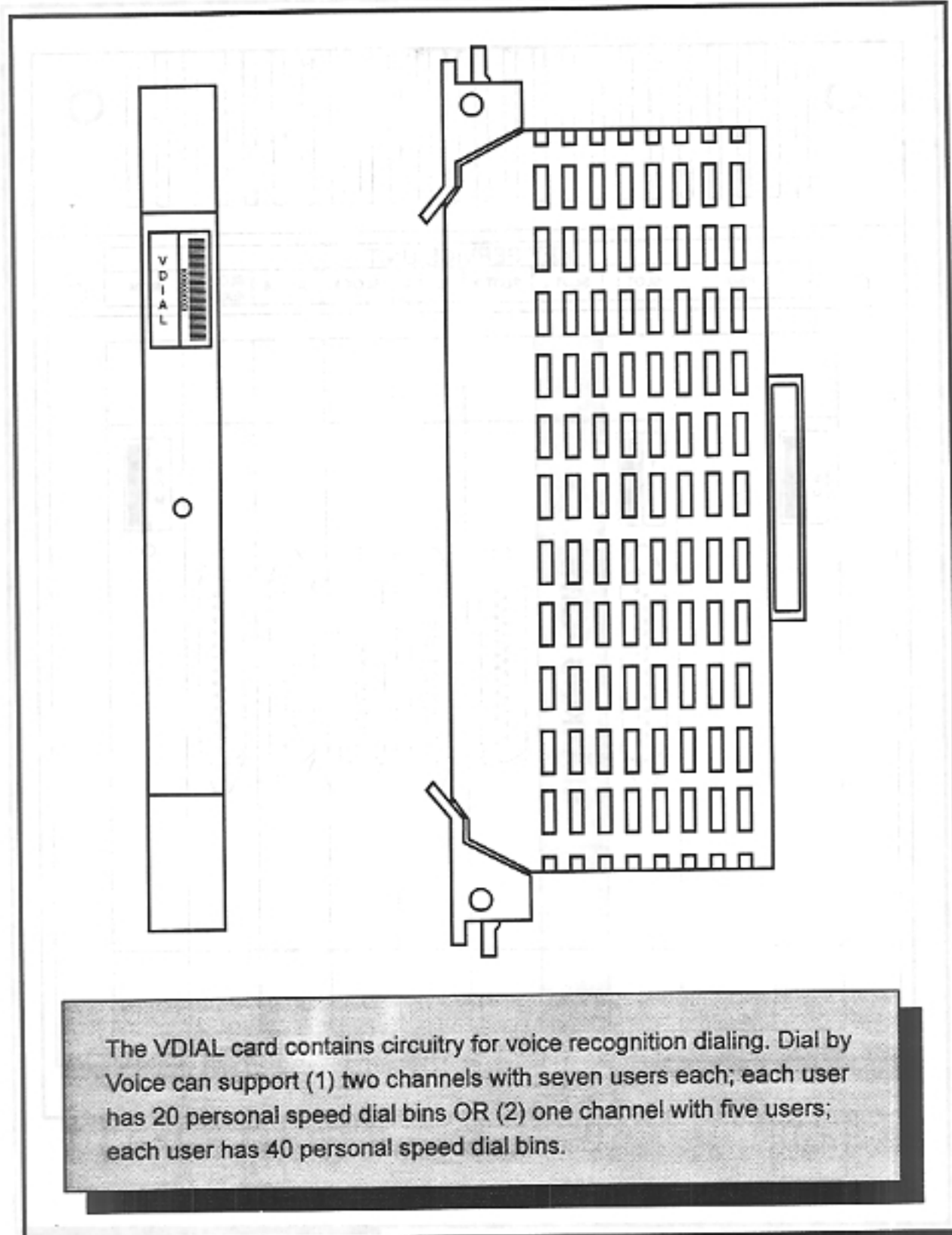


The DCS can only support one T1 card. It must be installed in slot 1, 3 or 5 of the basic cabinet. The adjacent even-numbered slot (2, 4 or 6) must be left empty. The T1 card provides up to 24 trunk circuits. These trunk circuits can be a standard C.O. line, DID circuit or tie line.

NOTE: The T1 card connects to the central office via a customer-provided CSU.

T1 CARD

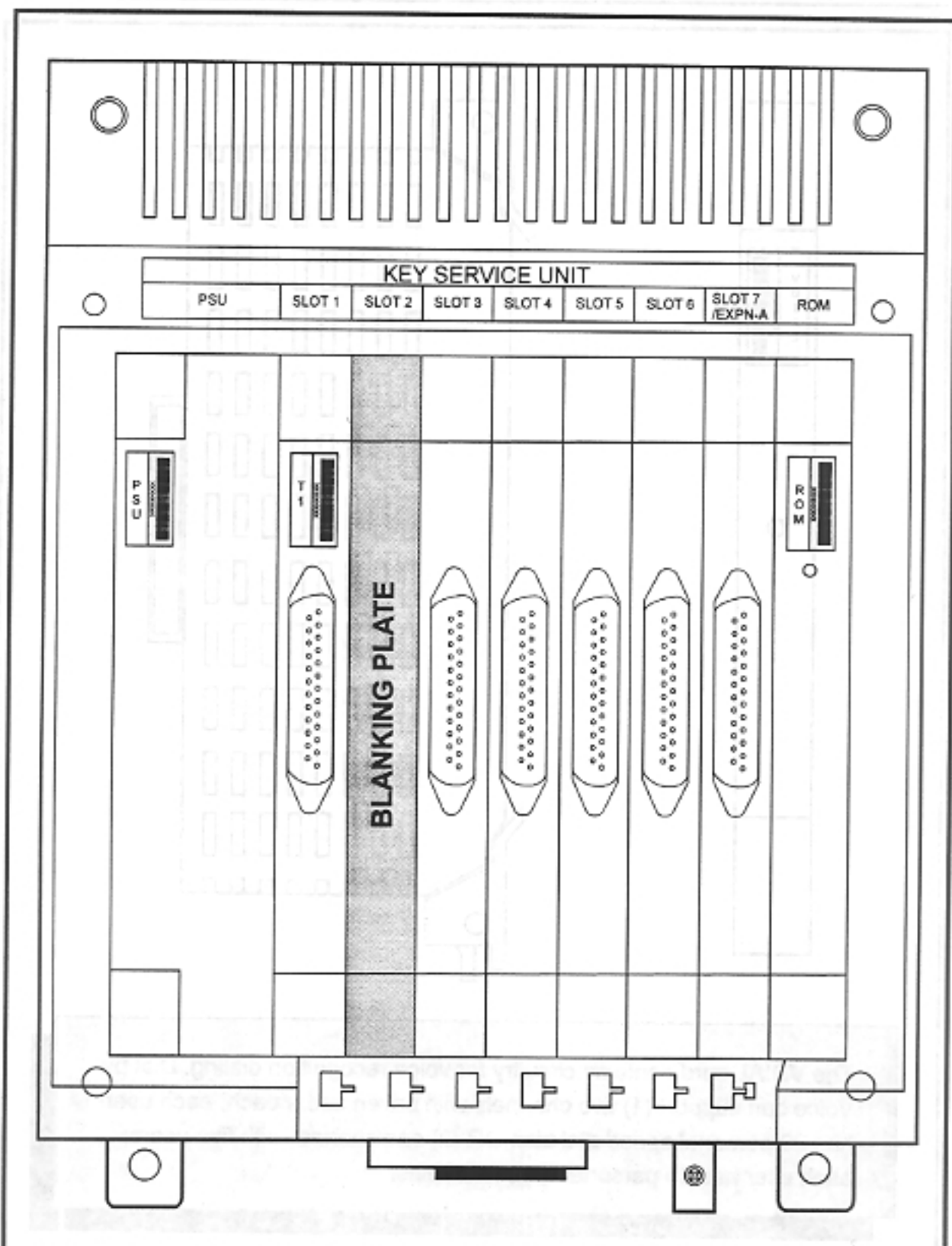
**FIGURE 3-13**



The VDIAL card contains circuitry for voice recognition dialing. Dial by Voice can support (1) two channels with seven users each; each user has 20 personal speed dial bins OR (2) one channel with five users; each user has 40 personal speed dial bins.

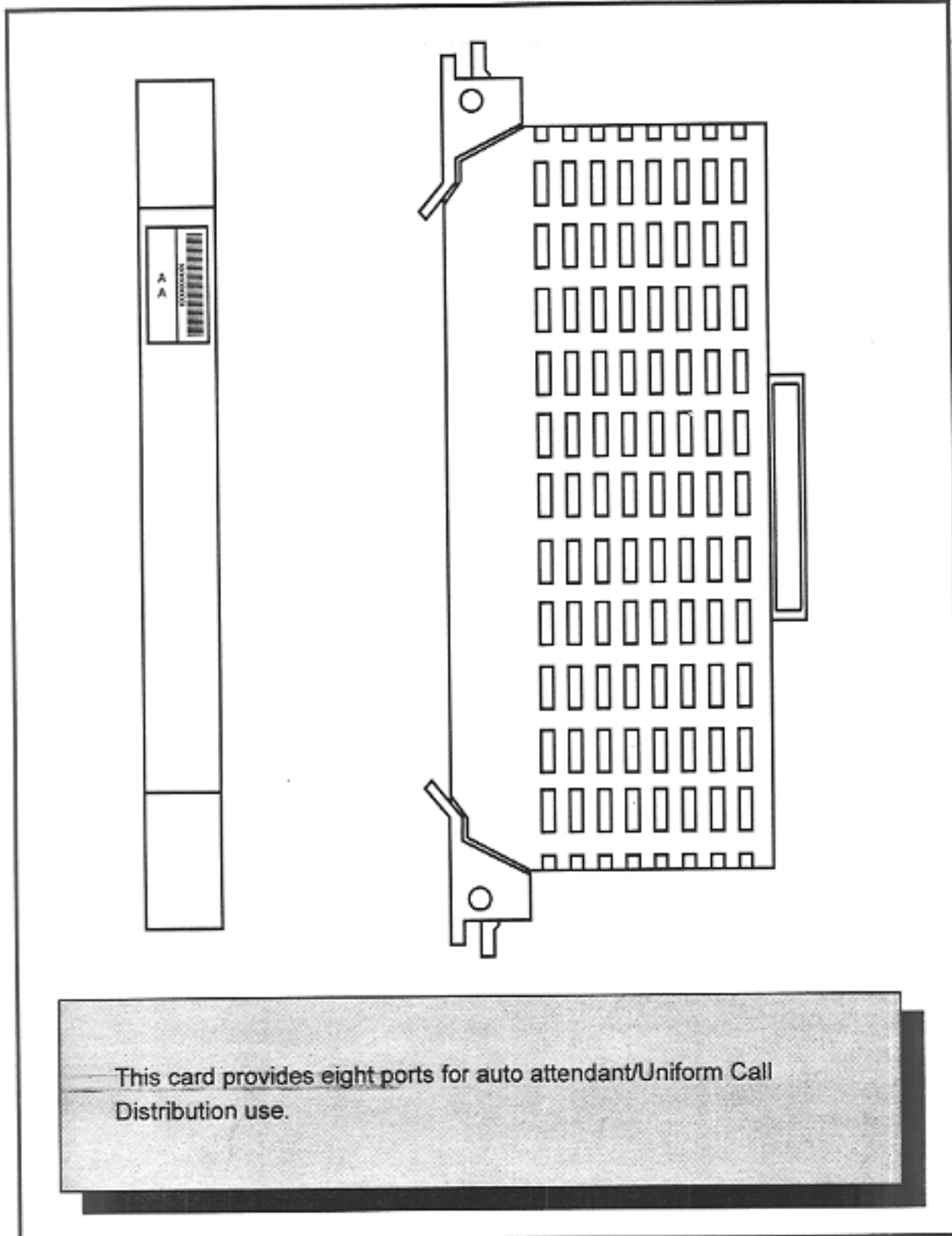
VDIAL CARD

**FIGURE 3-14**



T1 INSTALLATION

**FIGURE 3-15**



AUTO ATTENDANT CARD

**FIGURE 3-16**





## PART 4. POWER UP PROCEDURES

### 4.1 CONNECT POWER TO THE SYSTEM

During the initial installation, it is best to verify proper system operation before plugging in any amphenol-type cables to the MDF. If you have already plugged the cables in, unplug them.

Verify that the AC voltage at the dedicated electric outlet is in the range of 88–132 VAC (PSU-40) or 210–230 VAC (PSU-60). Verify that the AC voltage selection switch on the PSU-60 is set for the proper voltage—110 or 220 VAC (see Figure 2-9).

Verify that a supplemental ground has been connected.

Make sure all of the AC power switches are in the OFF position. Plug one end of the KSU power cord into the power input connector on the KSU and the other into the dedicated polarized AC outlet. Confirm that all expansion cabinets are connected to the KSU with both power extension cables and HDLC cables. Verify that all power switches are in the OFF position.

Turn the AC power switch to the ON position on the expansion cabinet. Turn the AC power switch to the ON position on the KSU. The LED on the ROM pack will light steady and then start flashing to confirm the presence of power and that the processor is running. The LEDs on the expansion cards will light steady red to indicate the presence of power and that the local processor is running. If both KSU lights fail to illuminate, unplug the system, disconnect the expansion cabinet power cords and HDLC cables and repeat the test. If the LEDs on the ROM pack and Expansion A or Expansion A1 card still do not illuminate, unplug the system, remove the power supply and check the AC fuse located on the bottom (see Figure 4-1).

If the fuse is good but the LED does not illuminate, you must correct the problem before continuing. Turn off the power switch. Unplug all cards using the card ejectors. Turn the system on. Check the LEDs again. If the problem is corrected, you have a defective card. Test and remove the faulty card before continuing. If the LEDs still do not light, unplug the KSU and change power supplies. This will probably solve the problem. If it does not, contact Samsung Technical Support.

If the LED on the Expansion A or Expansion A1 card fails to illuminate, switch the KSU off, unplug the HDLC cables and turn the KSU back on. If the Expansion A or Expansion A1 LED still does not light, replace the card and repeat the test. This will probably solve the problem. If it does not, contact Samsung Technical Support.

If the LED on an Expansion B card does not light, unplug and replace the HDLC cable. If this does not cure the problem, unplug and replace the Expansion B card. If the LED

still does not light, unplug the system, remove the expansion cabinet power supply and check the AC fuse located on the bottom (see Figure 4-1).

If the fuse is good but the LED does not illuminate, you must correct the problem before continuing. Turn off the power switch. Unplug all cards using the card ejectors. Turn the system on. Check the LEDs again. If the problem is corrected, you have a defective card. Test and remove the faulty card before continuing. If the LEDs still do not light, unplug the expansion cabinet and change power supplies. This will probably solve the problem. If it does not, contact Samsung Technical Support.

## 4.2 ROM CARD INDICATIONS

After verifying proper operation of the power supply, visually check the ROM card indications. The LED should flicker rapidly, indicating the main processor is functioning.

The system is equipped with a halt program. When this program is running, the LED is ON steady. The system must be reset to release the halt program and restore the system to normal operation. See MMC 810 for operation of the halt program.

## 4.3 PCB VERIFICATION

Before connecting all MDF cabling, plug in a test cable to the first DLI card. Connect a display set and verify that it is working. Use maintenance program MMC 805 to verify the system and software versions and to confirm that all cards are recognized by the CPU. Remove the test cable and plug in all amphenol-type cables to the MDF. At this time, it is recommended that the system is defaulted using MMC 811. See the Programming Section for more details. Proceed with the rest of the installation.

## 4.4 DEFAULT TRUNK AND STATION NUMBERING

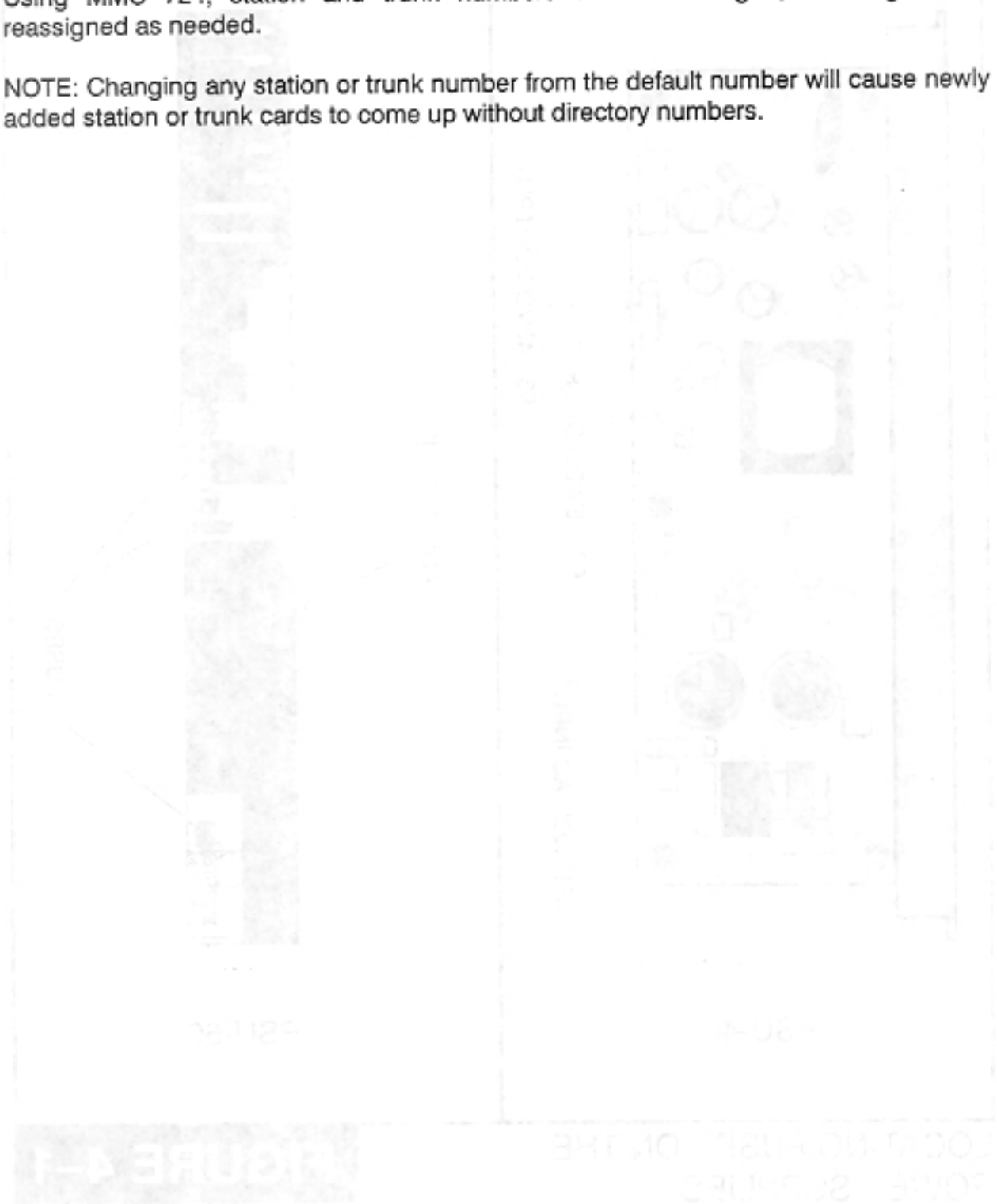
Upon initial power up, the CPU reads each slot for the existence of a card and identifies the type of card. It stores this information as the default configuration. The trunk card in the lowest slot number is assigned trunk numbers beginning with 701. The next highest slot number with a trunk card is assigned trunk numbers following those of the first trunk card. This numbering sequence continues until the last trunk card in the highest slot number is assigned the last trunk number.

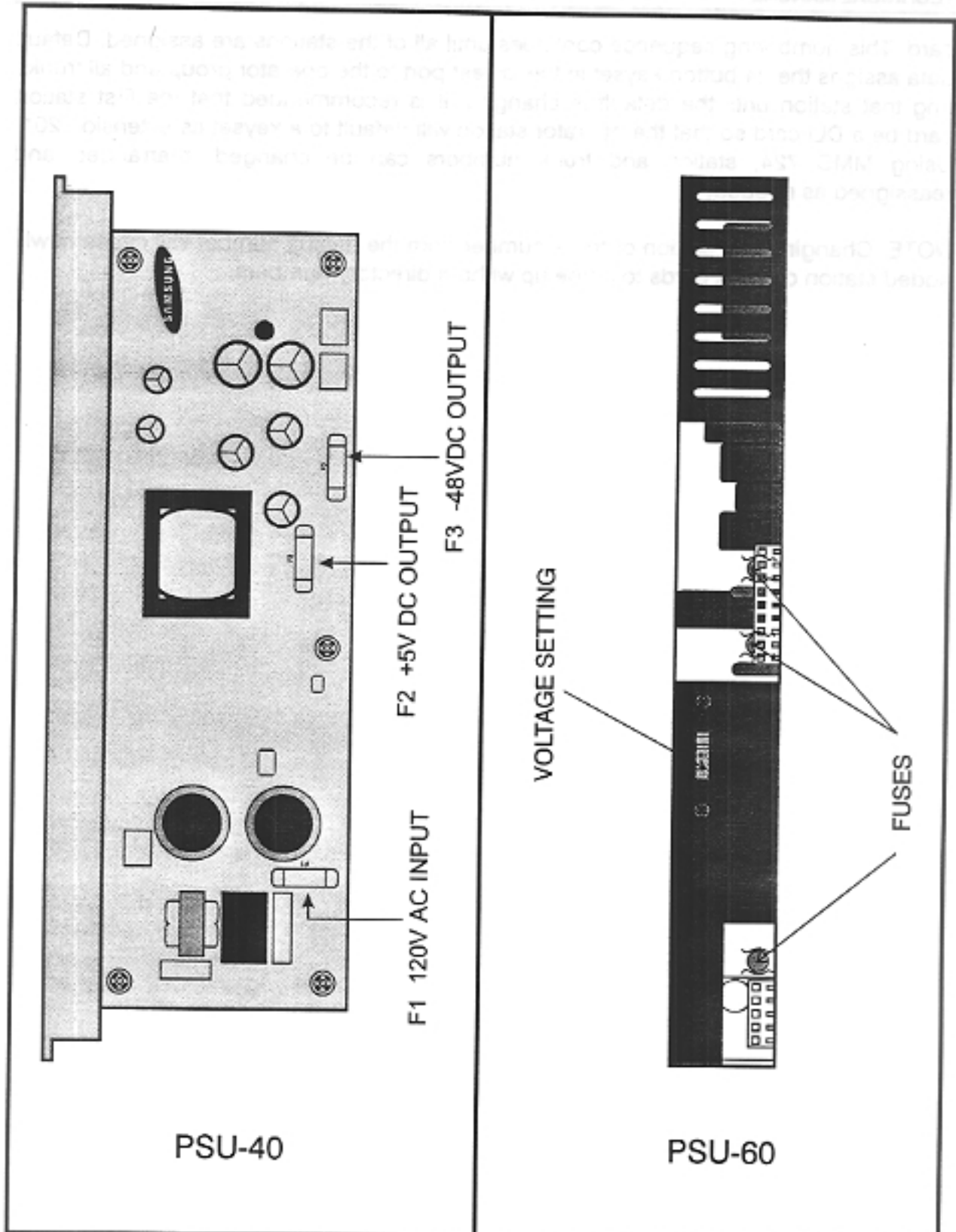
For example, if a Trunk A card is in the first slot, port C1/S1/P1 is assigned trunk number 701 (first cabinet, first slot, first trunk in the system). If the second slot has a Trunk B card installed, port C1/S2/P4 is assigned trunk number 707 (first cabinet second slot, fourth circuit, seventh trunk in the system).

Station numbers are assigned in the same manner. The lowest slot number containing any type of station card is assigned station numbers beginning with 201. The next highest slot with a station card is assigned numbers following those of the first station

card. This numbering sequence continues until all of the stations are assigned. Default data assigns the 24 button keyset in the lowest port to the operator group and all trunks ring that station until the default is changed. It is recommended that the first station card be a DLI card so that the operator station will default to a keyset as extension 201. Using MMC 724, station and trunk numbers can be changed, rearranged and reassigned as needed.

NOTE: Changing any station or trunk number from the default number will cause newly added station or trunk cards to come up without directory numbers.





LOCATING FUSES ON THE  
POWER SUPPLIES

**FIGURE 4-1**

## **PART 5. CONNECTING TELCO CIRCUITS**

### **5.1 SAFETY PRECAUTIONS**

To limit the risk of personal injury, always follow these precautions before connecting TELCO circuits:

- a. Never install telephone wiring during a lightning storm.
- b. Never install telephone jacks in a wet location unless the jack is specifically designed for wet locations.
- c. Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- d. Use caution when installing or modifying telephone lines.

### **5.2 LOOP START LINES**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each loop start C.O. line to the Trunk A, Trunk A1, Trunk B, Trunk B1 or Trunk C1 port of your choice (see Figures 5-1, 5-2 and 5-5).

### **5.3 GROUND START LINES**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each ground start C.O. line to the GTRK port of your choice (see Figure 5-6).

### **5.4 DID LINES**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each DID C.O. line to the DID card port of your choice (see Figure 5-7).

### **5.5 E & M TIE LINES**

Using two pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each E & M tie line to the E & M card port of your choice (see Figure 5-8).

### **5.6 OFF PREMISE EXTENSIONS (OPX)**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect DCS single line extensions to telephone company OPX circuits (see Figure 5-3). Circuits on the SLI card are specifically designed to meet TELCO requirements for OPX use. These circuits are provided with the same overvoltage and overcurrent protection as that of C.O. line circuits. Using single line stations on an 8SLI card or a KDb-SLI requires the installation of external mounted protection devices.

There is no special programming required for OPX use; however, it is suggested that the OPX ports are set for CO ring in MMC 208. The telephone company service facility interface code for OPX circuits is OL13C. The 8SLI does not provide this protection.

## 5.7 T1 CIRCUIT

Using the cable provided with the T1 card, connect the customer provided Channel Service Unit (CSU) to the DCS system as shown in Figure 5-4.

### NOTES:

1. It may be necessary to cut off the CSU end of the Samsung-provided cable and attach a different connector to match that of the CSU. If possible, this connection should be soldered because good connections are critical.
2. If the distance between the CSU and the DCS exceeds the length of the Samsung-provided cable, a new cable should be made up. This cable should be made from 22 gauge two pair cable with each pair individually shielded. It is recommended that the connections on this cable be soldered wherever possible to ensure good connections. The shielding of the cable should be connected to ground at the CSU end only to prevent a ground loop.
3. It is recommended that the CSU be connected to the network interface with a cable supplied by the CSU manufacturer. If this is not possible or practical, a custom cable has to be made up. This cable should be made from 22 gauge two pair cable with each pair individually shielded. It is recommended that the connections on this cable be soldered wherever possible to ensure good connections. The shielding of the cable should be connected to ground at the CSU end only to prevent a ground loop.

## ORDERING A T1

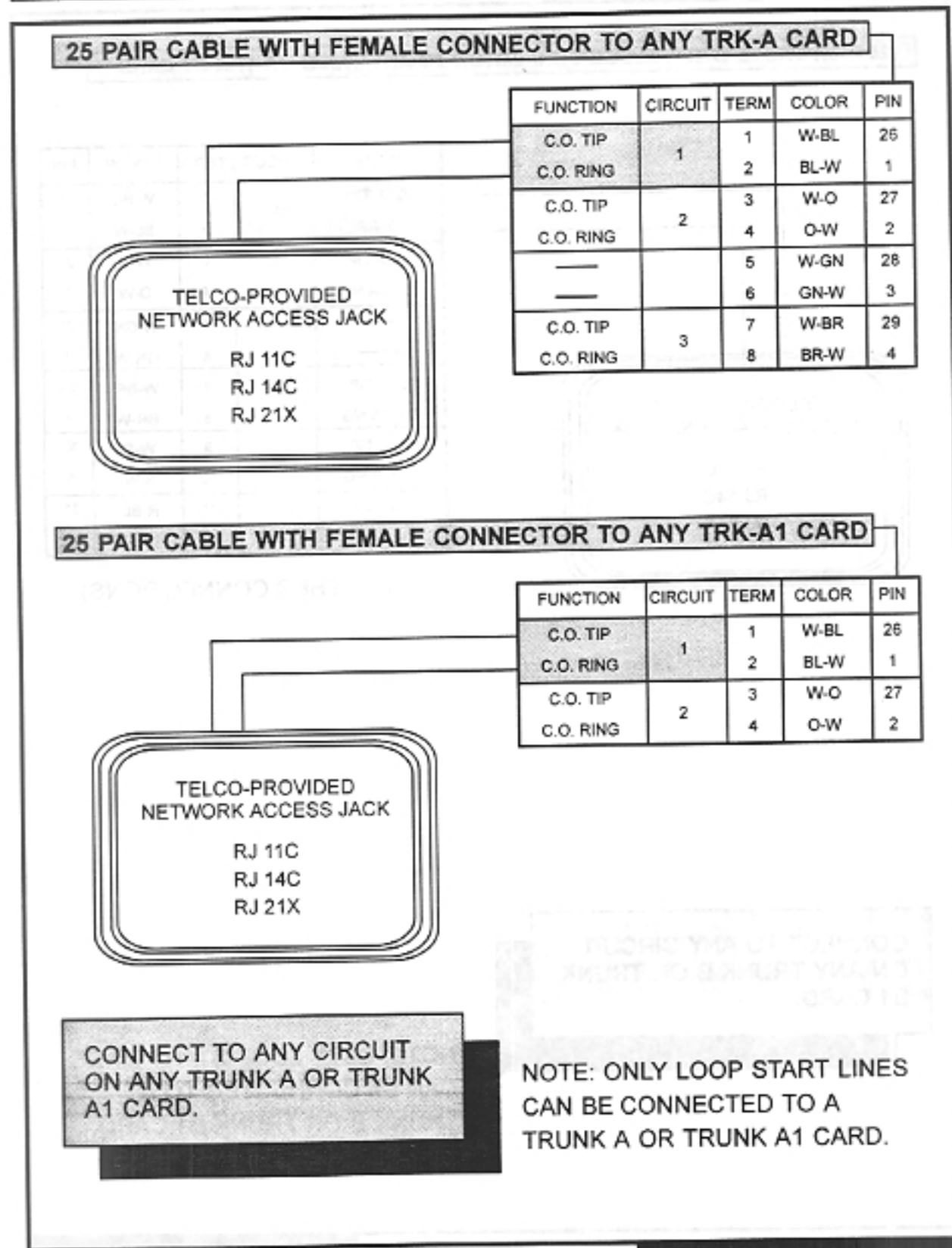
The following information may be useful when ordering T1 service from the telephone company.

PARAMETER	OPTIONS IN DCS
Framing type	Super Frame (SF) or D4
Coding type	AMI or B8ZS

The coding type may be set up in the DCS to match the T1 span and is contained in MMC 808.

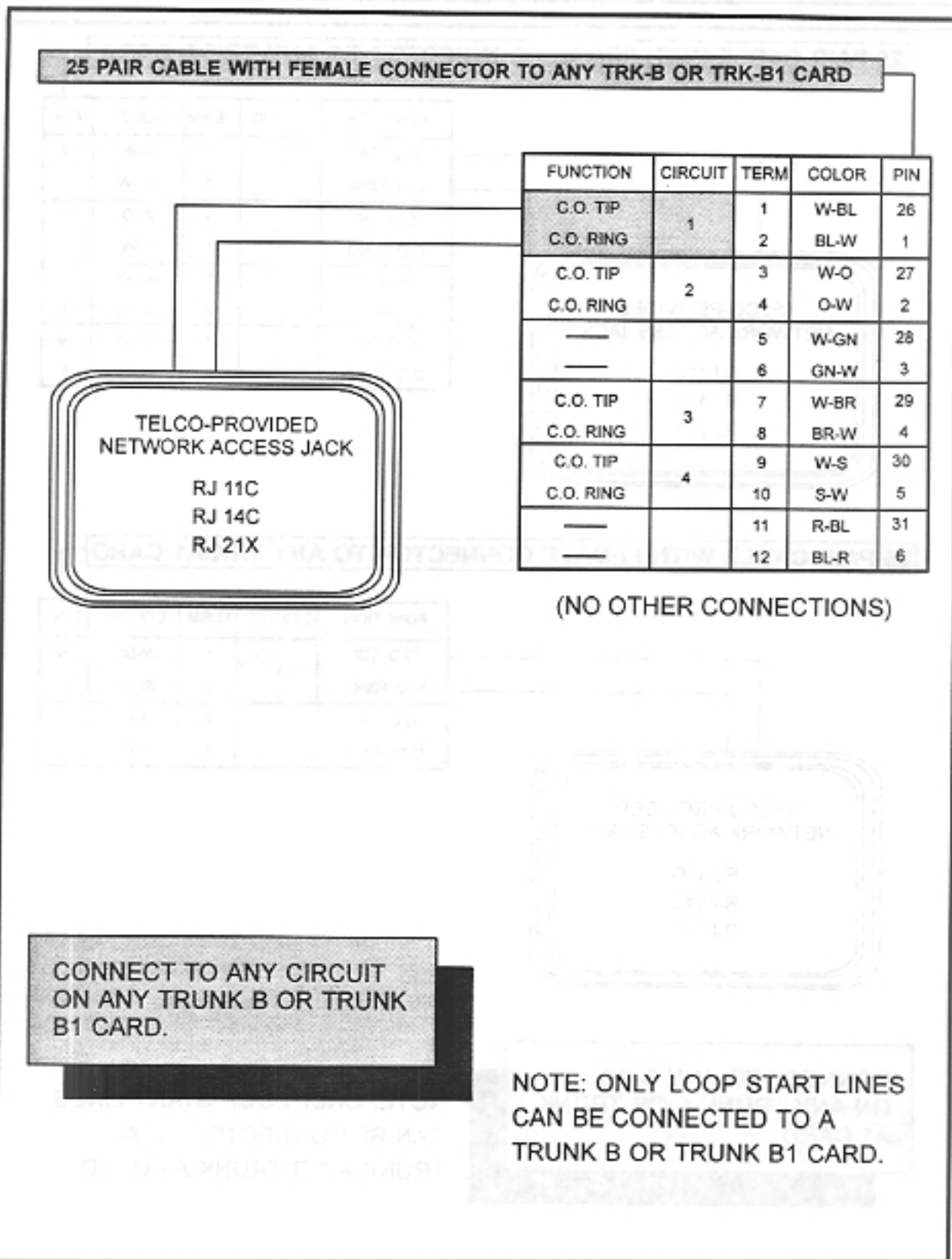
**NOTE:** The use of DCSU is not supported at this time.





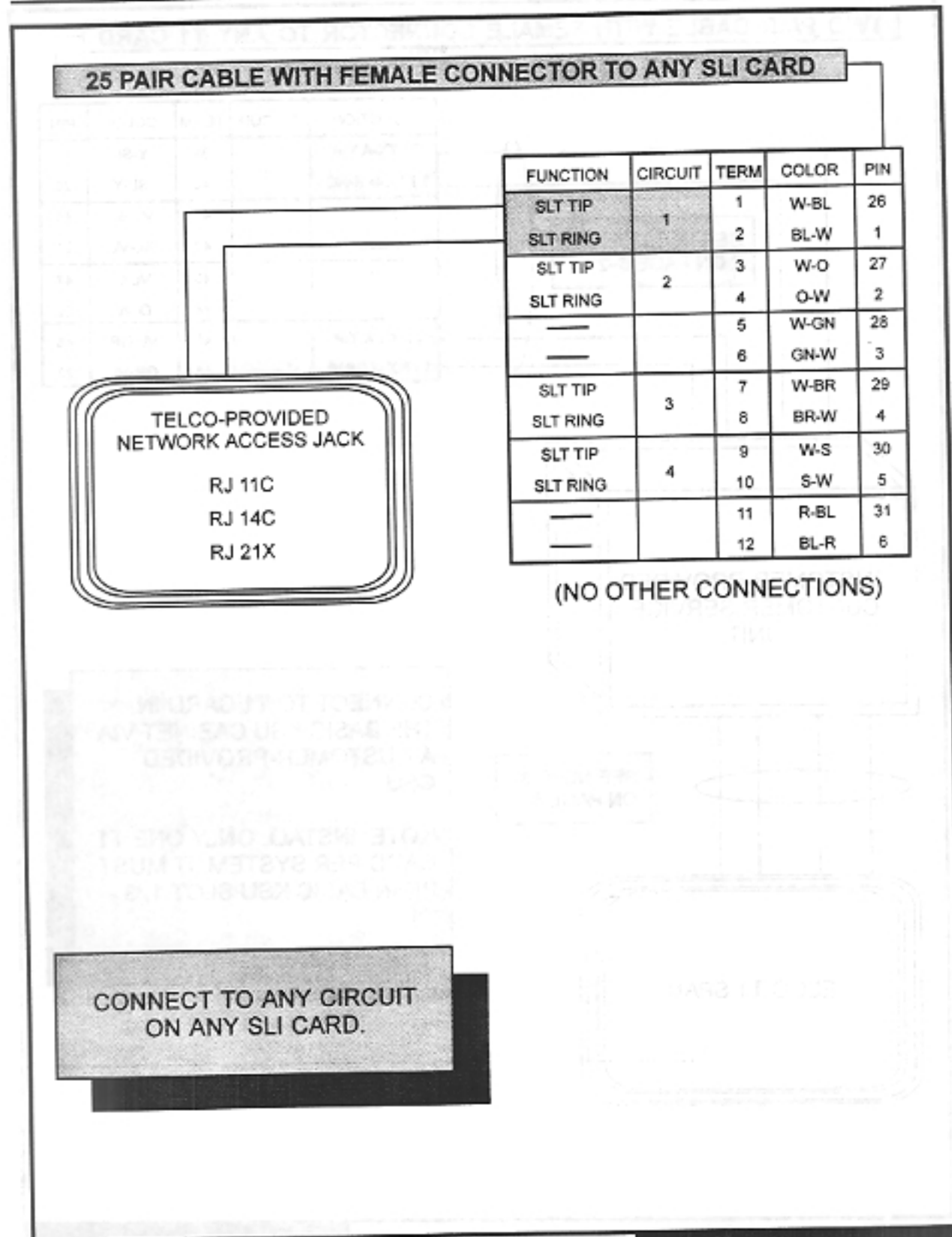
MDF CONNECTIONS  
LOOP START LINE TO TRUNK A OR  
TRUNK A1 CARD

**FIGURE 5-1**



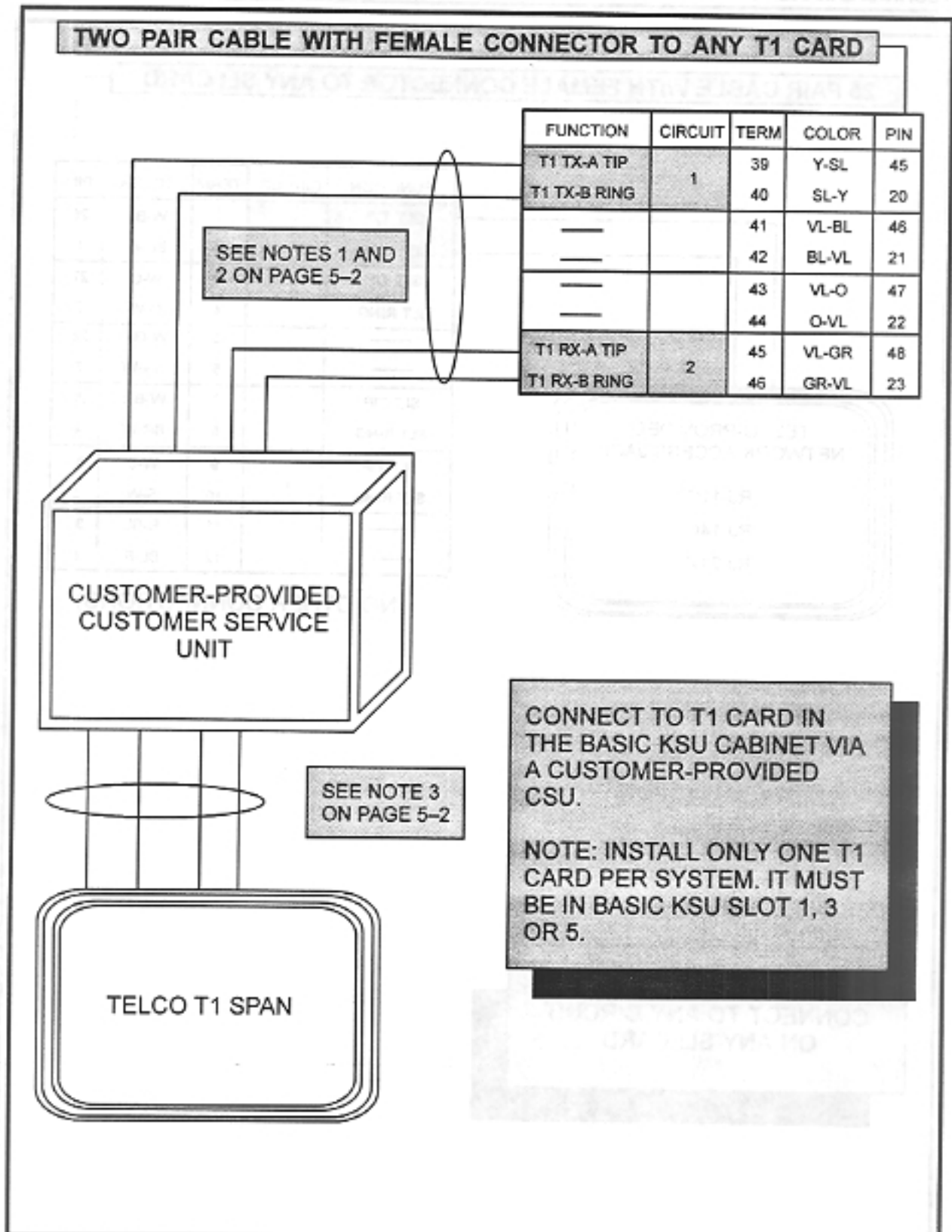
MDF CONNECTIONS  
LOOP START LINE TO TRUNK B  
OR TRUNK B1 CARD

**FIGURE 5-2**



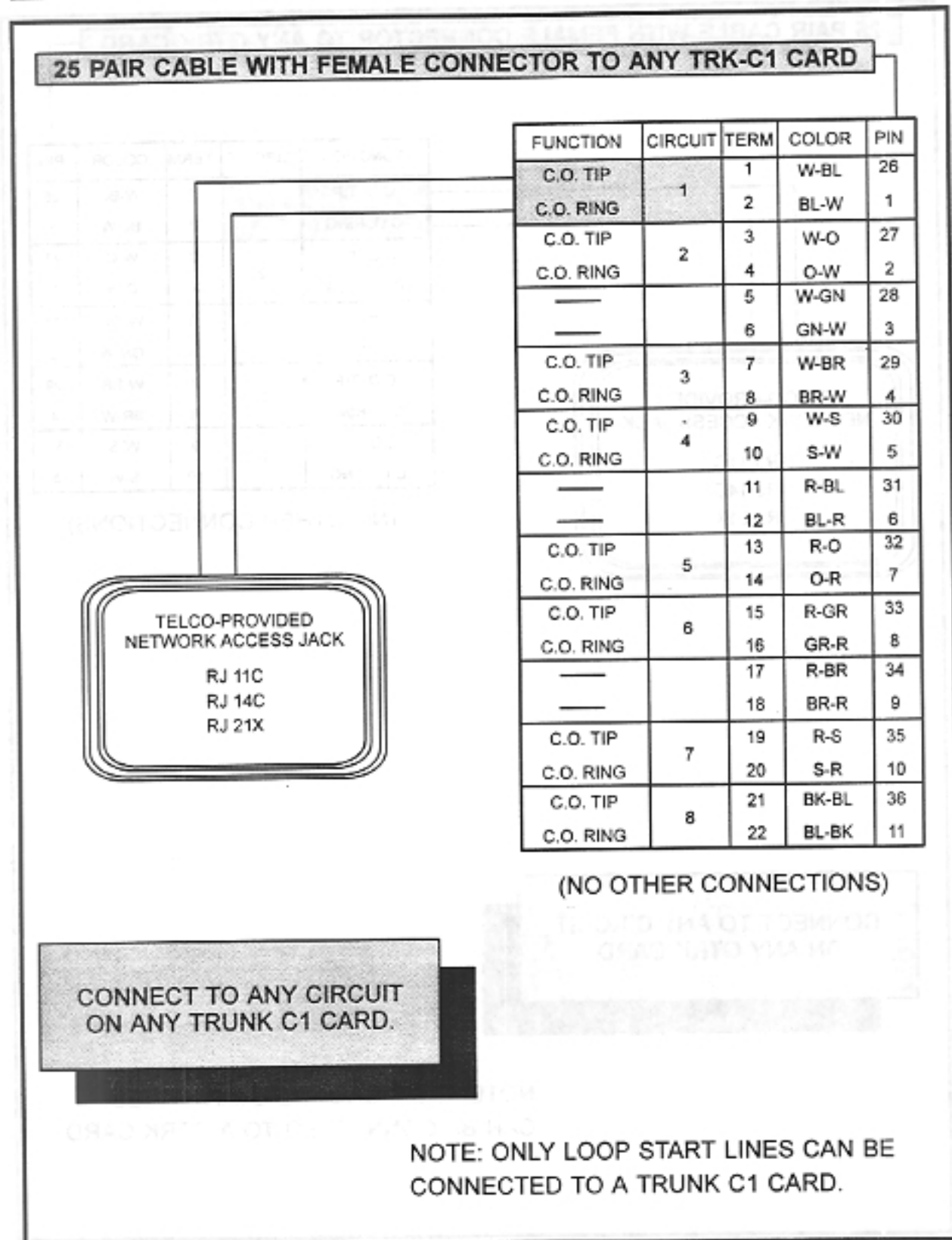
MDF CONNECTIONS  
OFF PREMISE EXTENSION  
FROM SLI CARD

**FIGURE 5-3**



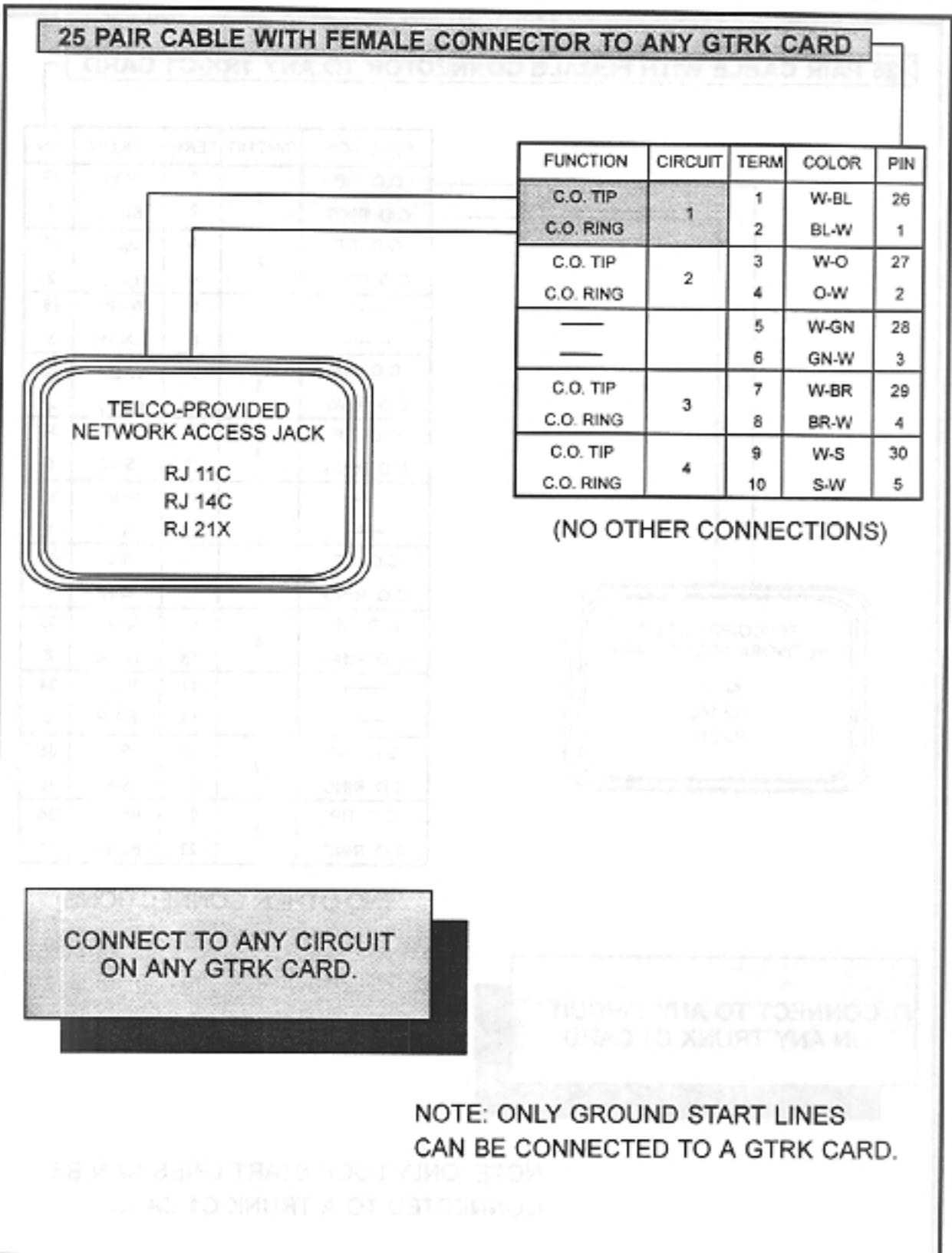
MDF CONNECTIONS  
T1 CIRCUIT TO T1 CARD

**FIGURE 5-4**



MDF CONNECTIONS  
LOOP START LINE TO  
TRUNK C1 CARD

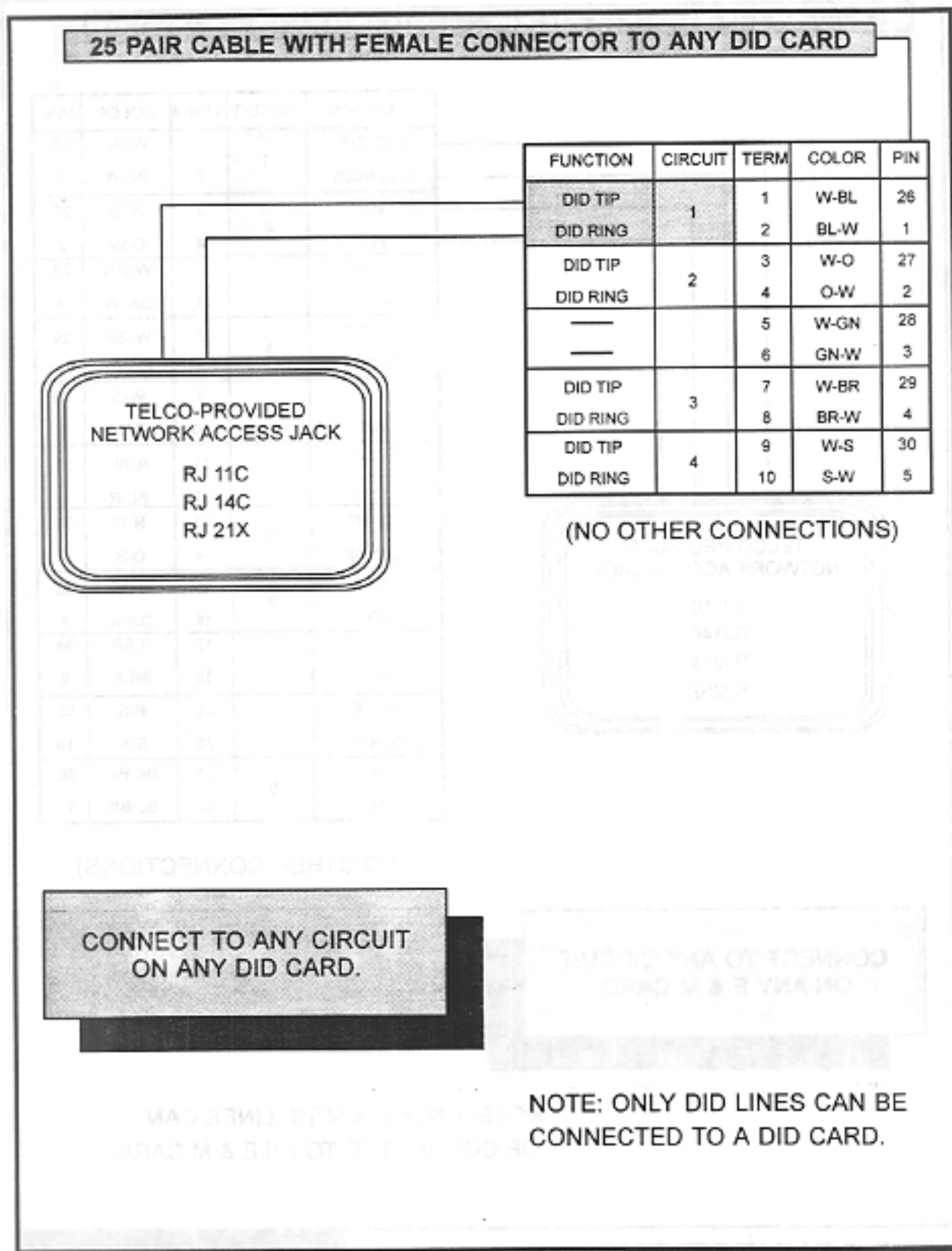
**FIGURE 5-5**



MDF CONNECTIONS  
GROUND START LINE TO  
GTRK CARD

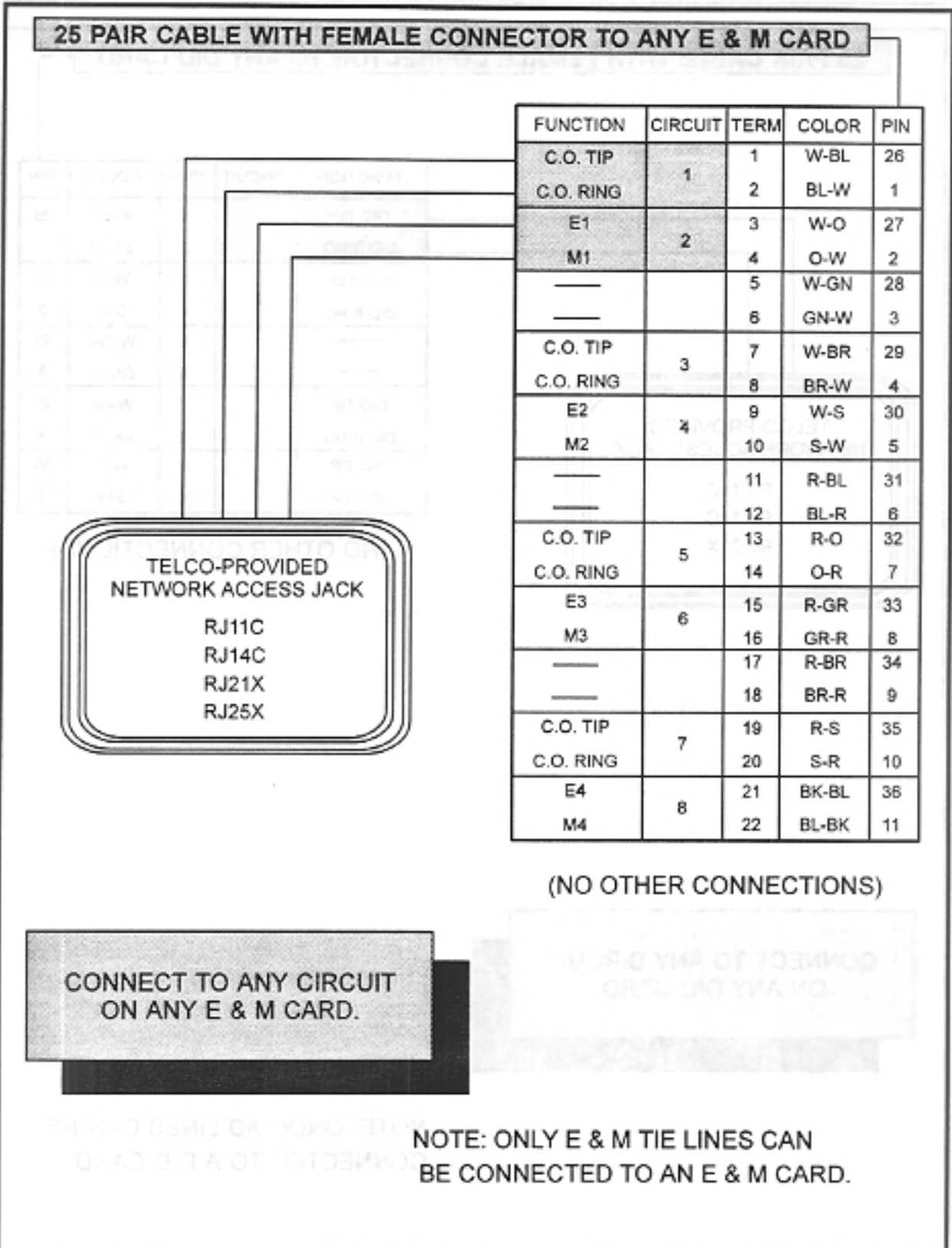
**FIGURE 5-6**





MDF CONNECTIONS  
DID LINE TO DID CARD

**FIGURE 5-7**



**MDF CONNECTIONS  
E & M TIE LINE TO E & M CARD**

**FIGURE 5-8**

## **PART 6. CONNECTING STATION EQUIPMENT**

### **6.1 SAFETY PRECAUTIONS**

To limit the risk of personal injury, always follow these precautions before connecting telephone circuits:

- a. Never install telephone wiring during a lightning storm.
- b. Never install telephone jacks in a wet location unless the jack is specifically designed for wet locations.
- c. Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- d. Use caution when installing or modifying telephone lines.

### **6.2 DCS KEYSETS**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each keyset to the DLI port of your choice (see Figure 6-1).

NOTE: Because the DCS is a self-configuring system, if you connect a 12 button keyset to a DLI port that previously had a 24 button keyset installed, the existing data will be rewritten with 12 button keyset default data (MMC 723). This can be avoided if you first SAVE the keyset data using MMC 720.

### **6.3 ADD-ON MODULES**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each add-on module (AOM) to the DLI port of your choice (see Figure 6-2). If an AOM is to operate as a stand-alone unit, there is nothing else required other than assigning soft keys. When an AOM is to be used with a station, it must be assigned to that station in MMC 309. Add-on modules can be assigned to any keyset or single line telephone.

### **6.4 SINGLE LINE TELEPHONES**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each single line telephone to the SLI port or 8SLI port of your choice (see Figures 6-3a and 6-3b).

### **6.5 DOOR PHONE AND DOOR LOCK RELEASE**

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each DPIM to the DLI port of your choice (see Figure 6-4). Next, connect the DPIM to the door phone using #24 AWG or #26 AWG twisted pair wire.

When a customer-provided electric door release is installed, cross-connect the corresponding door release contacts on the DPIM to the door lock mechanism (see

Figure 6-4). Use MMC 501 to program the duration of the contact closure as required. See the user guides for door lock release operation. The door release contacts on the DPIM are to be used for low voltage relay control only. The contacts are rated at 24 VDC-1 amp.

**WARNING:** Do not attempt to connect commercial AC power to these contacts.

## 6.6 SIM (RS232C)

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each SIM to the DLI port of your choice (see Figure 6-5).

## 6.7 WALL-MOUNTING KEYSETS

DCS keysets come equipped with a reversible base wedge. To wall-mount a keyset, remove the wedge from the keyset and remove the directory tray from the wedge. Mount the wedge to the wall using one of the methods below (see Figure 6-6).

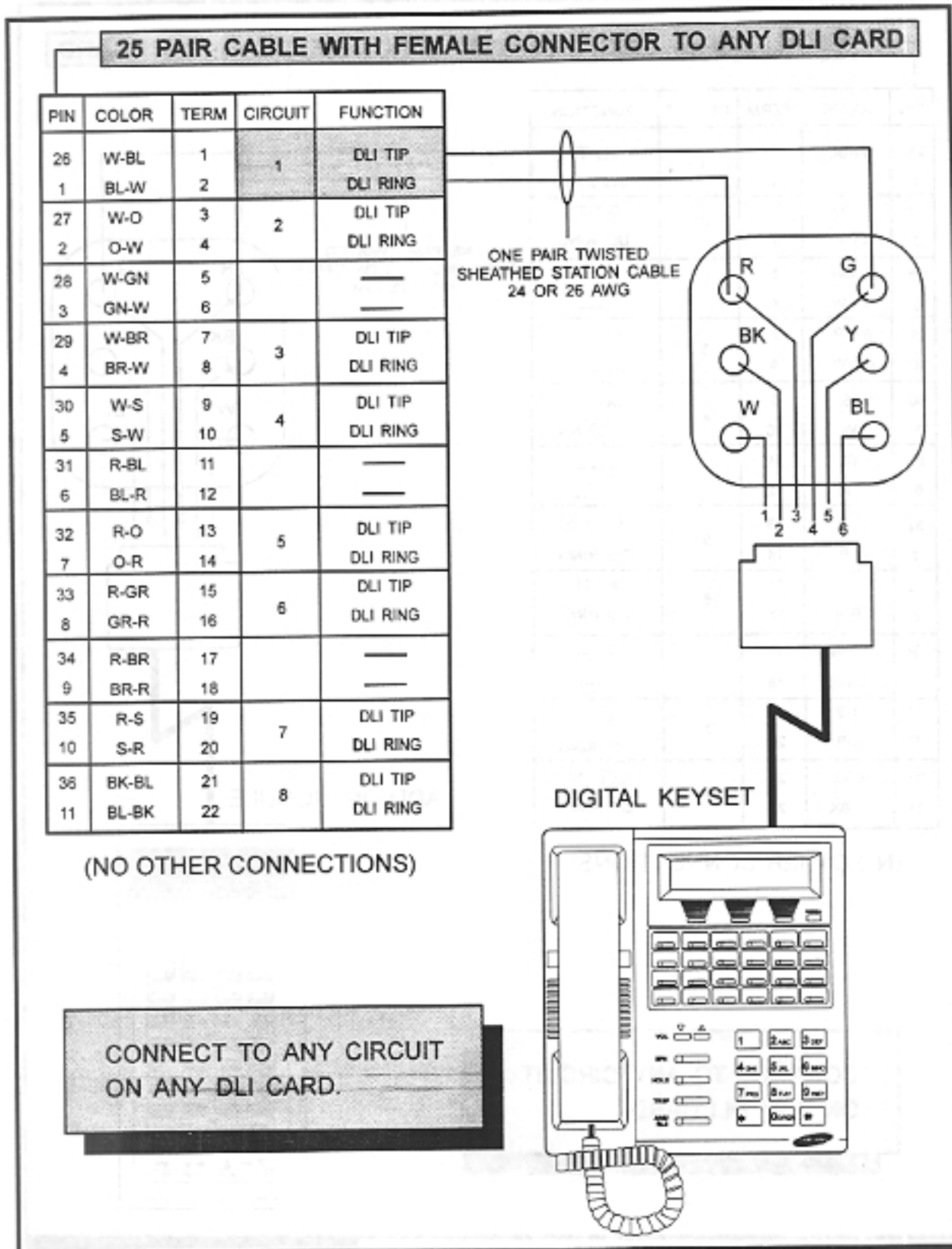
Use screw holes 1 and 2 to attach the base wedge to a standard electrical outlet box.

OR

Use screw holes 1 and 3 to attach to a standard telephone wall-mount plate with locking pins. This method can cause the keyset to wobble as the keyset feet do not fit securely to the mounting surface.

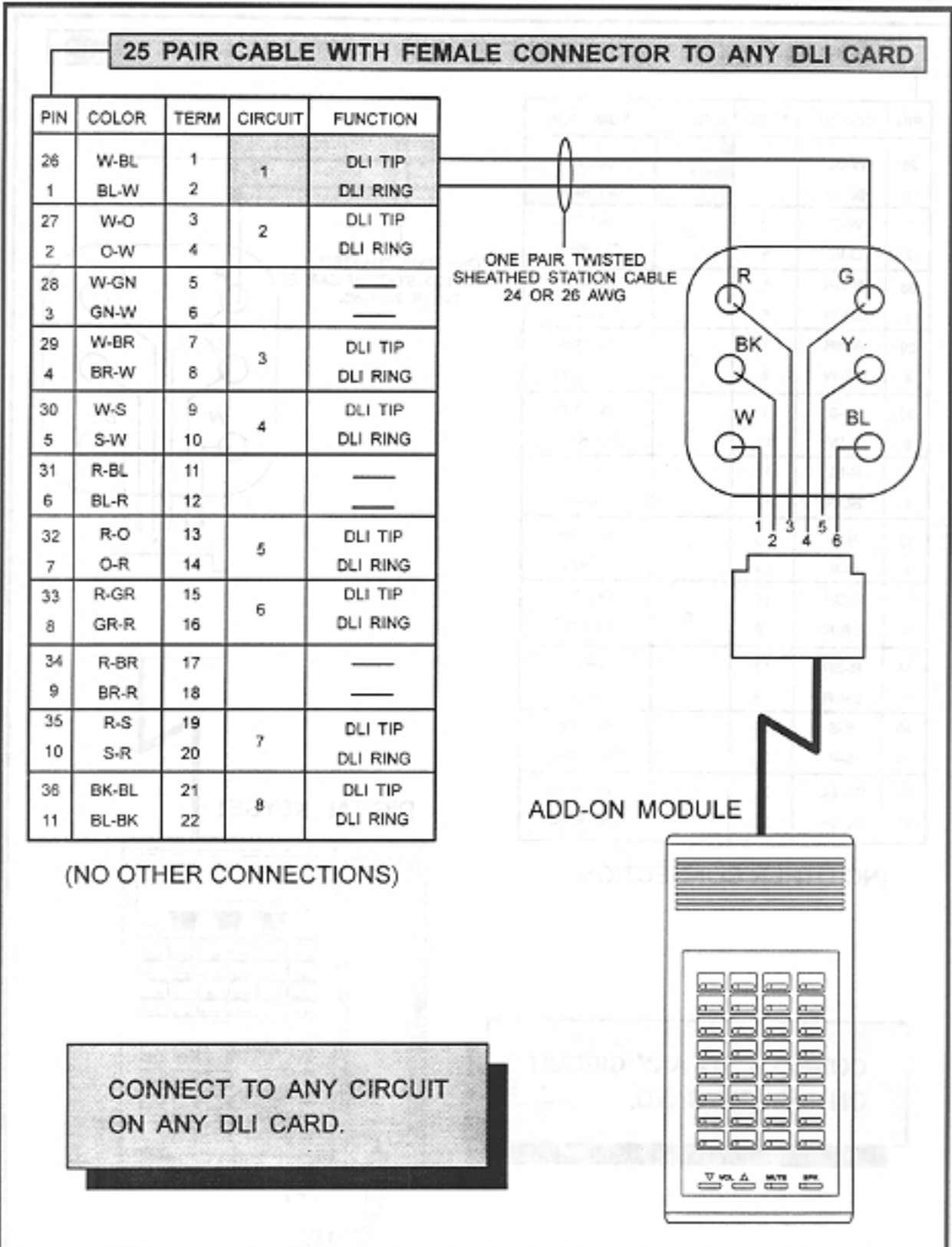
OR

Use screw holes 4 and 5 if you are mounting on dry wall with a hole in the middle for cable access.



MDF CONNECTIONS  
DIGITAL KEYSET TO DLI CARD

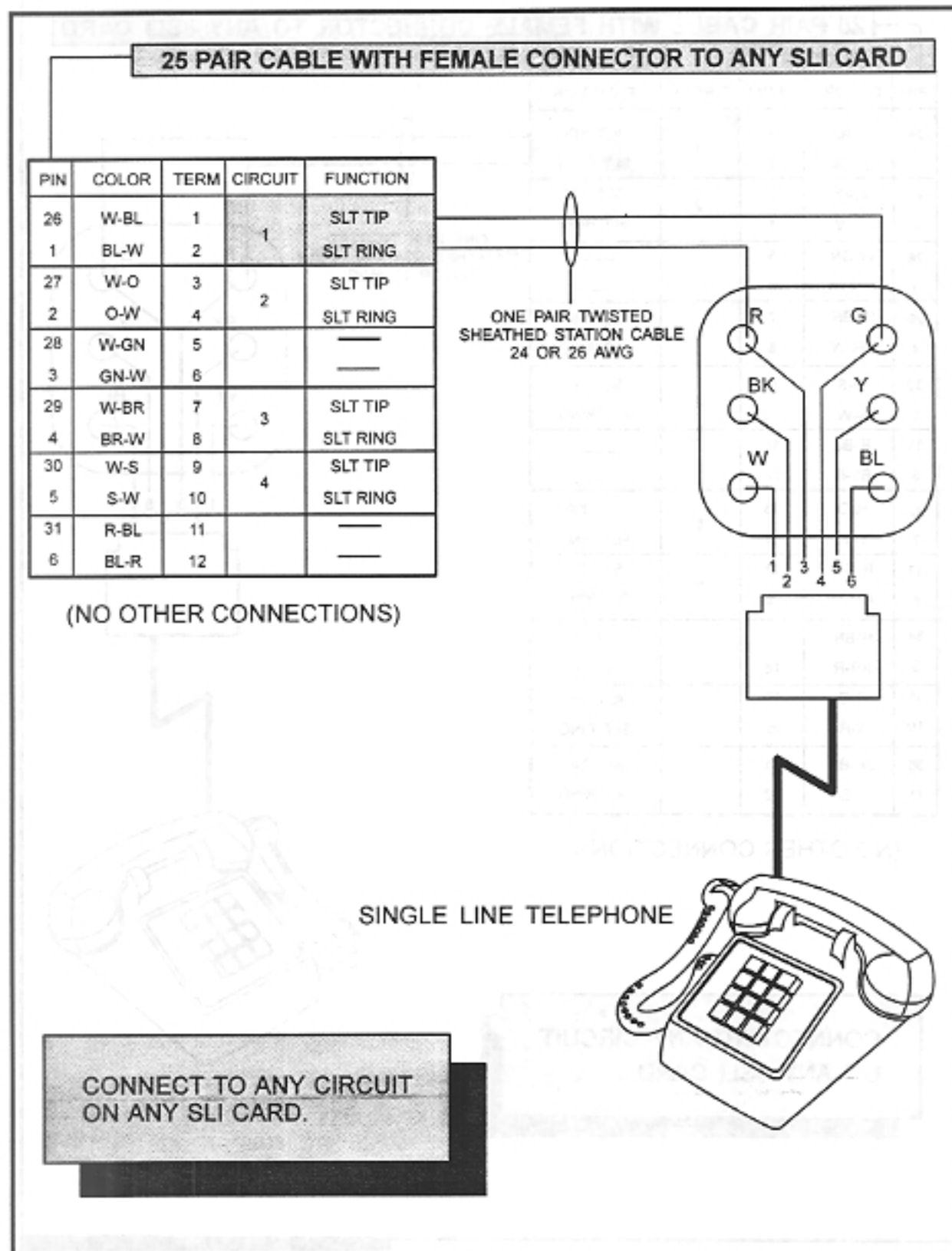
**FIGURE 6-1**



MDF CONNECTIONS  
ADD-ON MODULE TO DLI CARD

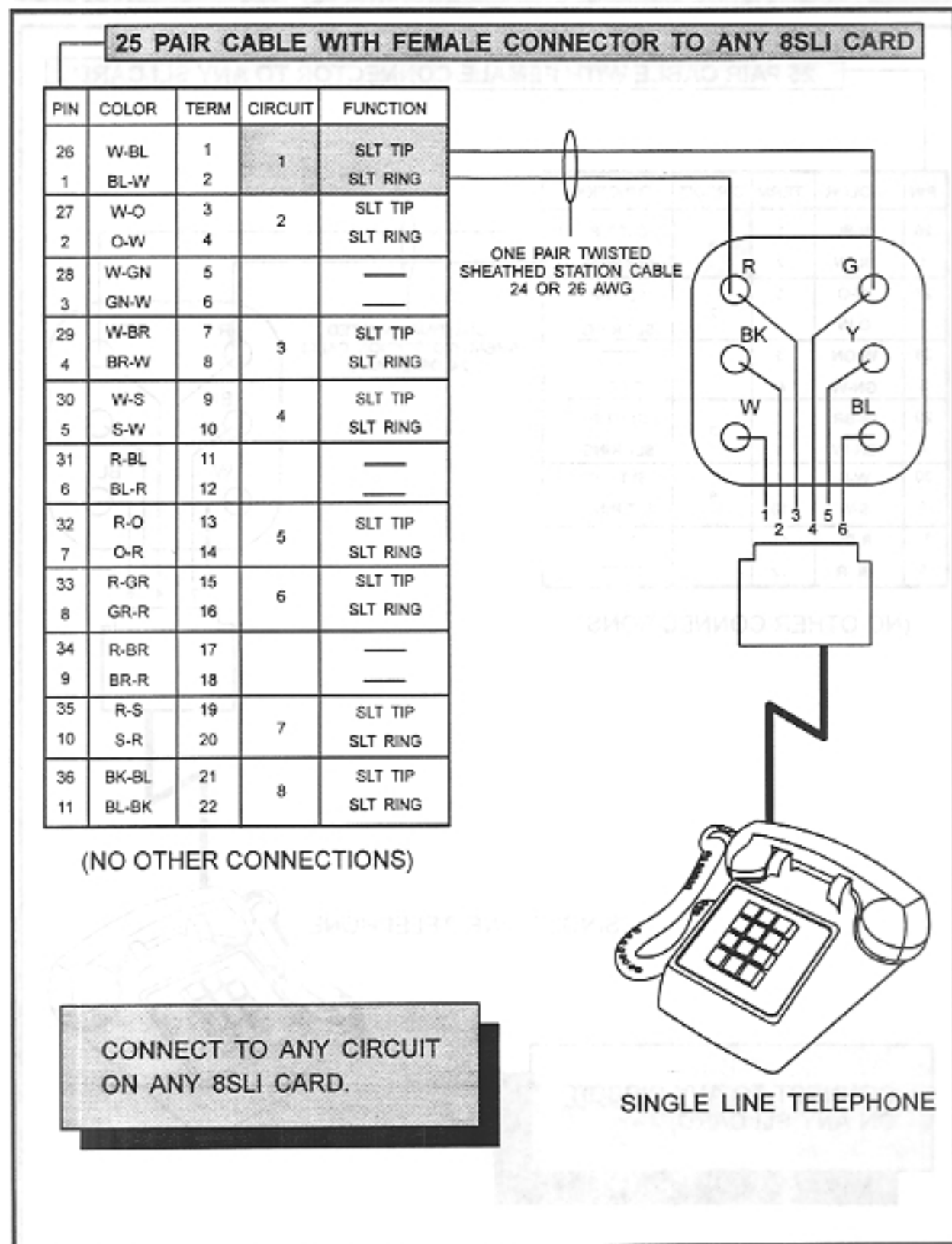
**FIGURE 6-2**





MDF CONNECTIONS  
SINGLE LINE TELEPHONE  
TO SLI CARD

**FIGURE 6-3a**



**MDF CONNECTIONS  
SINGLE LINE TELEPHONE  
TO 8SLI CARD**

**FIGURE 6-3b**

## PART 8. INSTALLING KEYSSET DAUGHTERBOARDS

### 8.1 KDB-DLI

Before performing this procedure, unplug the line cord from the keyset and remove the base wedge. Place the keyset face down on a soft surface and remove the four base retaining screws (see Figure 8-1). Separate the base from the keyset and place the keyset aside. Attach the KDb-DLI to the keyset base with the four screws that are supplied (see Figure 8-2). Take care to ensure that the modular socket shows through the access hole in the base (see Figure 8-3). Invert the base assembly over the keyset and plug the ribbon cable into the socket on the keyset PCB (see Figure 8-4) while making sure that no damage occurs to the keyset PCB. Reattach the base to the keyset and test to ensure normal keyset operation.

### 8.2 KDB-SLI

Before performing this procedure, unplug the line cord from the keyset and remove the base wedge. Place the keyset face down on a soft surface and remove the four base retaining screws (see Figure 8-1). Separate the base from the keyset and place the keyset aside. Attach the KDb-SLI to the keyset base with the six screws that are supplied (see Figure 8-5). Take care to ensure that the modular socket shows through the access hole in the base (see Figure 8-3). Invert the base assembly over the keyset and plug the ribbon cable into the socket on the keyset PCB (see Figure 8-4) while making sure no damage occurs to the keyset PCB. Reattach the base to the keyset and test to ensure normal keyset operation.

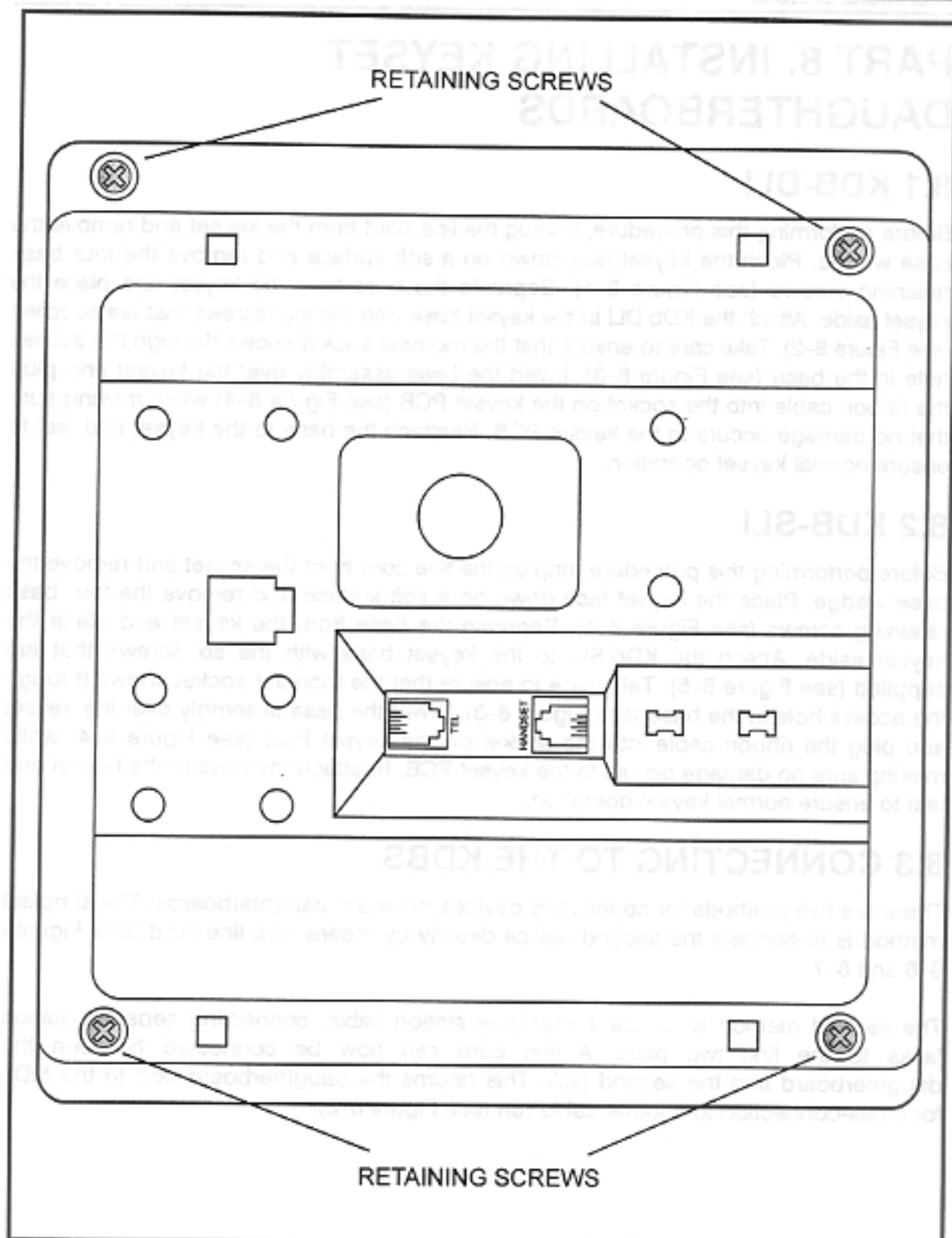
### 8.3 CONNECTING TO THE KDBS

There are two methods for connecting devices to keyset daughterboards. The simplest method is to connect the second device directly by means of a line cord. See Figures 8-6 and 8-7.

The second method is to use a multi-pair station cable, connecting separate station jacks to the first two pairs. A line cord can now be connected between the daughterboard and the second jack. This returns the daughterboard port to the MDF for cross-connection to another cable run (see Figure 8-8).

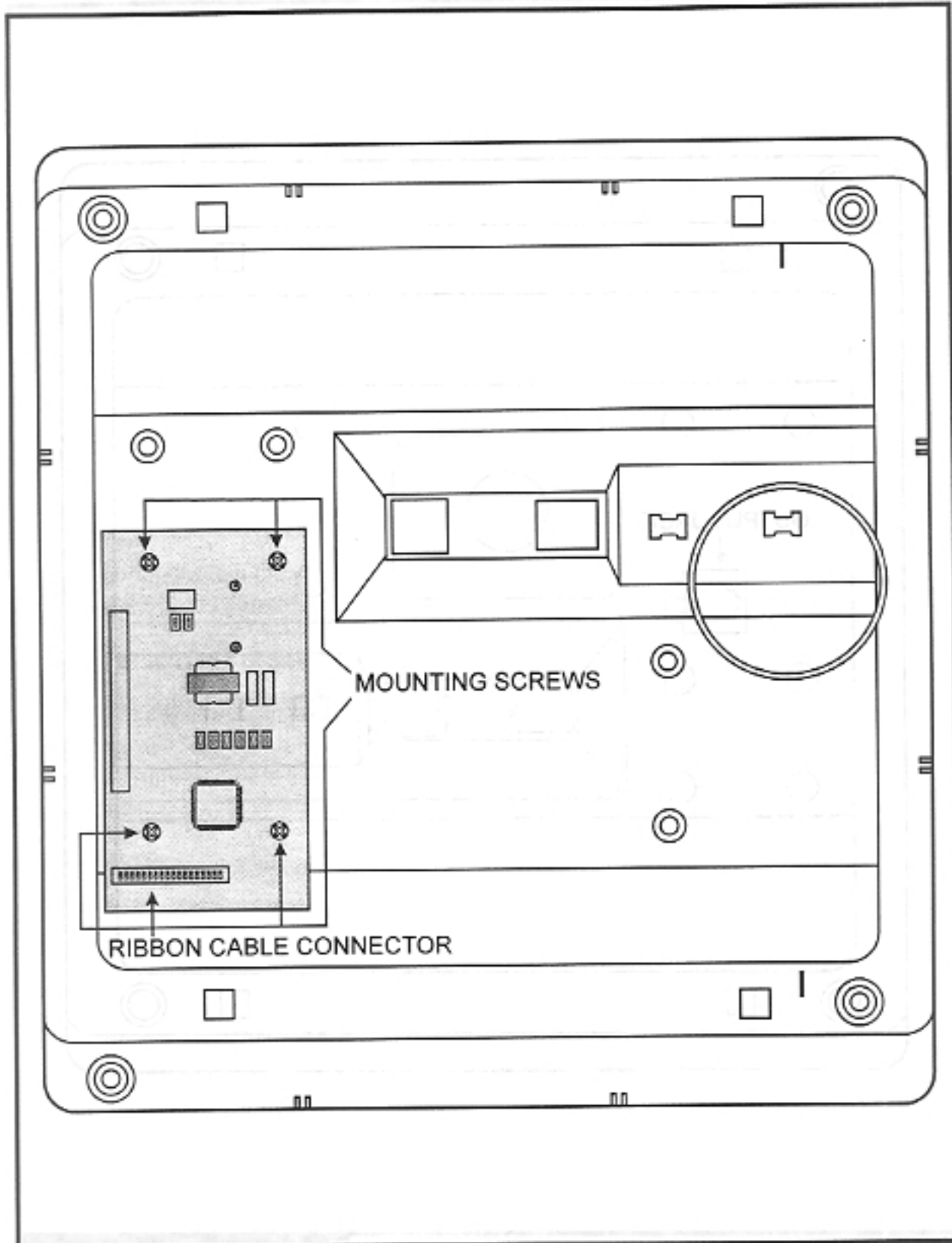
FIGURE 8-1

KEYSET BASE



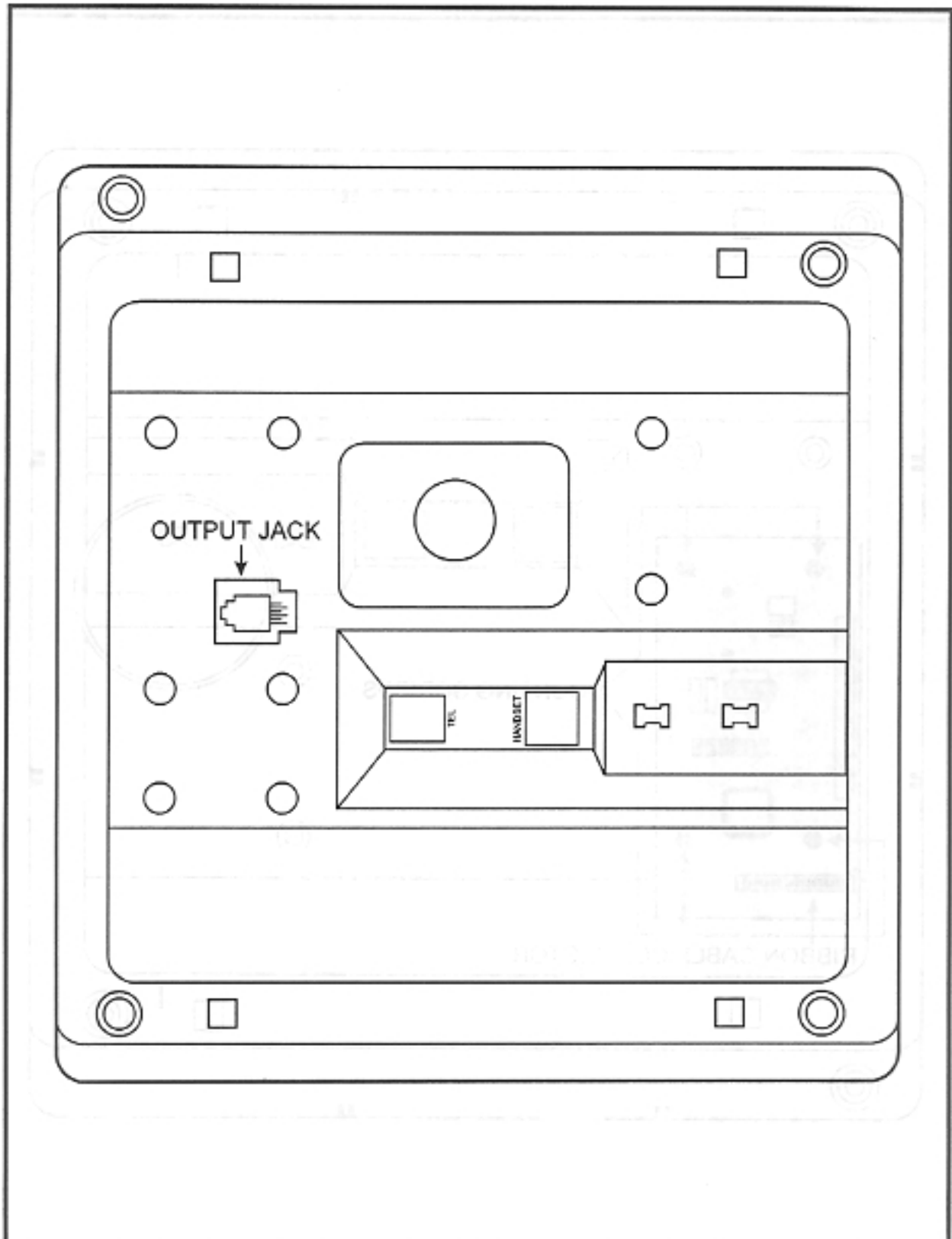
KEYSET BASE

**FIGURE 8-1**



INSTALLING KBD-DLI  
DAUGHTERBOARD

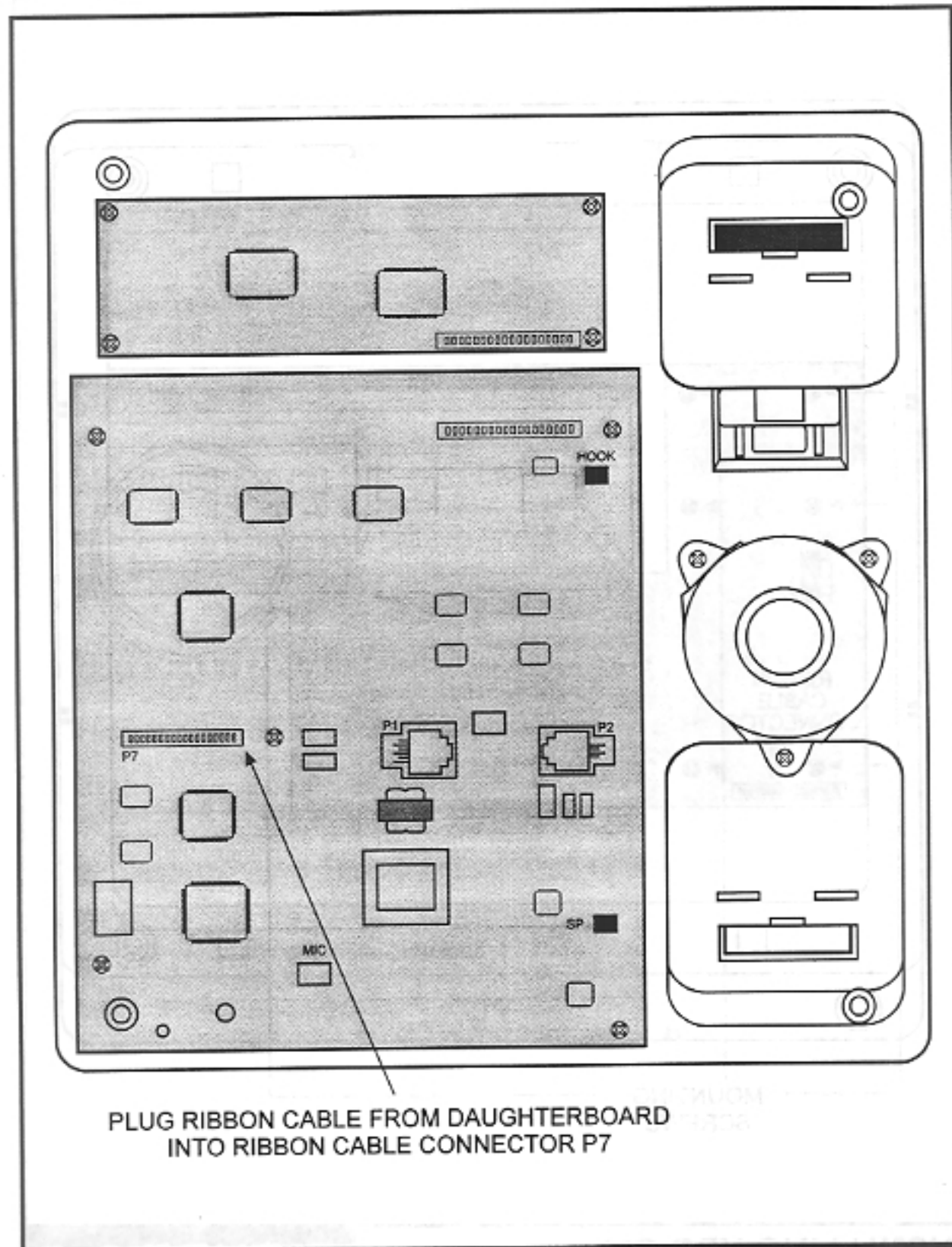
**FIGURE 8-2**



KEYSET DAUGHTERBOARD  
OUTPUT JACK

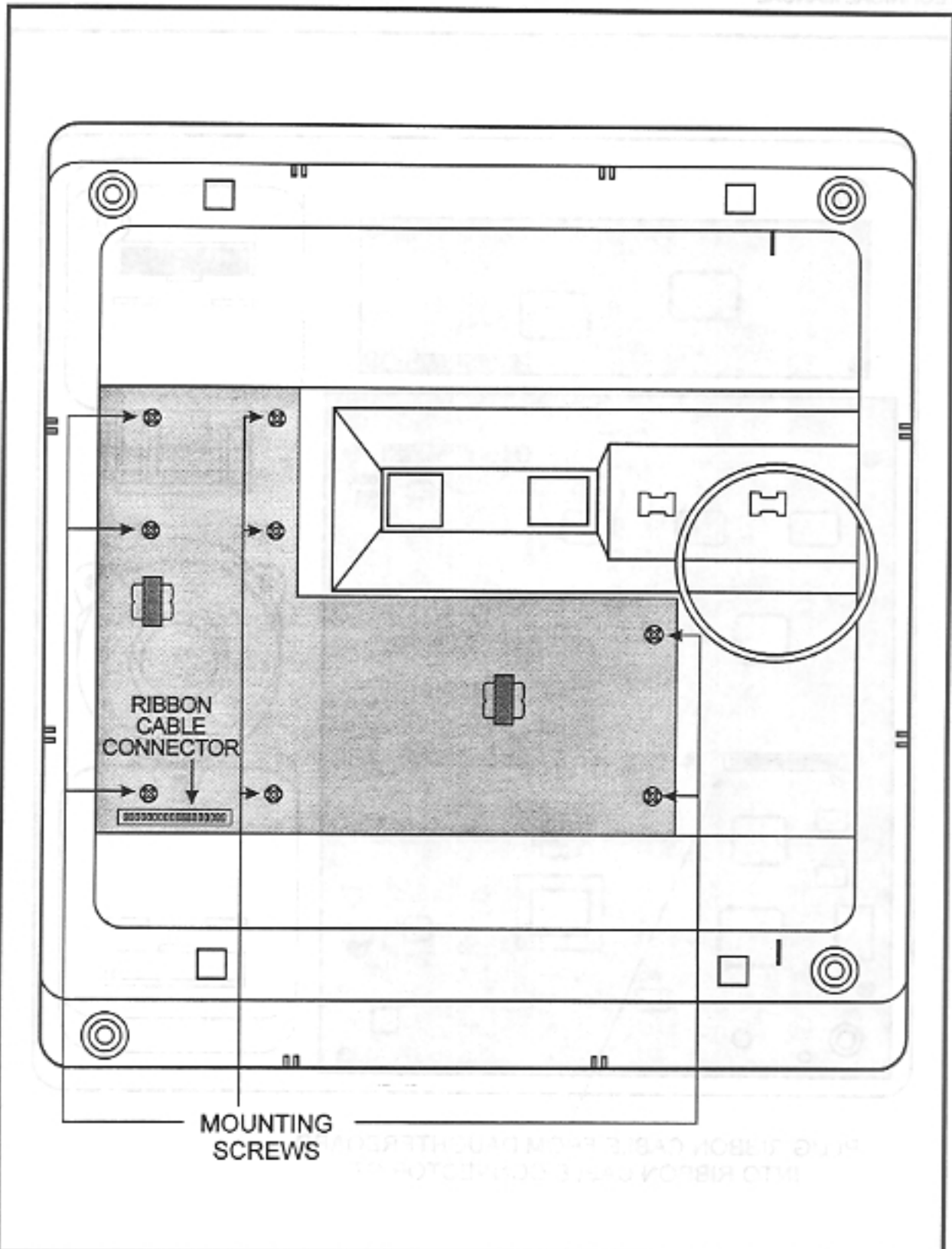
**FIGURE 8-3**





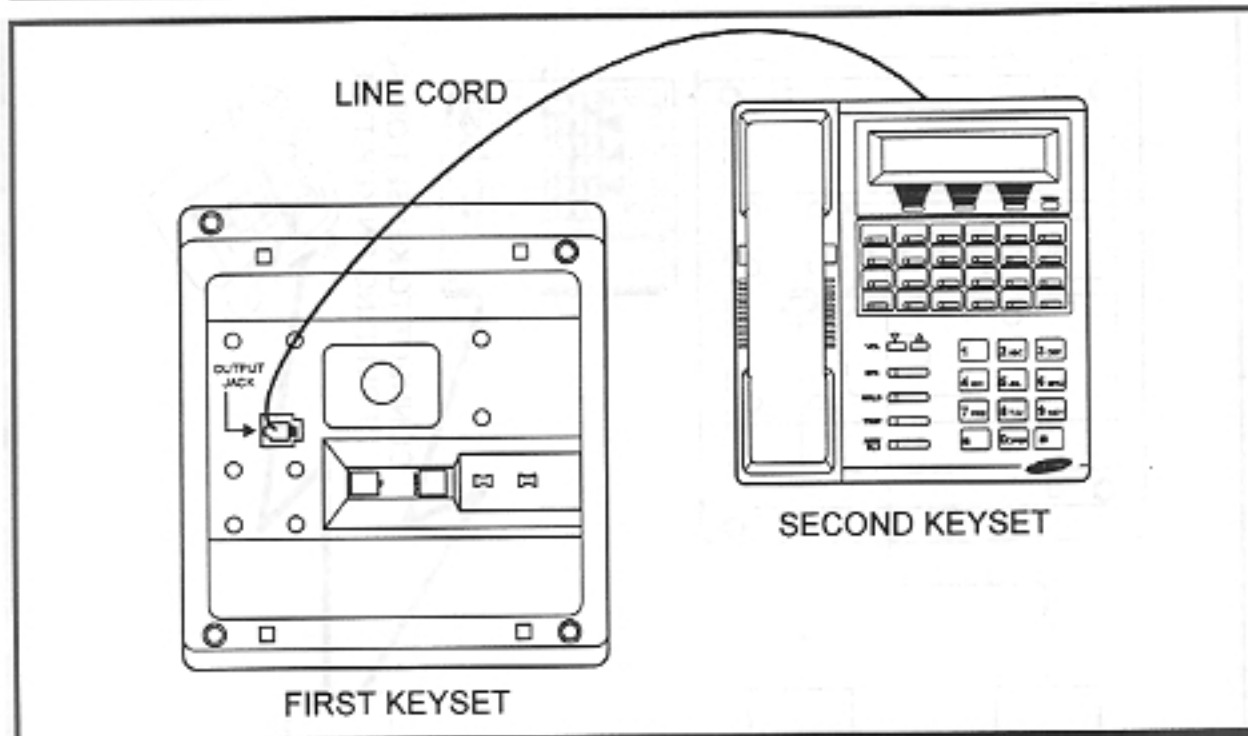
CONNECTING KEYSET  
DAUGHTERBOARD TO KEYSET PCB

**FIGURE 8-4**



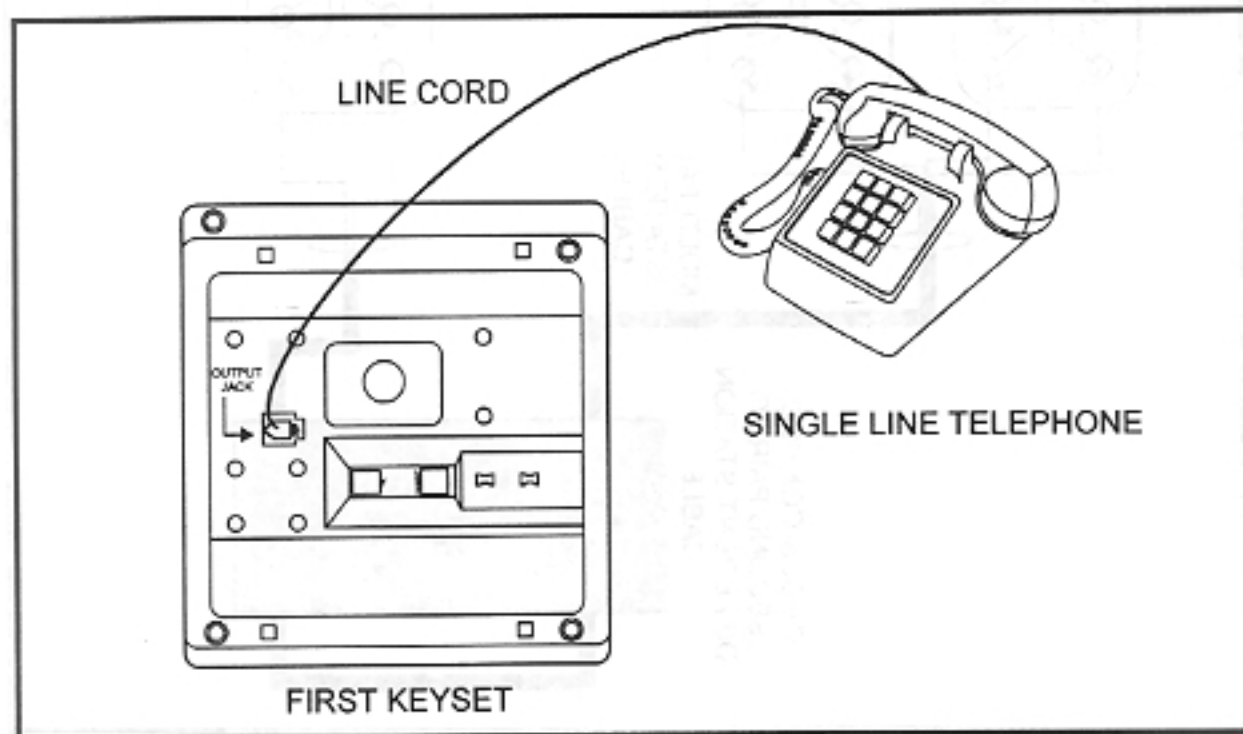
INSTALLING KDB-SLI  
DAUGHTERBOARD

**FIGURE 8-5**



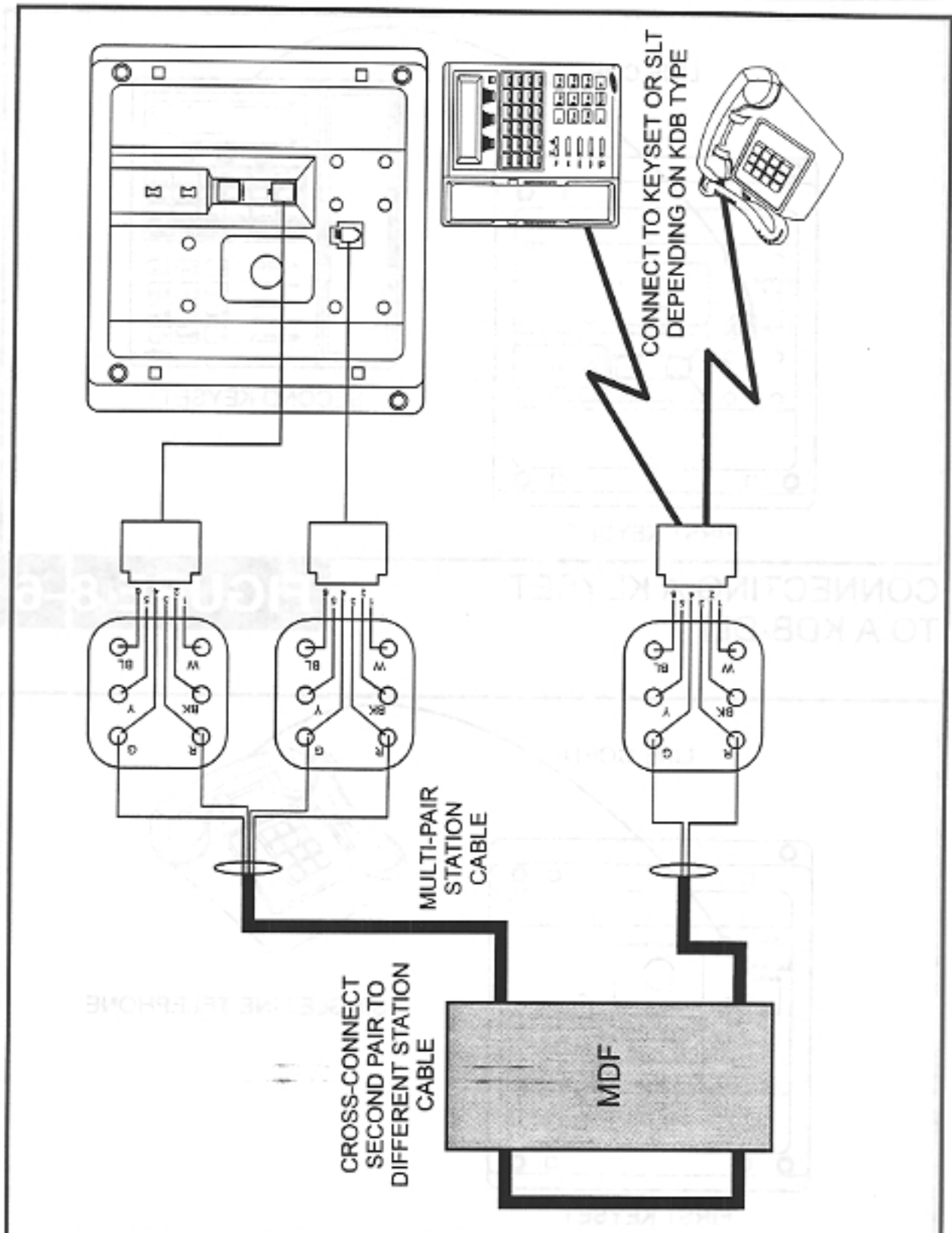
CONNECTING A KEYSET  
TO A KDB-DLI

**FIGURE 8-6**



CONNECTING A SINGLE LINE  
TELEPHONE TO A KDB-SLI

**FIGURE 8-7**



CONNECTING A STATION DEVICE  
TO A KDB VIA MDF

**FIGURE 8-8**

## **PART 9. CHANGING SOFTWARE**

### **9.1 CHANGING SYSTEM SOFTWARE**

#### **OLD ROM CARD**

The ROM card contains the system software. The old ROM card module must first be disassembled to allow the software to be changed (see Figure 9-1a). To disassemble the ROM card, first remove the ejector tabs by pulling them outward until they snap off. Next, remove the red label from the ROM card taking care not to damage the serial number bar code. To separate the two halves of the casing, remove the four screws and pull the two halves apart. This releases the ROM card PCB. The two EPROM chips are located at one end of the PCB (see Figure 9-1c) and are labeled U11 and U12. These chips should be removed gently using a flat blade screwdriver or a chip extraction tool while taking note of the orientation of the chips. After the old chips have been removed, place the new chips over the appropriate sockets and while making sure that the legs are aligned correctly, gently press the chips into their sockets. The ROM card can now be reassembled by reversing the instructions described above.

#### **NEW ROM CARD**

When opened, the new ROM card's trap door (see Figure 9-1b) exposes the system software. There are now four EPROM sockets but the system may have only two ROM chips. The new sockets are numbered U11, U12, U13 and U14. These have been added to accommodate the software for Caller ID and other new features. The EPROM chips are located at one end of the PCB (see Figure 9-1c) and are labeled U11, U12, U13 and U14. These chips should be removed gently using a chip extraction tool. Take note of the orientation of the chips. After the old chips have been removed, place the new chips over the appropriate sockets. Make sure that the legs are aligned correctly and gently press the chips into their sockets. Replace the trap door and reinstall the card into the system.

### **9.2 CHANGING CENTRAL PROCESSOR (CPM) SOFTWARE IN KSU**

The KSU has a separate processor, known as the signal processor or CPM, that is used for local control. At times, it may be necessary to change this processor's software. The CPM software consists of a single EPROM located on the KSU motherboard under the power supply unit (PSU). See Figure 9-2. To change this software, the PSU must be removed from the cabinet along with any card modules that prevent access to the EPROM. The EPROM can now be gently removed using a flat blade screwdriver or chip extraction tool. Take note of the orientation of the chip. The new EPROM can now be inserted by aligning the legs with the socket on the motherboard and gently pressing the chip into place.

## 9.3 CHANGING LOCAL PROCESSOR (LPM) SOFTWARE IN EXPANSION CABINET

Each expansion cabinet has a separate processor that is used for local control. This is known as the local processor or LPM. At times, it may be necessary to change this processor's software. The LPM software consists of a single EPROM located on the expansion cabinet motherboard under the power supply unit. See Figure 9-3. To change this software, the PSU must be removed from the cabinet along with any card modules that prevent access to the EPROM. The EPROM can now be gently removed using a flat blade screwdriver or chip extraction tool. Take note of the orientation of the chip. The new EPROM can now be inserted by aligning the legs with the socket on the motherboard and gently pressing the chip into place.

## 9.4 CHANGING DIAL BY VOICE SOFTWARE

The dial by voice software is contained on the VDIAL card. The VDIAL card module must first be disassembled to allow the software to be changed (see Figure 9-4). To disassemble the VDIAL card, first remove the ejector tabs by pulling them outward until they snap off. Next, to separate the two halves of the casing, remove the four screws and pull the two halves apart. This releases the VDIAL card PCB. The four EPROM chips are located at the top end of the PCB (see Figure 9-5) and are labeled U9-U12. These chips should be removed gently using a flat blade screwdriver or a chip extraction tool while taking note of the orientation of the chips. After the old chips have been removed, place the new chips over the appropriate sockets and while making sure that the legs are aligned correctly, gently press the chips into their sockets. The VDIAL card can now be reassembled by reversing the instructions described above.

## 9.5 CHANGING EXPANSION A1 SOFTWARE

The Expansion A1 card contains the Expansion A1 software. The card module must first be disassembled to allow the software to be changed (see Figure 9-4). To disassemble the Expansion A1 card, first remove the ejector tabs by pulling them outward until they snap off. Next, to separate the two halves of the casing, remove the four screws and pull the two halves apart. This releases the Expansion A1 card PCB. The EPROM chip is located at the bottom end of the PCB (see Figure 9-6) and is labeled U10. This chip should be removed gently using a flat blade screwdriver or a chip extraction tool while taking note of the orientation of the chip. After the old chip has been removed, place the new chip over the appropriate socket and while making sure that the legs are aligned correctly, gently press the chip into their sockets. The card can now be reassembled by reversing the instructions described above.



## 9.6 CHANGING T1 SOFTWARE

The T1 software is contained on the T1 card. The T1 card module must first be disassembled to allow the software to be changed (see Figure 9-4). To disassemble the T1 card, first remove the ejector tabs by pulling them outward until they snap off. Next, to separate the two halves of the casing, remove the four screws and pull the two halves apart. This releases the T1 card PCB. The EPROM chip is located at the bottom end of the PCB (see Figure 9-6) and is labeled U2. This chip should be removed gently using a flat blade screwdriver or a chip extraction tool while taking note of the orientation of the chip. After the old chip has been removed, place the new chip over the appropriate socket and while making sure that the legs are aligned correctly, gently press the chip into their sockets. The T1 card can now be reassembled by reversing the instructions described above.

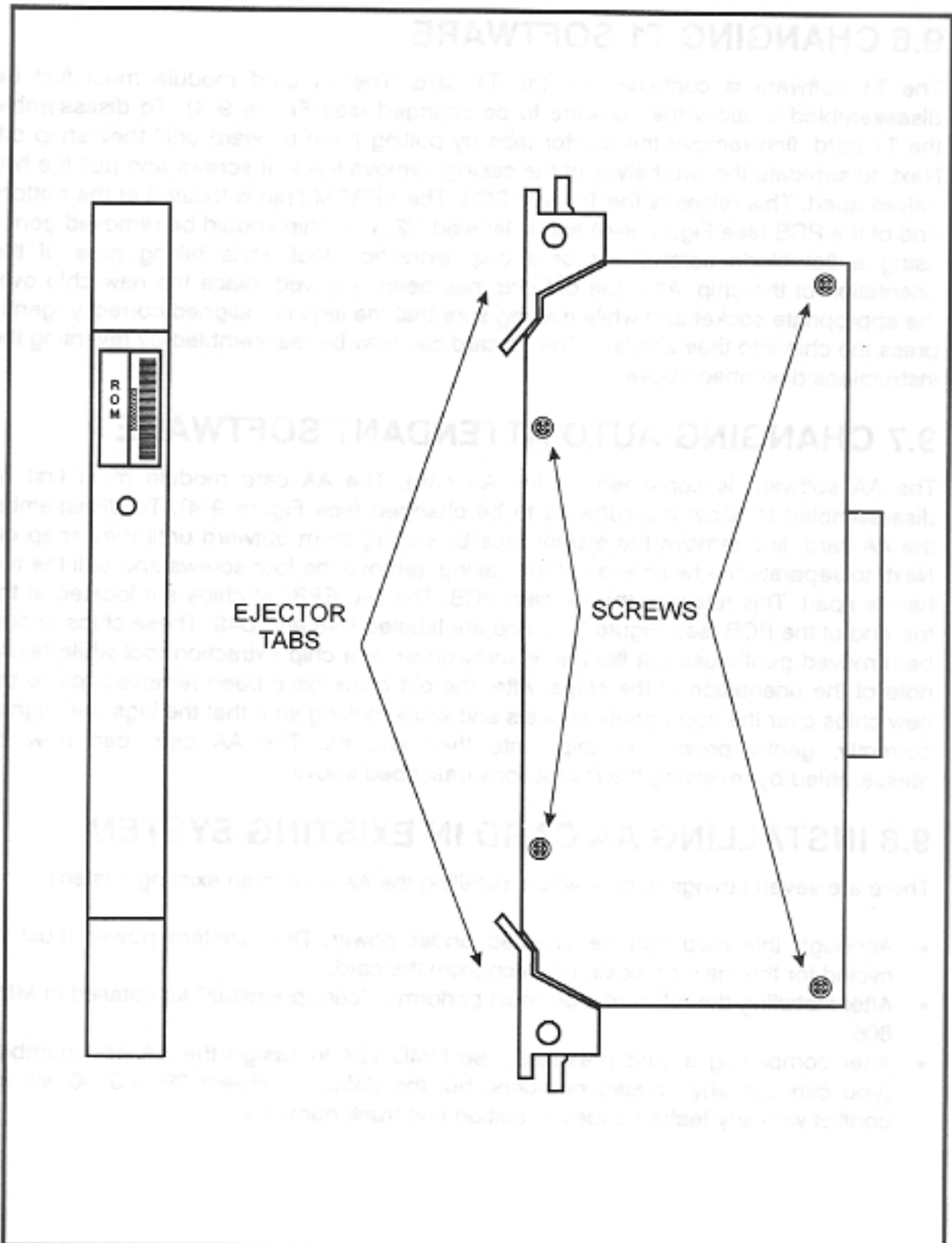
## 9.7 CHANGING AUTO ATTENDANT SOFTWARE

The AA software is contained on the AA card. The AA card module must first be disassembled to allow the software to be changed (see Figure 9-4). To disassemble the AA card, first remove the ejector tabs by pulling them outward until they snap off. Next, to separate the two halves of the casing, remove the four screws and pull the two halves apart. This releases the AA card PCB. The two EPROM chips are located at the top end of the PCB (see Figure 9-7) and are labeled U48 and U49. These chips should be removed gently using a flat blade screwdriver or a chip extraction tool while taking note of the orientation of the chips. After the old chips have been removed, place the new chips over the appropriate sockets and while making sure that the legs are aligned correctly, gently press the chips into their sockets. The AA card can now be reassembled by reversing the instructions described above.

## 9.8 INSTALLING AA CARD IN EXISTING SYSTEM

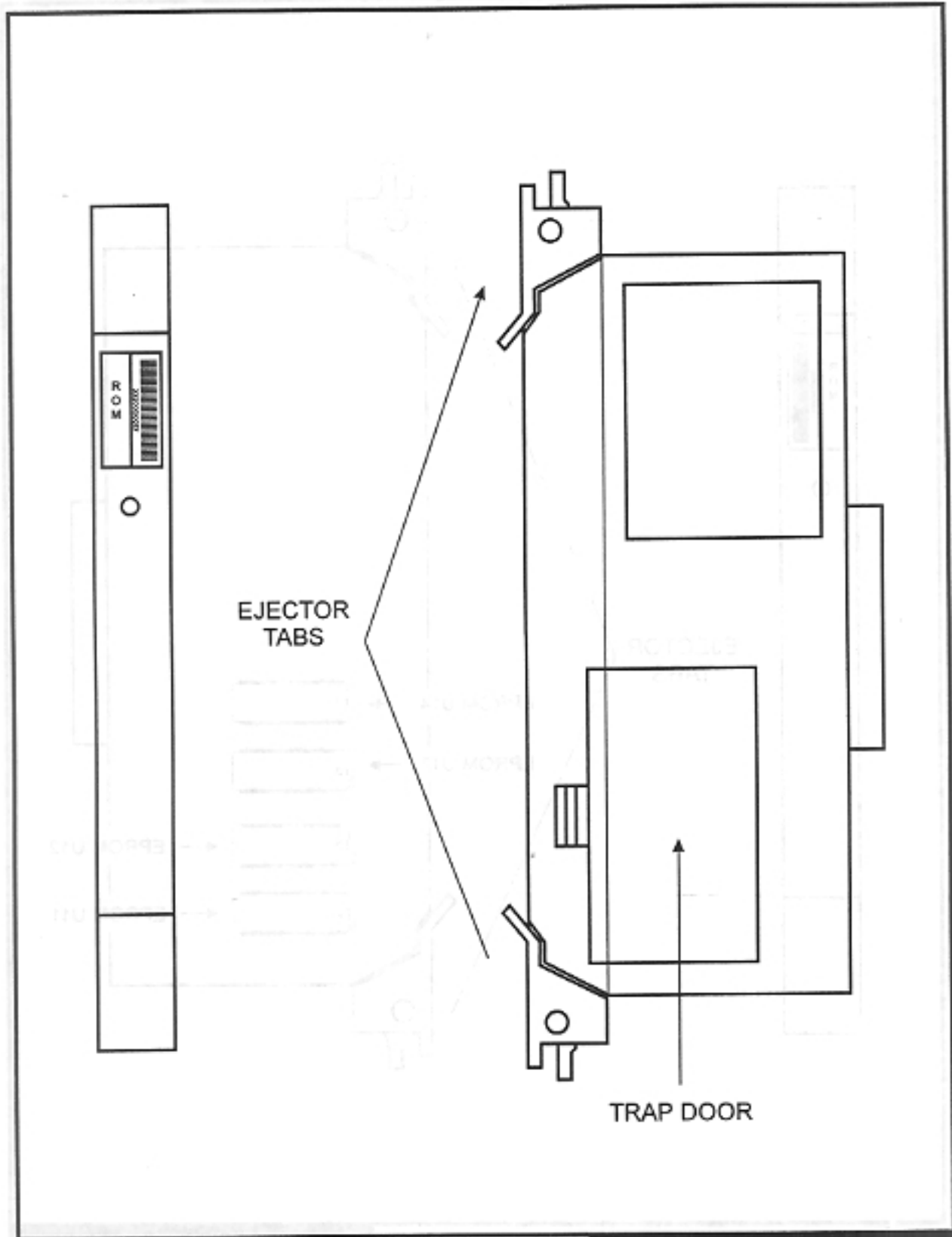
There are several things to note when installing the AA card in an existing system:

- Although this card can be installed under power, DCS system power must be cycled for the main processor to recognize the card.
- After installing the AA card, you must perform a "card preinstall" as detailed in MMC 806.
- After completing a card preinstall, use MMC 724 to assign the AA port numbers (you can use any unused numbers, but the default numbers 3951-3990 will not conflict with any feature codes or station and trunk numbers).



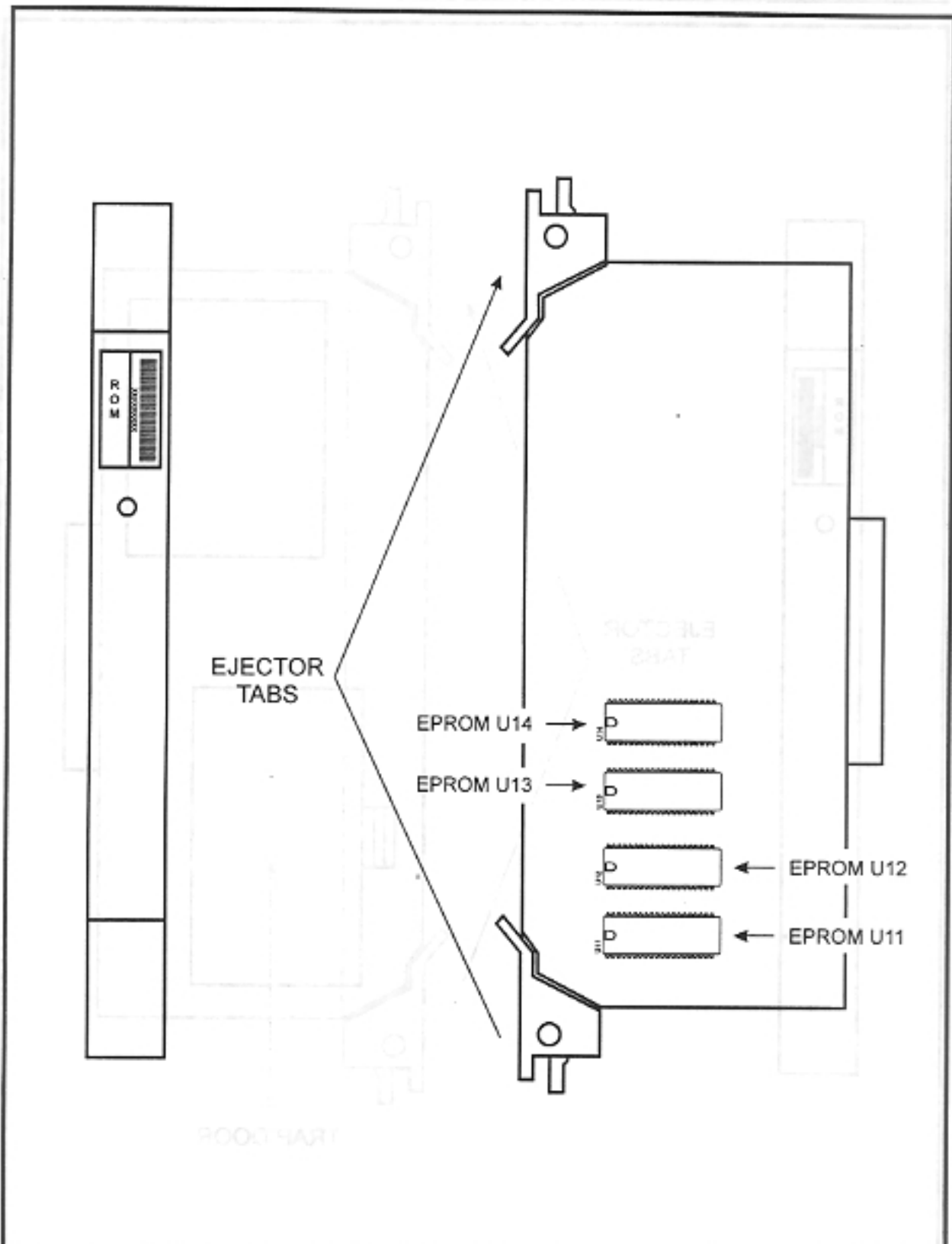
OLD ROM CARD WITH COVER

**FIGURE 9-1a**



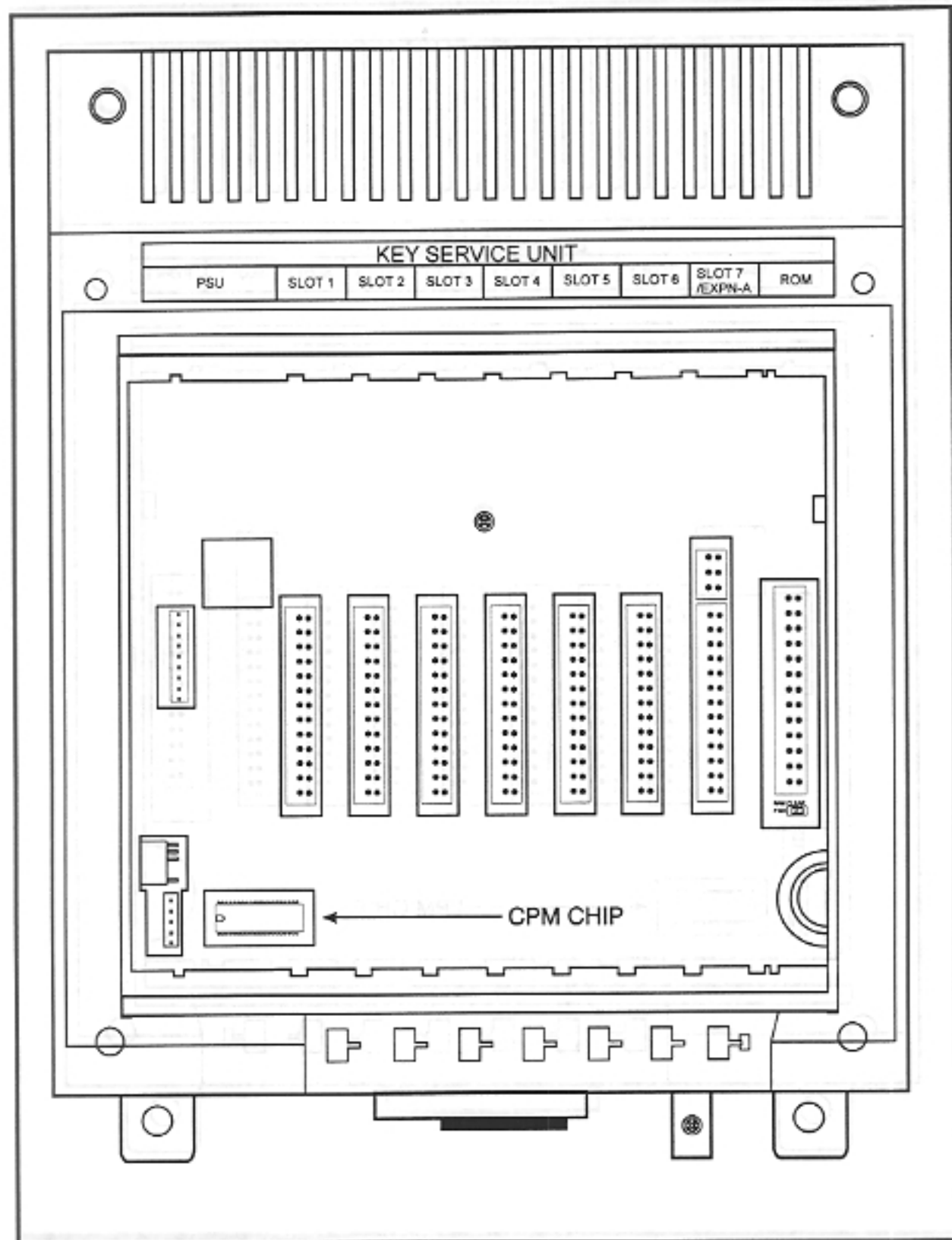
NEW ROM CARD

**FIGURE 9-1b**



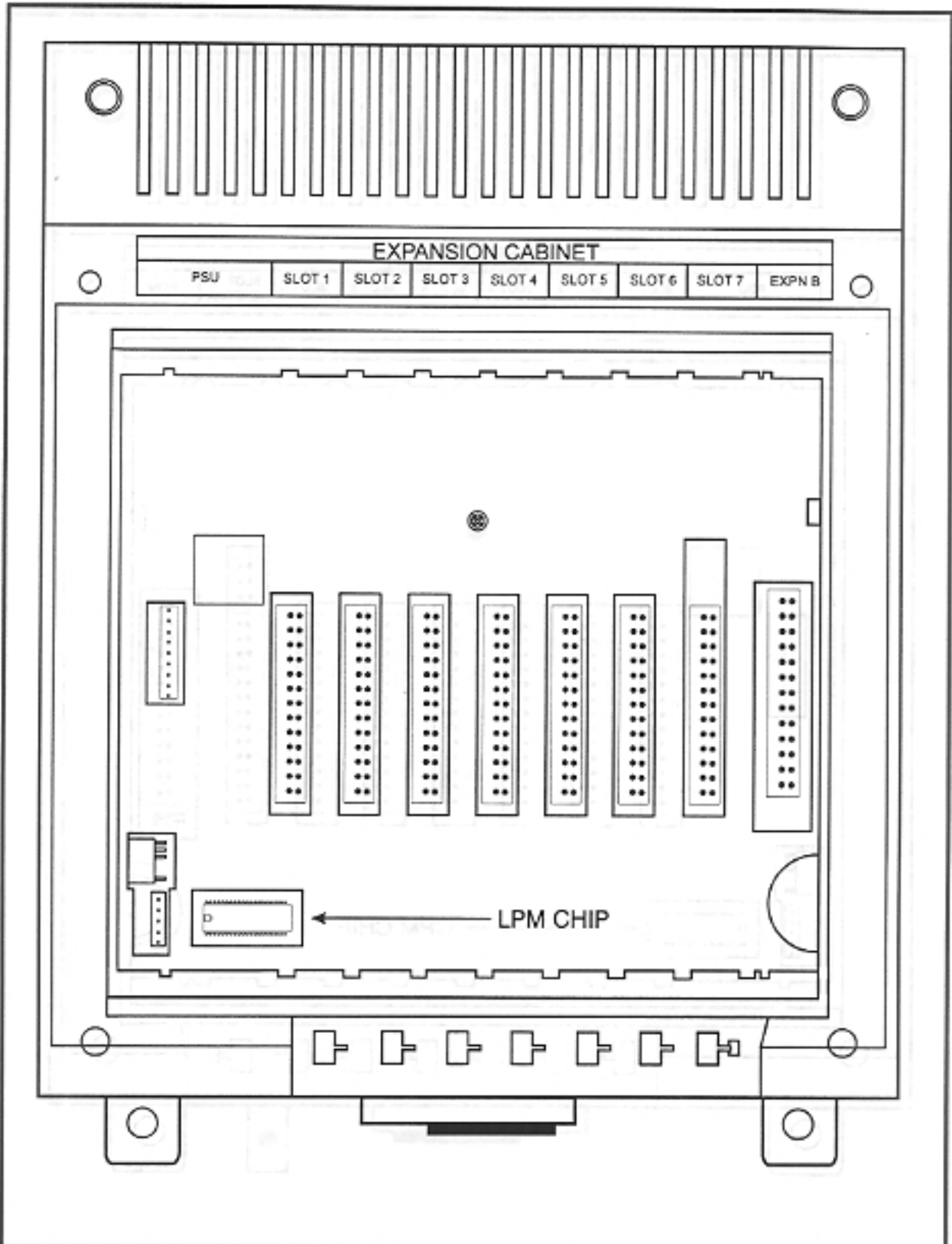
ROM CARD AND EPROMS

**FIGURE 9-1c**



LOCATION OF CPM CHIP

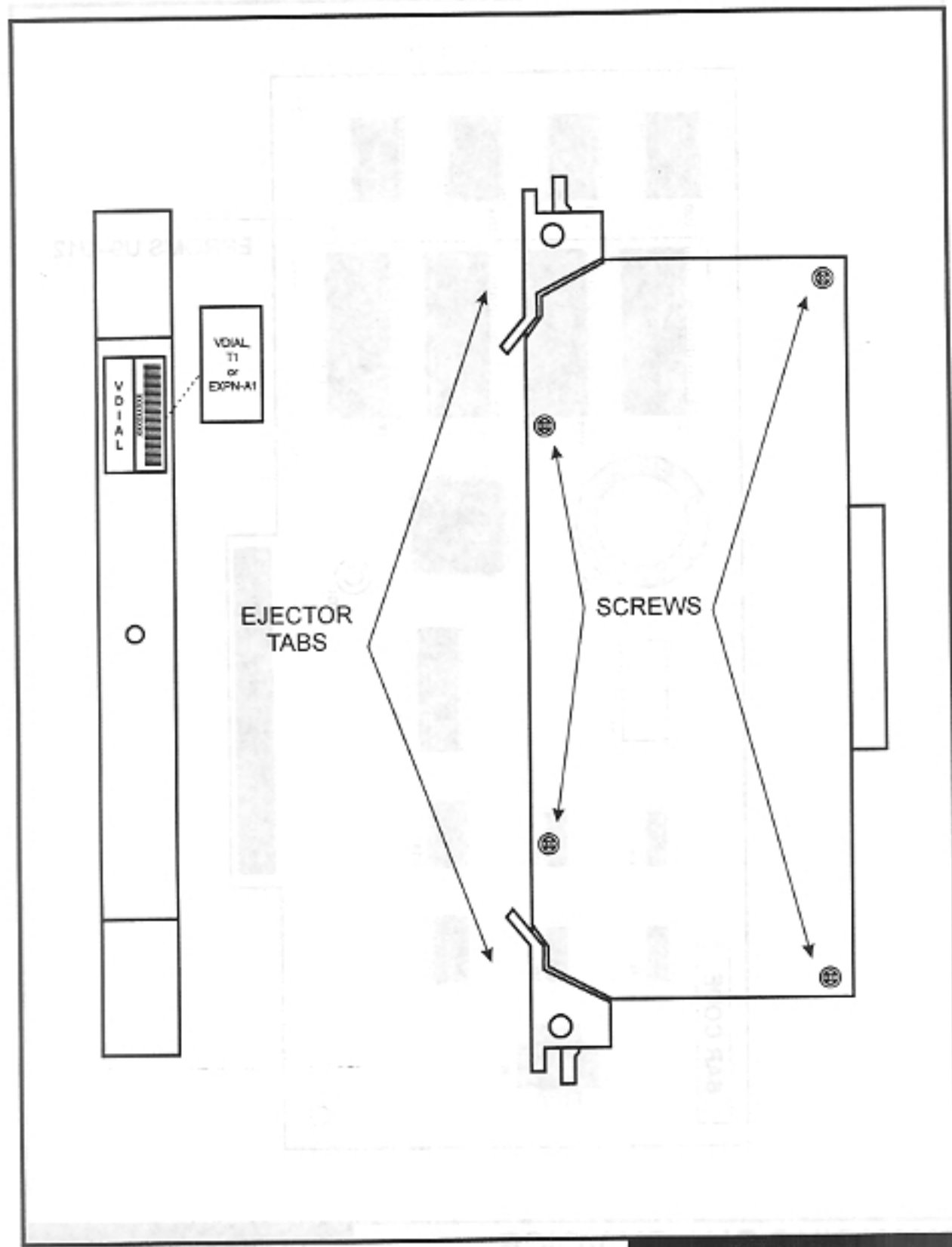
**FIGURE 9-2**



LOCATION OF LPM CHIP

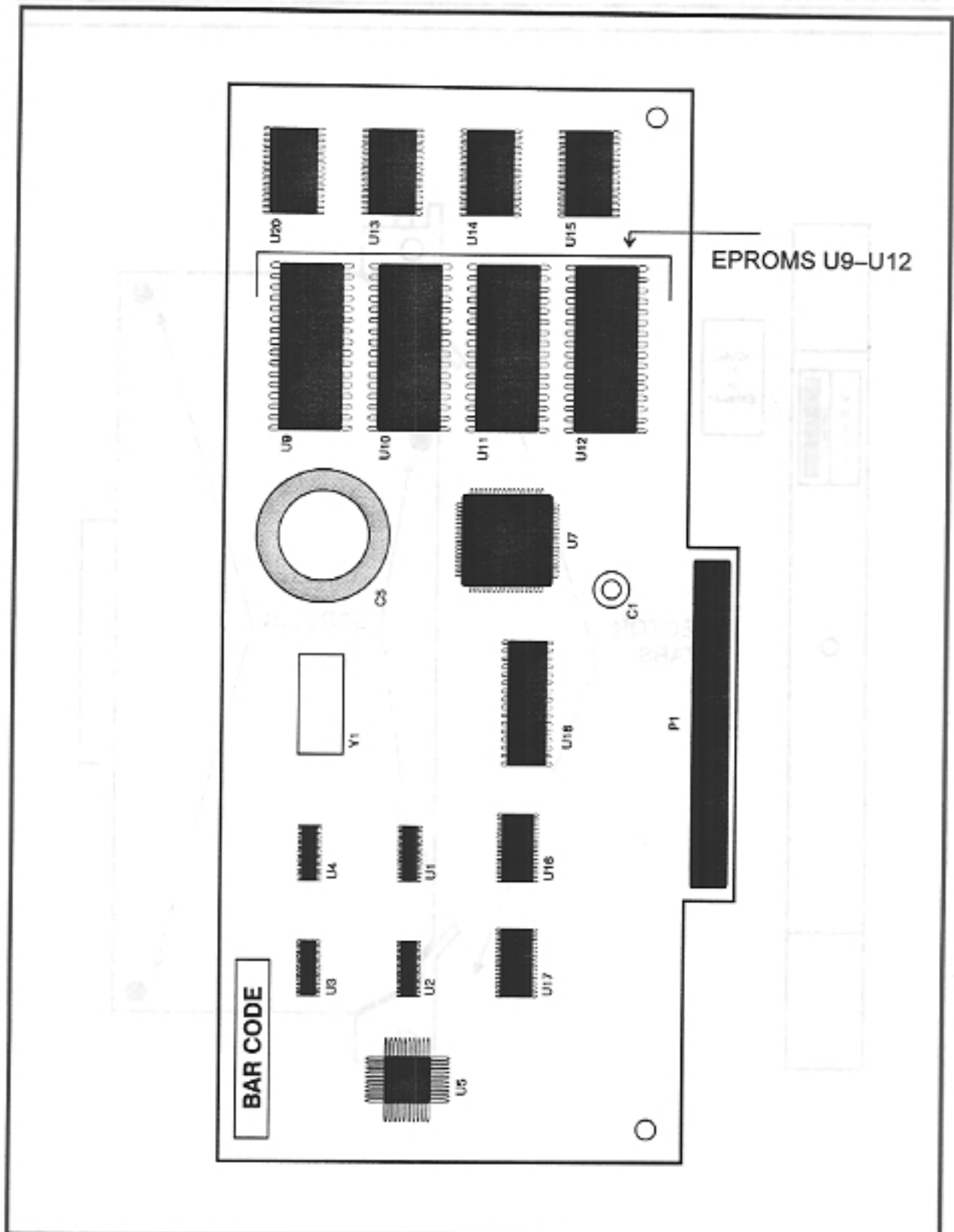
**FIGURE 9-3**





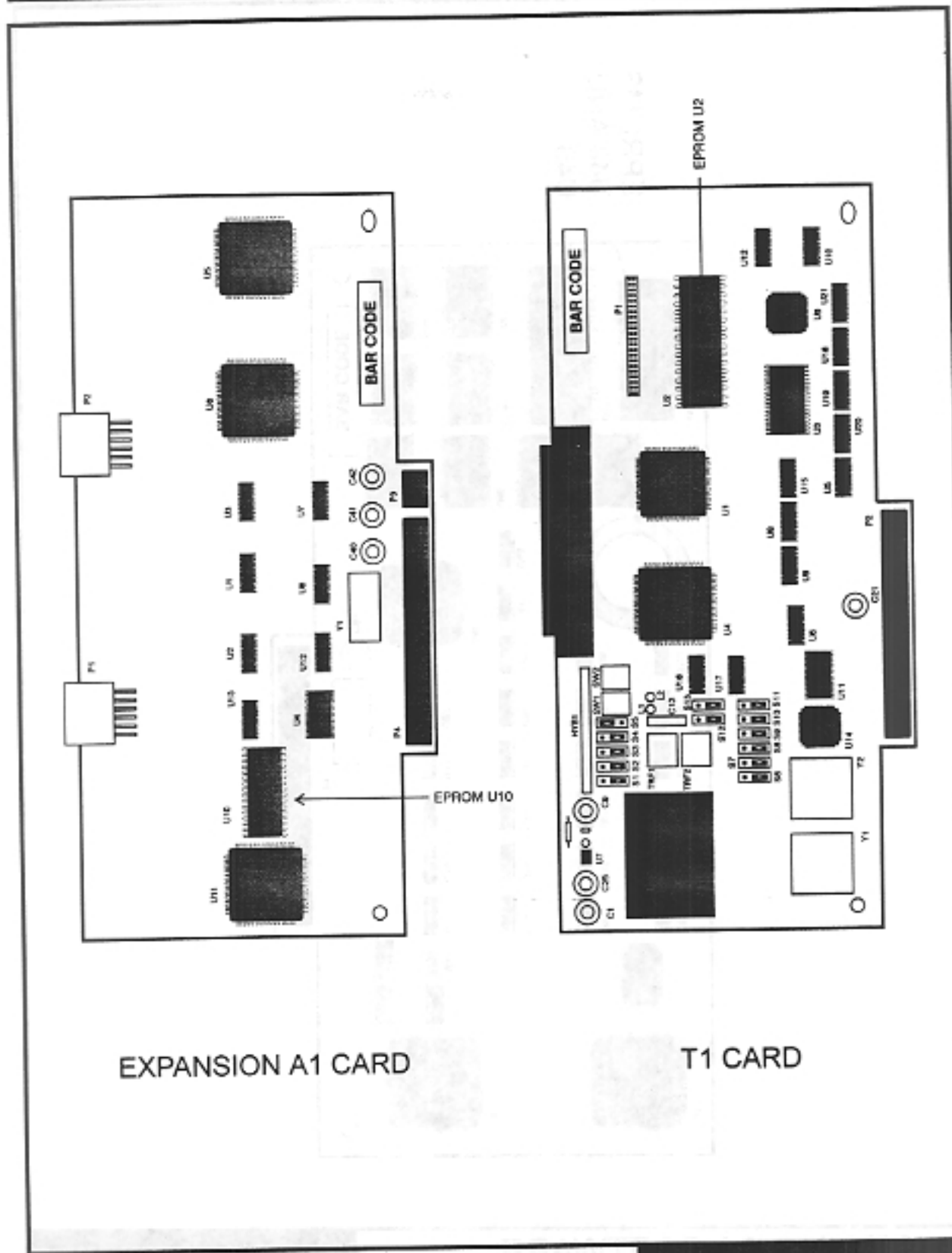
DISASSEMBLING CARD CASE

**FIGURE 9-4**



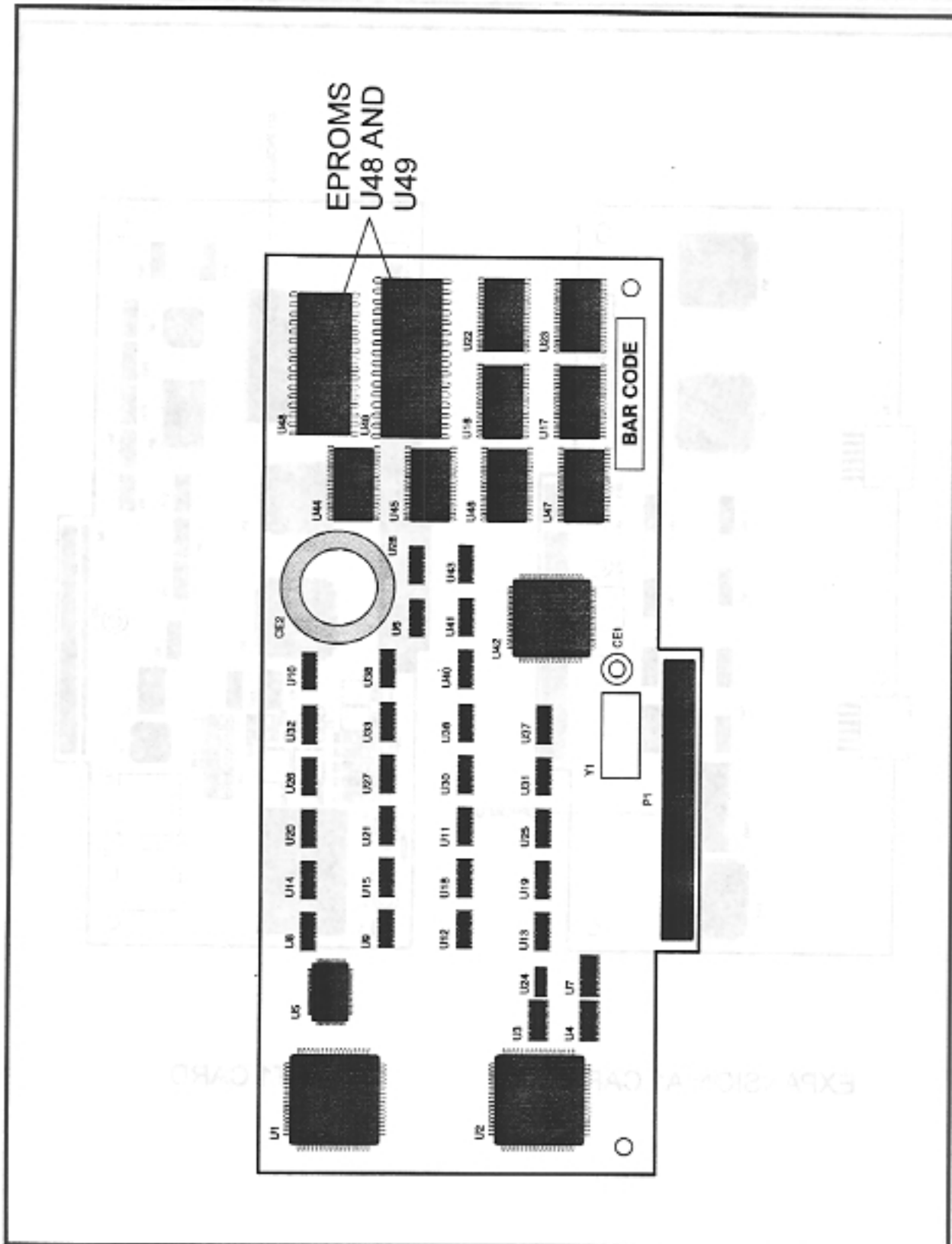
CHANGING DIAL BY VOICE  
SOFTWARE

**FIGURE 9-5**



CHANGING EXPANSION A1  
AND T1 SOFTWARE

**FIGURE 9-6**



CHANGING AA SOFTWARE

**FIGURE 9-7**

## PART 10. ADDING CARDS TO THE SYSTEM

### 10.1 ADDING STATIONS AND TRUNKS

1. Remove the covers of the system cabinets in order to locate a suitable empty card slot. Having located a suitable slot, insert the new card into the slot and push firmly in the middle of both card ejectors on the card to ensure that it is fully inserted into the back plane connector.

NOTE: While it is possible to insert and remove cards with the system switched on, it is recommended that the system should be switched off whenever possible before inserting or removing cards.

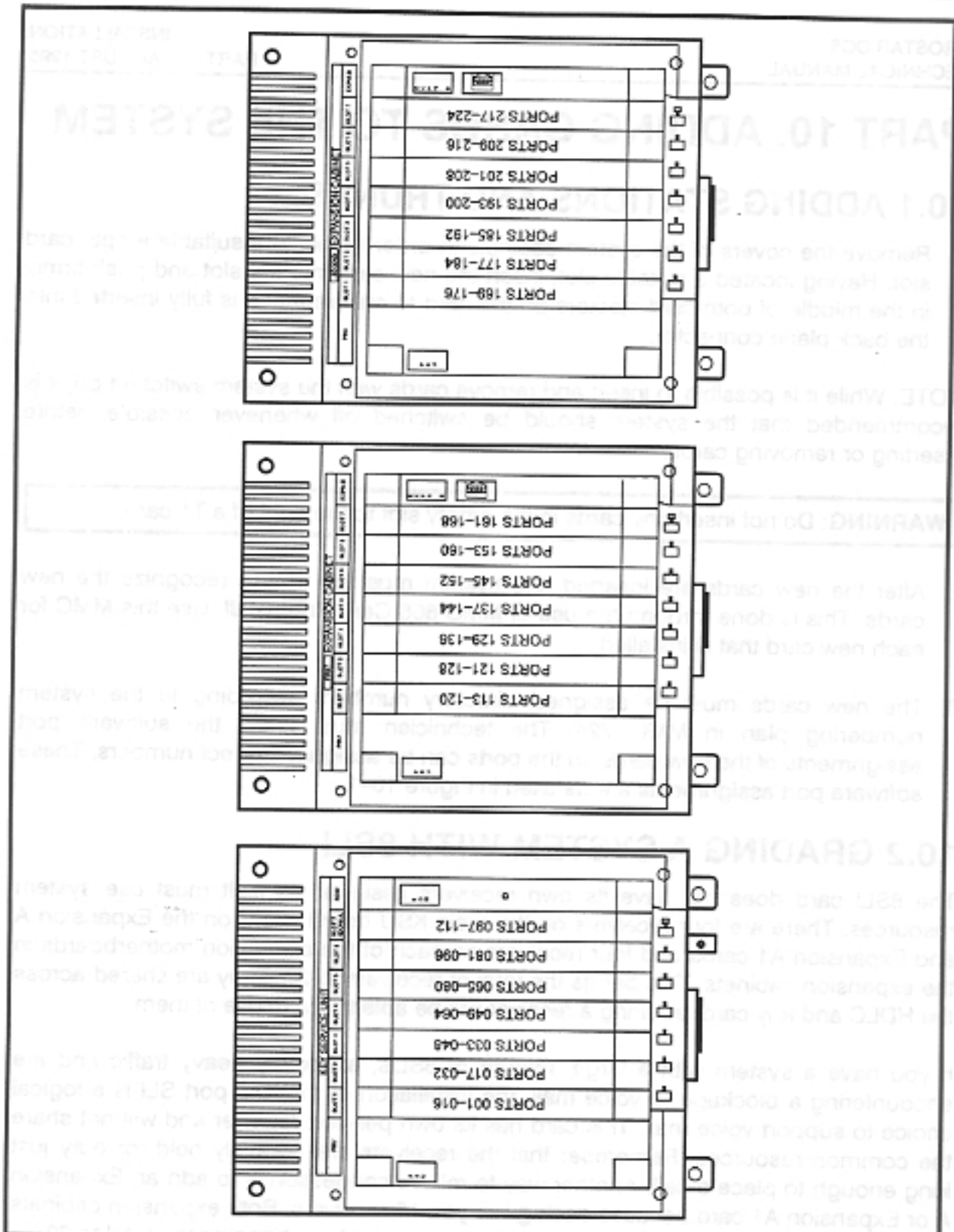
**WARNING:** Do not insert any cards in the empty slot to the right of a T1 card.

2. After the new cards are inserted, the system must be told to recognize the new cards. This is done through the use of MMC 806 Card Pre-Install. Use this MMC for each new card that is installed.
3. The new cards must be assigned directory numbers according to the system numbering plan in MMC 724. The technician must know the software port assignments of the new cards so the ports can be assigned correct numbers. These software port assignments are detailed in Figure 10-1.

### 10.2 GRADING A SYSTEM WITH 8SLI

The 8SLI card does not have its own receivers assigned to it. It must use system resources. There are four receivers on the main KSU board, eight on the Expansion A and Expansion A1 cards and four receivers on each of the expansion motherboards in the expansion cabinets. This brings the total of receivers to 20. They are shared across the HDLC and any card requiring a receiver will be able to make use of them.

If you have a system with a large amount of 8SLIs, extremely heavy traffic and are encountering a blockage to voice mail, the installation of the four port SLI is a logical choice to support voice mail. This card has its own per-port receiver and will not share the common resources. Remember that the receivers are normally held for duty just long enough to place a call. Another way to relieve congestion is to add an Expansion A or Expansion A1 card because each gives you 12 receivers. Both expansion cabinets together (four per cabinet) add a total of eight more receivers bringing the total to 20.



SOFTWARE PORT ASSIGNMENTS

**FIGURE 10-1**



## Numerical List By MMC #

MMC	FUNCTION	OTHER MMC's	PCMMC
<b>100</b>			
100	Lock, station		Edit / Station / 17
100	Unlock station		Edit / Station / 17
101	Passcode, user	301 501 502 701 722 723	Edit / Etcetera / 03
101	User passcode (change)	301 501 502 701 722 723	Edit / Etcetera / 03
102	Call forward		Edit / Station / 07
103	Answer Mode, set	111	Edit / Station / 03
103	Auto Answer		
104	Station name		Edit / Station / 20,24
105	Speed dial (station)	106,606	Edit / Station / 24
106	Speed dial name (station)	105	
107	Key extender	720,721,722,723,724	
108	Port position	301 302 303 601 604 803	Edit / Station / 25
108	Station status	301 302 303 601 604 803	Edit / Station / 25
109	Clock display	505	Edit / Station / 10
110	Auto hold		Edit / Station / 21
110	Headset/handset		Edit / Station / 21
110	Hot keypad		Edit / Station / 21
110	Key tone		Edit / Station / 21
110	Keyset on/off	301,701	
110	Page rejoin		Edit / Station / 21
110	Ringling line preference		Edit / Station / 21
111	Ring tone, keyset	114	Edit / Etcetera / 05
112	Alarm Reminder		Edit / Station / 01
112	Alarm Reminder		Edit / Tenants / 04
113	Memo number, view		
114	Off-hook ring volume	111	Edit / Etcetera / 04
115	Message, programmed, set		Edit / Station / 29
115	Message, programmed, set		Edit / Tenants / 17
116	Alarm and Message		
117	Background music volume, assign		
118	Ring volume		Edit / Etcetera / 05
119	Caller ID, display		
<b>200</b>			
200	Programming, customer	201,501,802	
201	Passcode, customer	200	Edit / Etcetera / 03
202	Passcode, feature (change)		Edit / Tenants / 19
203	U-A device	204,601,605	Edit / Tenants / 16
204	Common bell control	203,601	Edit / Station / 09
205	Loud bell, assign		Edit / Station / 18
206	Barge-in type	301,701	Edit / Tenants / 03
206	Executive OHVA		Edit / Station / 31
206	OHVA		Edit / Station / 31
207	VM/AA port (assign)	726	
208	CO ringing		Edit / Station / 30
208	Data ringing		Edit / Station / 30
208	I/C ringing		Edit / Station / 30





Numerical List By MMC #

208	Ring type (assign)		Edit / Station / 30
209	Add-on Module		Edit / Station / 04
210	Tenant on/off		Edit / Tenants / 09
211	Door ring assignment		Edit / Station / 11
212	Alarm Ringing Station	213	Edit / Station / 02
213	Alarm Message	212	Edit / Station / 02
214	DISA alarm ringing station		Edit / Tenants / 18
215	Dial by voice options		Edit / Station / 32
215	Dial by voice options		Edit / Etcetera / 11
215	Voice Dial options		Edit / Station / 32
215	Voice Dial options		Edit / Etcetera / 11
<b>300</b>			
300	Advance tone, trunk		Edit / Station / 21
300	Microphone (speakerphone)		Edit / Station / 21
300	Speakerphone (microphone)		Edit / Station / 21
300	Station on/off		
301	COS station	701	Edit / Station / 08
302	Pickup groups	107,722,723	Edit / Station / 23,25
302	Pickup groups	107,722,723	Edit / Tenants / 12
303	Boss-Secretary, assign	722	Edit / Station / 06,25
304	Extension use	406,722,723	Edit / Station / 27
304	Extension use	406,722,723	Edit / Trunks / 08
304	Station use	406,722,723	Edit / Station / 27
304	Station use	406,722,723	Edit / Trunks / 08
304	Trunk use	406,722,723	Edit / Station / 27
305	Forced account code, assign	707,708	Edit / Station / 12
305	Forced account code table	707,708	Edit / Tenants / 08
306	Hotline	307	Edit / Station / 14
307	Off-hook selection	501	Edit / Station / 14
308	Background music source, assign	309,408	Edit / Station / 05
309	MOH, station	308,408	Edit / Station / 19
310	LCR COS		Edit / Station / 08
311	SIM parameters (assign)	804	Edit / Station / 15
311	SIM parameters (assign)	804	Edit / Etcetera / 07
312	Caller ID, allow		
<b>400</b>			
400	DISA mode		Edit / Trunks / 06
400	Do not disturb (trunk override)		Edit / Trunks / 06
400	Emulate 1A2		Edit / Trunks / 06
400	Trunk forward		Edit / Trunks / 06
400	Trunk on/off		
401	CO/PBX line		
402	Trunk dial type	501,503	Edit / Trunks / 11
403	Toll restriction		Edit / Trunks / 10
403	Trunk toll class	202,301,507,701	Edit / Trunks / 10
404	Trunk name	104,405	Edit / Trunks / 05
405	Trunk number	405	Edit / Trunks / 01
406	Trunk ring assignment	202,507,607	Edit / Station / 28

## Numerical List By MMC #

407	Forced trunk release	603	
408	MOH source, trunk	308	Edit / Trunks / 04
409	Trunk status read	400 401 402 406 408 410 803	
410	DISA trunk assign	500	
411	T-1signal type, assign	714	Edit / Trunks / 12
412	Trunk signal		
414	Caller ID trunks		
415	Trunk abandon data		
416	E&M translation		
<b>500</b>			
500	Counters, system	501	
501	Hook flash		Edit / System / 04
501	Hook on/off time		Edit / System / 04
501	PCMMC lockout		Edit / System / 04
501	Timers, system		Edit / System / 04
502	Forward no answer timer	102	
502	Timers, station		Edit / Station / 26
503	Timer, trunk-wide		Edit / Trunks / 09
504	Dial pulse		Edit / Etcetera / 02
504	Pulse make/break ratio	402	Edit / Etcetera / 02
505	Date/time, assign		Edit / Etcetera / 01
506	Tone cadence		
507	Auto night time, assign	722,723	Edit / Tenants / 06
<b>600</b>			
600	Attendant group		Edit / Tenants / 01
600	Operator group	211,212,406,601,602	Edit / Tenants / 01
601	Next destination		Edit / Tenants / 13
601	Station group, assign	203,204	Edit / Station / 13,25
601	Station group		Edit / Tenants / 13
601	Transfer recall time		Edit / Tenants / 13
601	Wrap-up timer		Edit / Tenants / 13
602	Station group name	104,404,600,601	Edit / Station / 13,25
603	Trunk group		Edit / Trunks / 03
604	Station to page zone		Edit / Station / 21
605	Page zone external (assign)		Edit / Station / 22
605	Page zone external		Edit / Tenants / 11
606	Speed block (assign)	705,706	Edit / Station / 24
606	Speed block (assign)	705,706	Edit / System / 03
608	Review block		Edit / System / 15
<b>700</b>			
700	COS contents, copy	701	Edit / System / 01
701	COS contents, assign	700	Edit / Station / 25
701	COS contents, assign	700	Edit / System / 01
702	Toll deny table	702,704	Edit / System / 05
703	Toll allowance table		Edit / System / 05
704	Wild character (assign)	702,703	
705	Speed dial system (assign)	706	Edit / System / 02
705	Speed dial by name (system)	705	Edit / System / 02







Numerical List By MMC #

707	Authorization Code	305	
708	Account Code	305	
709	PBX access code	702,703	Edit / Tenants / 10
710	LCR digit table	712	Edit / Tenants / 02
711	LCR time table	712	Edit / Tenants / 02
712	LCR route table	310,710,711,713	Edit / Tenants / 02
713	LCR modify digit table	710	Edit / Tenants / 02
714	DID #/name translation	411	Edit / Trunks / 02
715	Station message, programmed	115	
720	Programming, key, copy	107,721,722,723	
721	Programming, key, save	107,722,723	
722	Programming, key, station	107	Edit / Station / 16
722	Programming, key, station	107	Edit / System / 07
723	Programming, key, system		Edit / Station / 16
723	Programming, key, system		Edit / System / 07
724	Dial numbering plan		Edit / Tenants / 07
724	Dial numbering plan		Edit / Configuration / 02
724	Flexible numbering plan		Edit / Tenants / 07
725	SMDR options	300	Edit / Station / 21
725	SMDR options	300	Edit / Etcetera / 06
726	VM/AA options	207	Edit / Station / 21
726	VM/AA options	207	Edit / Etcetera / 08
727	Version display, system		Dash (-) / Introduction
727	Version display, system		Edit / System / 06
727	Version display, system		Edit / Configuration / 03
728	Caller ID translation table		Edit / System / 14
731	Auto Attendant RAM clear		
732	Auto Attendant translation table		Edit / System / 08,10
733	Auto Attendant plan programming		Edit / System / 08,10
734	Auto Attendant message match		Edit / System / 09
735	Auto Attendant use table		
736	Auto Attendant music on hold, set		
<b>800</b>			
800	Programming, technician (enable)	801	
801	Passcode, technician	800	Edit / Etcetera / 03
801	Program, technician (change)	800	Edit / Etcetera / 03
802	MMC access		
802	Programming range, customer		Edit / Etcetera / 03
803	Tenant group, assign		
804	I/O parameters, system		Edit / Etcetera / 07
806	Card pre-install		
808	T-1 parameters		
810	Halt processing		
811	System reset		

Alphabetical List By Function

FUNCTION	MMC	OTHER MMC's	PCMMC
<b>A</b>			
Account Code	708	305	
Add-on Module	209		Edit / Station / 04
Advance tone, trunk	300		Edit / Station / 21
Alarm and Message	116		
Alarm Message	213	212	Edit / Station / 02
Alarm Reminder	112		Edit / Station / 01
Alarm Reminder	112		Edit / Tenants / 04
Alarm Ringing Station	212	213	Edit / Station / 02
Answer Mode, set	103	111	Edit / Station / 03
Attendant group	600		Edit / Tenants / 01
Authorization Code	707	305	
Auto Answer	103		
Auto Attendant message match	734		Edit / System / 09
Auto Attendant music on hold, set	736		
Auto Attendant options			Edit / System / 12
Auto Attendant plan programming	733		Edit / System / 08,10
Auto Attendant RAM clear	731		
Auto Attendant translation table	732		Edit / System / 08,10
Auto Attendant use table	735		
Auto hold	110		Edit / Station / 21
Auto night time, assign	507	722,723	Edit / Tenants / 06
Auto redial			Edit / Tenants / 04
<b>B</b>			
Background music source, assign	308	309,408	Edit / Station / 05
Background music volume, assign	117		
Barge-in type	206	301,701	Edit / Tenants / 03
Boss-Secretary, assign	303	722	Edit / Station / 06,25
<b>C</b>			
Call forward	102		Edit / Station / 07
Caller ID translation table	728		Edit / System / 14
Caller ID trunks	414		
Caller ID, allow	312		
Caller ID, display	119		
Card pre-install	806		
Card version (read only)			Edit / System / 16
Centrex flash			
Clock display	109	505	Edit / Station / 10
CO ringing	208		Edit / Station / 30
CO/PBX line	401		
Common bell control	204	203,601	Edit / Station / 09
COS contents, assign	701	700	Edit / Station / 25
COS contents, assign	701	700	Edit / System / 01
COS contents, copy	700	701	Edit / System / 01
COS station	301	701	Edit / Station / 08
Counters, system	500	501	





Alphabetical List By Function

<b>D</b>			
Data call message			Edit / Tenants / 05
Data ringing	208		Edit / Station / 30
Date/time, assign	505		Edit / Etcetera / 01
Dial by voice options	215		Edit / Station / 32
Dial by voice options	215		Edit / Etcetera / 11
Dial numbering plan	724		Edit / Tenants / 07
Dial numbering plan	724		Edit / Configuration / 02
Dial pulse	504		Edit / Etcetera / 02
DID #/name translation	714	411	Edit / Trunks / 02
DISA alarm ringing station	214		Edit / Tenants / 18
DISA lock			Edit / Tenants / 02
DISA mode	400		Edit / Trunks / 06
DISA trunk assign	410	500	
Do not disturb (trunk override)	400		Edit / Trunks / 06
Door ring assignment	211		Edit / Station / 11
<b>E</b>			
E&M translation	416		
Emulate 1A2	400		Edit / Trunks / 06
Executive OHVA	206		Edit / Station / 31
Extension use	304	406,722,723	Edit / Station / 27
Extension use	304	406,722,723	Edit / Trunks / 08
<b>F</b>			
Flexible numbering plan	724		Edit / Tenants / 07
Forced account code, assign	305	707,708	Edit / Station / 12
Forced accountcode table	305	707,708	Edit / Tenants / 08
Forced trunk release	407	603	
Forward no answer timer	502	102	
<b>H</b>			
Halt processing	810		
Headset/handset	110		Edit / Station / 21
Hook flash	501		Edit / System / 04
Hook on/off time	501		Edit / System / 04
Hotline	309	307	Edit / Station / 14
Hot keypad	110		Edit / Station / 21
<b>I</b>			
I/C ringing	208		Edit / Station / 30
I/O parameters, system	804		Edit / Etcetera / 07
<b>K</b>			
Key extender	107	720,721,722,723,724	
Key tone	110		Edit / Station / 21
Keypad on/off	110	301,701	
<b>L</b>			
LCR COS	310		Edit / Station / 08
LCR digit table	710	712	Edit / Tenants / 02
LCR modify digit table	713	710	Edit / Tenants / 02



Alphabetical List By Function

LCR route table	712	310,710,711,713	Edit / Tenants / 02
LCR time table	711	712	Edit / Tenants / 02
Lock, station	100		Edit / Station / 17
Loud bell, assign	205		Edit / Station / 18
<b>M</b>			
Memo number, view	113		
Message, programmed, set	115		Edit / Station / 29
Message, programmed, set	115		Edit / Tenants / 17
Microphone (speakerphone)	300		Edit / Station / 21
MMC access	602		
MOH source, trunk	408	308	Edit / Trunks / 04
MOH, station	309	308,408	Edit / Station / 19
<b>N</b>			
Next destination	601		Edit / Tenants / 13
<b>O</b>			
Off-hook ring volume	114	111	Edit / Etcetera / 04
Off-hook selection	307	501	Edit / Station / 14
OHVA	205		Edit / Station / 31
Operator group	600	211,212,405,601,602	Edit / Tenants / 01
<b>P</b>			
Page rejoin	110		Edit / Station / 21
Page zone external (assign)	605		Edit / Station / 22
Page zone external	605		Edit / Tenants / 11
Passcode, customer	201	200	Edit / Etcetera / 03
Passcode, feature (change)	202		Edit / Tenants / 19
Passcode, technician	801	800	Edit / Etcetera / 03
Passcode, user	101	301 501 502 701 722 723	Edit / Etcetera / 03
PBX access code	709	702,703	Edit / Tenants / 10
PCMMC lockout	501		Edit / System / 04
Pickup groups	302	107,722,723	Edit / Station / 23,25
Pickup groups	302	107,722,723	Edit / Tenants / 12
Port position	108	301 302 303 601 604 803	Edit / Station / 25
Program, technician (change)	801	800	Edit / Etcetera / 03
Programming range, customer	802		Edit / Etcetera / 03
Programming, customer	200	201,501,802	
Programming, key, copy	720	107,721,722,723	
Programming, key, save	721	107,722,723	
Programming, key, station	722	107	Edit / Station / 16
Programming, key, station	722	107	Edit / System / 07
Programming, key, system	723		Edit / Station / 16
Programming, key, system	723		Edit / System / 07
Programming, technician (enable)	800	801	
Pulse make/break ratio	504	402	Edit / Etcetera / 02
<b>R</b>			
Review block	608		Edit / System / 15
Ring type (assign)	208		Edit / Station / 30
Ring volume	118		Edit / Etcetera / 05





Alphabetical List By Function

Ring tone, keyset	111	114	Edit / Etcetera / 05
Ringing line preference	110		Edit / Station / 21
<b>S</b>			
SIM parameters (assign)	311	804	Edit / Station / 15
SIM parameters (assign)	311	804	Edit / Etcetera / 07
SMDR options	725	300	Edit / Station / 21
SMDR options	725	300	Edit / Etcetera / 06
Speakerphone (microphone)	300		Edit / Station / 21
Speed block (assign)	606	705 706	Edit / Station / 24
Speed block (assign)	606	705 706	Edit / System / 03
Speed dial (station)	105	106,606	Edit / Station / 24
Speed dial by name (system)	706	705	Edit / System / 02
Speed dial name (station)	106	105	
Speed dial system (assign)	705	706	Edit / System / 02
Station group name	602	104,404,600,601	Edit / Station / 13,25
Station group, assign	601	203,204	Edit / Station / 13,25
Station group	601		Edit / Tenants / 13
Station message, programmed	715	115	
Station name	104		Edit / Station / 20,24
Station on/off	300		
Station status	108	301 302 303 601 604 803	Edit / Station / 25
Station to page zone	604		Edit / Station / 21
Station use	304	406 722 723	Edit / Station / 27
Station use	304	406 722 723	Edit / Trunks / 08
System reset	811		
<b>T</b>			
T-1 parameters	808		
T-1signal type, assign	411	714	Edit / Trunks / 12
Tenant group, assign	803		
Tenant on/off	210		Edit / Tenants / 09
Timer, trunk-wide	503		Edit / Trunks / 09
Timers, station	502		Edit / Station / 26
Timers, system	501		Edit / System / 04
Toll allowance table	703		Edit / System / 05
Toll deny table	702	702,704	Edit / System / 05
Toll restriction	403		Edit / Trunks / 10
Tone cadence	506		
Transfer recall time	601		Edit / Tenants / 13
Trunk abandon data	415		
Trunk dial type	402	501,503	Edit / Trunks / 11
Trunk forward	400		Edit / Trunks / 06
Trunk group	603		Edit / Trunks / 03
Trunk name	404	104,405	Edit / Trunks / 05
Trunk number	405	405	Edit / Trunks / 01
Trunk on/off	400		
Trunk ring assignment	406	202,507,607	Edit / Station / 28
Trunk signal	412		
Trunk status read	409	400 401 402 406 408 410 803	

Alphabetical List By Function

Trunk toll class	403	202,301,507,701	Edit / Trunks / 10
Trunk use	304	406,722,723	Edit / Station / 27
<b>U</b>			
U-A device	203	204,601,605	Edit / Tenants / 16
Unlock station	100		Edit / Station / 17
User passcode (change)	101	301 501 502 701 722 723	Edit / Etcetera / 03
<b>V</b>			
Version display, system	727		Dash (-) / Introduction
Version display, system	727		Edit / System / 06
Version display, system	727		Edit / Configuration / 03
VM/AA options	726	207	Edit / Station / 21
VM/AA options	726	207	Edit / Etcetera / 08
VM/AA port (assign)	207	726	
Voice Dial options	215		Edit / Station / 32
Voice Dial options	215		Edit / Etcetera / 11
<b>W</b>			
Wild character (assign)	704	702,703	
Wrap-up timer	601		Edit / Tenants / 13







SECTION - 2 -

HOW TO USE THE SERVICE

TECHNICAL SUPPORT

To obtain technical support between 8:30am through 8:00pm EST, simply dial (800)876-4782 and respond to the auto attendant prompts. You will be asked to enter your certification number. Once you have entered your valid number you will be automatically transferred to Technical Support. To protect you as a dealer, please note that Technical Support is an exclusive service offered only to the certified staff of our dealers.

24 HOUR EMERGENCY TECHNICAL SERVICE

If you have an emergency outside of our regular service hours and require technical support, simply dial (800)876-4782 and respond to the auto attendant prompts. You will be asked to leave a number where you can be contacted. Our on-duty technician will be paged and he will return the call.

CUSTOMER CONCERNS (CC's)

It is an objective of the Technical Support staff to never dismiss any reasonable concern that you may have until you are satisfied with our response. Most of the time we will have a

## PART 2. PROGRAMMING PROCEDURES

### 2.1 PROGRAM LIST

100:	STATION LOCK	311:	ASSIGN SIM PARAMETER
101:	CHANGE USER PASSCODE	312:	ALLOW CALLER ID
102:	CALL FORWARD	400:	CUSTOMER ON/OFF PER TRUNK
103:	SET ANSWER MODE	401:	C.O./PBX LINE
104:	STATION NAME	402:	TRUNK DIAL TYPE
105:	STATION SPEED DIAL	403:	TRUNK TOLL CLASS
106:	STATION SPEED DIAL NAME	404:	TRUNK NAME
107:	KEY EXTENDER	405:	TRUNK NUMBER
108:	STATION STATUS	406:	TRUNK RING ASSIGNMENT
109:	CLOCK DISPLAY	407:	FORCED TRUNK RELEASE
110:	KEYSET ON/OFF	408:	ASSIGN TRUNK MUSIC ON HOLD SOURCE
111:	KEYSET RING TONE	409:	TRUNK STATUS READ
112:	ALARM REMINDER	410:	ASSIGN DISA TRUNK
113:	VIEW MEMO NUMBER	411:	ASSIGN T1 SIGNAL TYPE
114:	OFF-HOOK RING VOLUME	412:	ASSIGN TRUNK SIGNAL
115:	SET PROGRAMMED MESSAGE	414:	ASSIGN CALLER ID TRUNKS
116:	ALARM AND MESSAGE	415:	REPORT TRUNK ABANDON DATA
117:	ASSIGN BACKGROUND MUSIC VOLUME	416:	ASSIGN E & M TRANSLATION
118:	STATION RING VOLUME	500:	SYSTEM-WIDE COUNTERS
119:	CALLER ID DISPLAY	501:	SYSTEM TIMERS
200:	OPEN CUSTOMER PROGRAMMING	502:	FORWARD NO ANSWER TIMER
201:	CHANGE CUSTOMER PASSCODE	503:	TRUNK-WIDE TIMER
202:	CHANGE FEATURE PASSCODES	504:	PULSE MAKE/BREAK RATIO
203:	ASSIGN UA DEVICE	505:	ASSIGN DATE AND TIME
204:	COMMON BELL CONTROL	506:	tone CADENCE
205:	ASSIGN LOUD BELL	507:	ASSIGN AUTO NIGHT TIME
206:	BARGE-IN TYPE	600:	ASSIGN OPERATOR GROUP
207:	ASSIGN VM/AA PORT	601:	ASSIGN STATION GROUP
208:	ASSIGN RING TYPE	602:	STATION GROUP NAME
209:	ASSIGN ADD-ON MODULE	603:	ASSIGN TRUNK GROUP
210:	CUSTOMER ON/OFF PER TENANT	604:	ASSIGN STATION TO PAGE ZONE
211:	DOOR RING ASSIGNMENT	605:	ASSIGN EXTERNAL PAGE ZONE
212:	ALARM RINGING STATION	606:	ASSIGN SPEED BLOCK
213:	ALARM MESSAGE	607:	UCD OPTIONS
214:	DISA ALARM RINGING STATION	608:	ASSIGN REVIEW BLOCK
215:	DIAL BY VOICE OPTIONS	700:	COPY COS CONTENTS
216:	DIAL BY VOICE ASSIGNMENTS	701:	ASSIGN COS CONTENTS
300:	CUSTOMER ON/OFF PER STATION	702:	TOLL DENY TABLE
301:	ASSIGN STATION COS	703:	TOLL ALLOWANCE TABLE
302:	PICKUP GROUPS	704:	ASSIGN WILD CHARACTER
303:	ASSIGN BOSS/SECRETARY	705:	ASSIGN SYSTEM SPEED DIAL
304:	ASSIGN EXTENSION/TRUNK USE	706:	SYSTEM SPEED DIAL BY NAME
305:	ASSIGN FORCED CODE	707:	AUTHORIZATION CODE
306:	HOT LINE	708:	ACCOUNT CODE
307:	ASSIGN OFF-HOOK SELECTION	709:	PBX ACCESS CODE
308:	ASSIGN BACKGROUND MUSIC SOURCE	710:	LCR DIGIT TABLE
309:	ASSIGN STATION MUSIC ON HOLD	711:	LCR TIME TABLE
310:	LCR CLASS OF SERVICE	712:	LCR ROUTE TABLE



713:	LCR MODIFY DIGIT TABLE	733:	AUTO ATTENDANT PLAN PROGRAMMING
714:	DID NUMBER AND NAME TRANSLATION	734:	AUTO ATTENDANT MESSAGE MATCH
715:	PROGRAMMED STATION MESSAGE	735:	AUTO ATTENDANT USE TABLE
720:	COPY KEY PROGRAMMING	736:	SET AUTO ATTENDANT MUSIC ON HOLD
721:	SAVE STATION KEY PROGRAMMING	800:	ENABLE TECHNICIAN PROGRAM
722:	STATION KEY PROGRAMMING	801:	CHANGE TECHNICIAN PASSCODE
723:	SYSTEM KEY PROGRAMMING	802:	CUSTOMER ACCESS MMC NUMBER
724:	DIAL NUMBERING PLAN	803:	ASSIGN TENANT GROUP
725:	SMDR OPTIONS	804:	SYSTEM I/O PARAMETER
726:	VM/AA OPTIONS	806:	CARD PRE-INSTALL
727:	SYSTEM VERSION DISPLAY	808:	T1 PARAMETERS
728:	CALLER ID TRANSLATION TABLE	810:	HALT PROCESSING
731:	AUTO ATTENDANT RAM CLEAR	811:	RESET SYSTEM
732:	AUTO ATTENDANT TRANSLATION TABLE		

