



*i*DCS 100
Installation Guide

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Preface

About This Manual

*i*DCS 100, Digital Communication System, is a digital telephone system designed for small to medium-sized businesses. This manual provides the information about installation of the Samsung *i*DCS 100, Digital Communication System, including information about connecting the equipments.

This guide consists of following 9 chapters. Find and read necessary chapters.

- Site Requirements
- Installing Basic KSU and Expansion Cabinet
- Installing Printed Circuit Cards
- Power Up Procedures
- Connecting CO Circuit
- Connecting Station Equipment
- Connecting Optional Equipment
- Installing Keypad Daughter Boards
- Changing Software

Supporting Documents

Further detail on all of the aspects covered in this manual is included in the system General Description and Programming guide. The *i*DCS 100 system provides the following manuals for more information:

- **General Description Guide**

This manual provides an overview of the Samsung *i*DCS 100, Digital Communication System, including system structure and hardware, features and facilities and specifications.

- **Installation Guide**

This manual provides the information about installation of the Samsung *i*DCS 100, Digital Communication System, including information about connecting the equipments.

- **Programming Guide**

*i*DCS 100 system provides MMC(Man Machine Communication) program. Users can configure the system using the MMC program at the digital telephone. This manual describes how to use the MMC program.

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Chapter 1 Site Requirements

When planning the installation of the *i*DCS 100, 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 has adequate lighting (See Figure 2-1).
- Select a location that will minimize cable lengths. See the CABLE REQUIREMENTS table below.
- The equipment must 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 must 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 15cm clearance on both sides and 15cm clearance on top of the KSU to ensure proper ventilation.
- Do not install in close proximity to a fire sprinkler head or other sources of water.

Meeting these requirements will help to ensure proper performance and greater life expectancy of the system.

CABLE REQUIREMENTS

EQUIPMENT	CABLE	AWG	MAX FEET	MAX METERS
DIGITAL KEYSETS	1PR. TWISTED	24	1300	400
ADD-ON MODULES	1PR. TWISTED	24	1300	400
SINGLE LINE STATION	1PR. TWISTED	24	3000	1 KM
DOOR PHONE	2PR. TWISTED	24	330*	100

* This is the maximum distance a door phone can be from the DPIM. The DPIM can be a maximum of 270 meters cable from the KSU.

ELECTRICAL SPECIFICATIONS

Item	Specification
AC INPUT	220~240VAC, 50Hz, 3.0A
POWER CONSUMPTION (MAX)	140 WATTS (MAX)
DC OUTPUT	FUSE RATING 2AMP +5 VOLTS 4.0 AMPS MAX - 55 VOLTS 1.7 AMPS MAX (for SLT/KTS Feeding voltage) - 54 VOLTS 0.4 AMPS MAX (for Battery charge)

DIMENSION AND WEIGHTS

Item	Height (mm)	Width(mm)	Depth(mm)	Weight(kg)
Basic Cabinet	464	365	148	7.5
Expansion Cabinet	484	467	148	12.5
Digital Keypad	108	213	229	1.2
Add-On Module	108	108	229	0.5
Door Phone	127	99	32	0.2

ENVIRONMENTAL LIMIT

Item	Specification
Operating Temperature	0 ~ 40 °C
Storage Temperature	- 10.5 ~ 70 °C

Chapter 2 Installing Basic KSU and Expansion Cabinet

System Capacity

iDCS 100 system can have up to 48 stations if SVMi-8 is not used, and can have up to 40 stations if SVMi-8 is used. There is no limit in the analog C.O. line, and ISDN C.O line if any slot is available and PRI(TEPRI) or SVMi-8 can be adopted in the DCS slot on the EXP cabinet of iDCS 100. Some configuration examples are below.

- In this table, 4BRI (4S0T0) is used as digital trunk.
- 4BRI (4S0T0) card can be used as ISDN NT. Each port can have up to 8 ISDN TEs, but power consumption of each port is limited to 4 WATT.
- Only one ITM3 card can be equipped into the basic cabinet slots per system.

Combination of Boards	Loop Start Trunk/BRI I/F	Key sets	KDB-D /KDB-S	Max Capacity (Including KDB line)
Basic	0	8	8	0 * 8 (16)
Basic+3TRK	3	8	8	3 * 8 (16)
Basic+4BRI(4S0T0)	4(8CH)	8	8	8 * 8 (16)
Basic +4BRI(4S0T0)+8DLI * 2	4(8CH)	24	8	8 * 24 (32)
Basic +3TRK * 2 + 8DLI	6	16	8	6 * 16 (24)
Basic(4BRI (4S0T0) + 8DLI * 2) +EXP(4BRI (4S0T0)+8DLI * 2)	8(16CH)	40	8	16 * 40(48)
Basic(6TRK+8DLI* 2) +EXP(3TRK *2 +8DLI)	12	32	8	12 * 32(40)

Basic Cabinet

Basic Rack Plus Expansion Cabinet

Unpacking and Inspection

After unpacking the KSU, inspect for signs of physical damage. If any damage is detected, do not attempt to install. Contact Samsung Technical Support Department.

Check to see that Basic KSU carton includes the following items.

- Basic Key Service Unit (KSU)
- Spare Parts Ass'y

Check to see that Expansion KSU carton includes the following items.

- Expansion Key Service Unit(KSU)
- Spare Parts Ass'y

Basic KSU Installation

Basic KSU is accommodated in a metal cabinet which is wall mounted. In case of wall mounted, the KSU should be mounted on a plywood back at least 5/8" thick. Attach a mounting screw to the back board. Next hang the KSU on the screws and screw it to the back board with the remaining two screws. Tighten all four screws to secure KSU in place. (See Figure 2-1)

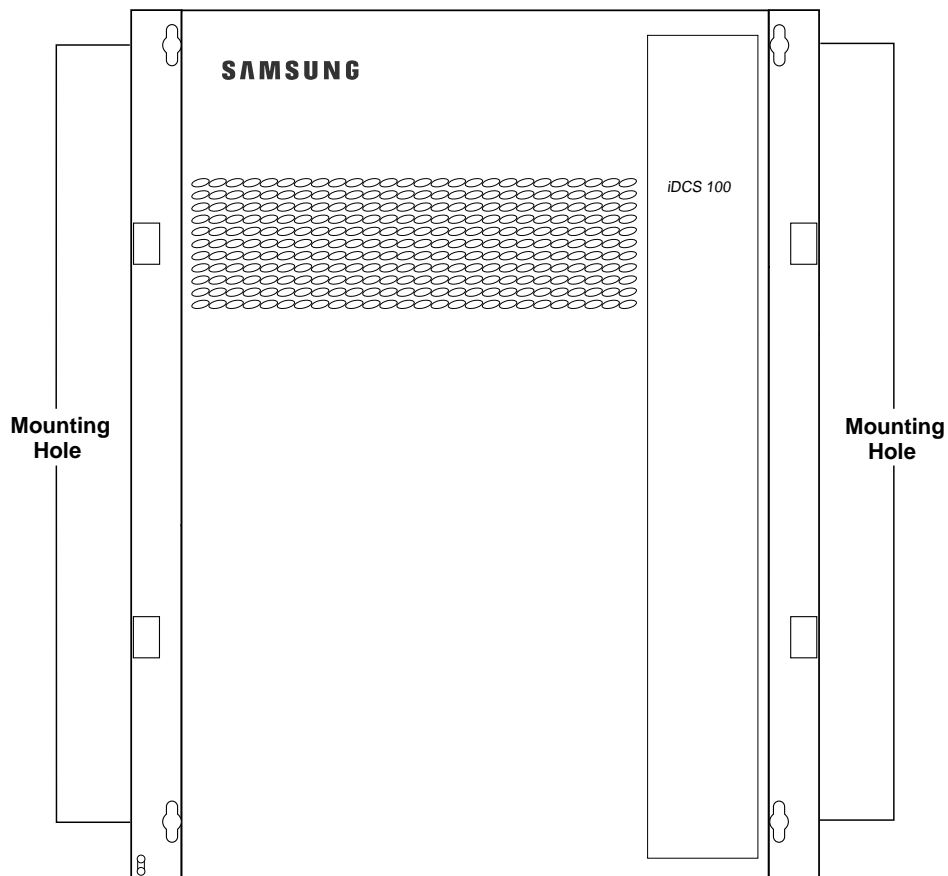


FIGURE 2-1 BASIC KSU (KEY SERVICE UNIT)

Expansion KSU Installation

Expansion KSU is simply attached to basic KSU with the following procedure.

This manual instanced the Expansion cabinet A as the installation figures. The installation procedure of Expansion Cabinet A is same with Expansion Cabinet B.

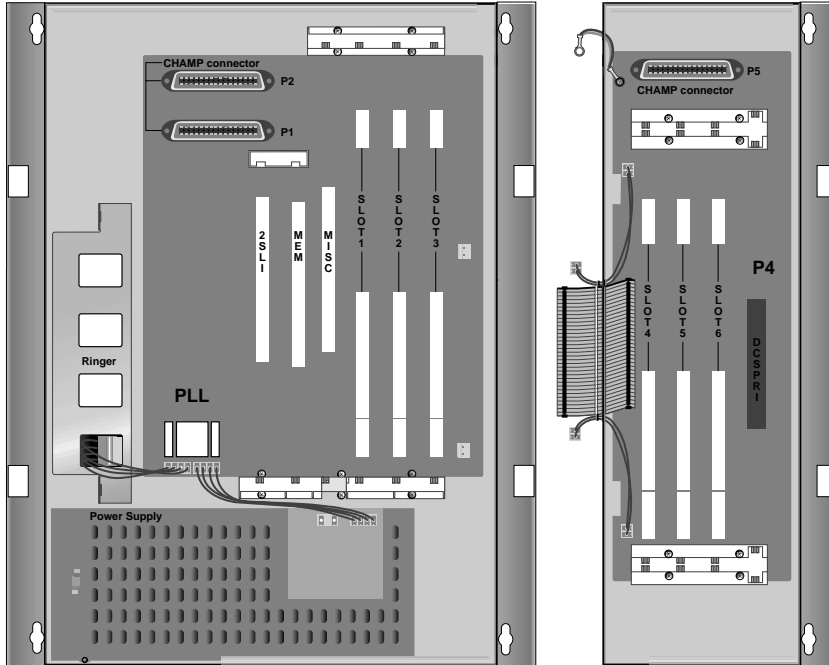


FIGURE 2-2 BASIC KSU + EXPANSION A

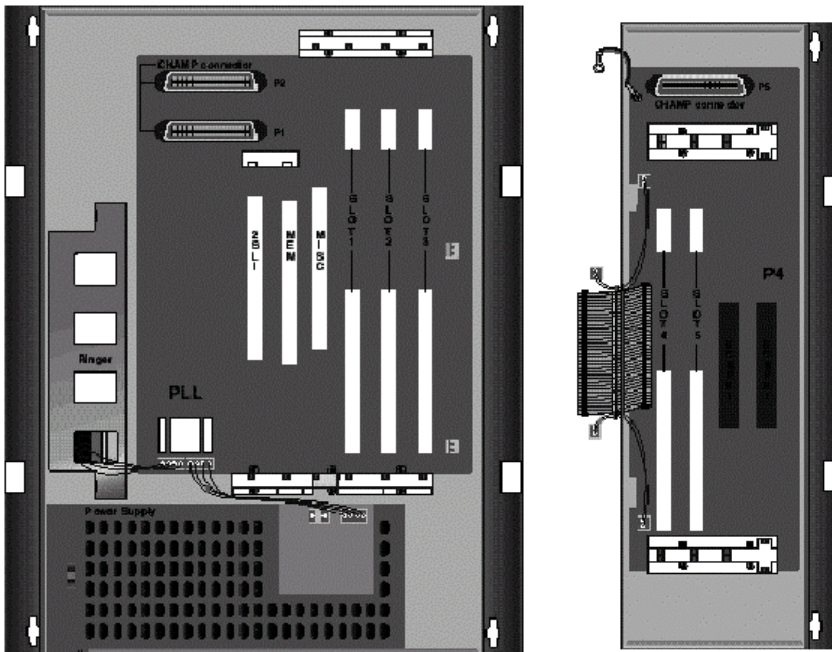


FIGURE 2-3 BASIC KSU + EXPANSION B

1. Switch OFF the power and remove the covers of both basic KSU and Expansion Cabinet A or B.
2. Remove dummy tabs on the right side of the basic with appropriate tools for connection route. A is for MDF cable and B is for signal and power cable. (See Figure 2-4)

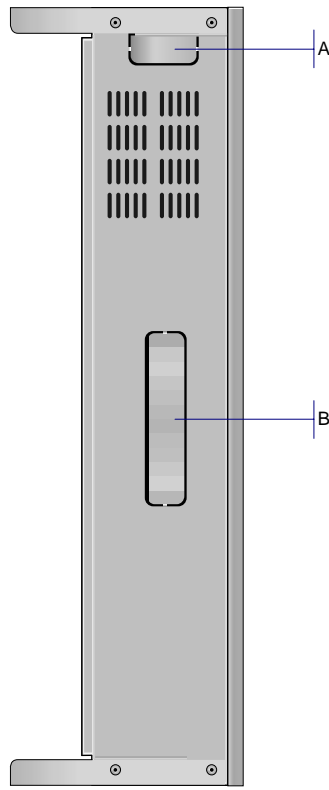


FIGURE 2-4 RIGHT SIDE VIEW OF BASIC KSU

3. Move Expansion cabinet to basic cabinet and attach it via groove. (See Figure 2-5)

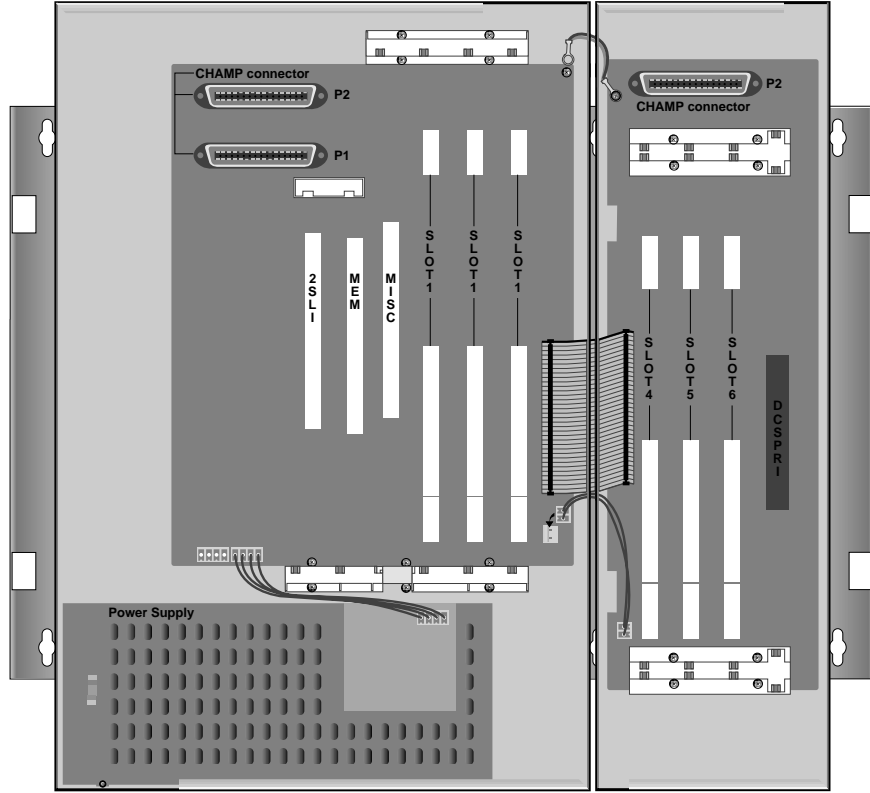


FIGURE 2-5 ASSEMBLE BETWEEN BASIC KSU & EXP.CABINET(1)

4. Fix Expansion cabinet with offered screw to back plane. (See Figure 2-6)

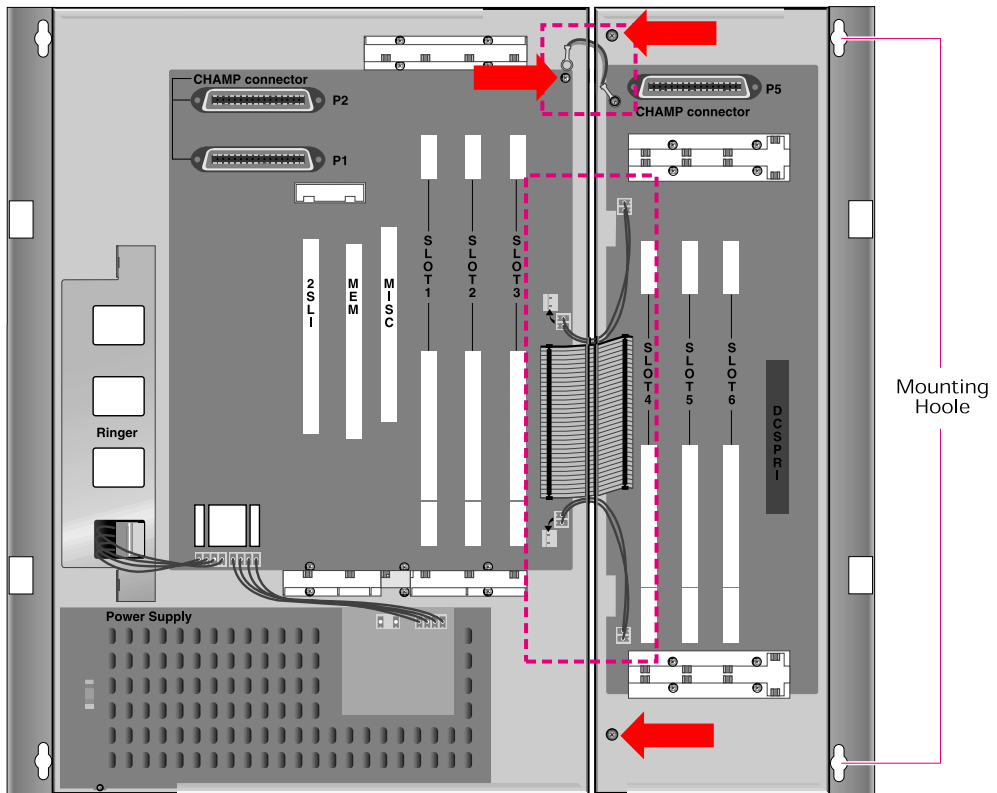


FIGURE 2-6 ASSEMBLE BETWEEN BASIC KSU & EXP.CABINET(2)

5. Connect Exp KSU to basic with flat cable and 2 wires. (See Figure 2-6)
6. Insert new optional card.
7. Connect MDF cable through appropriate path. (See figure 2-7 & 2-8)

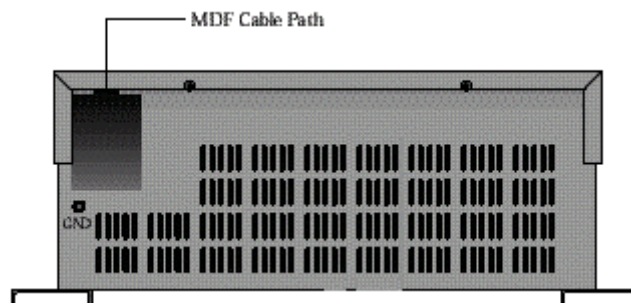


FIGURE 2-7 BOTTOM SIDE OF BASIC KSU

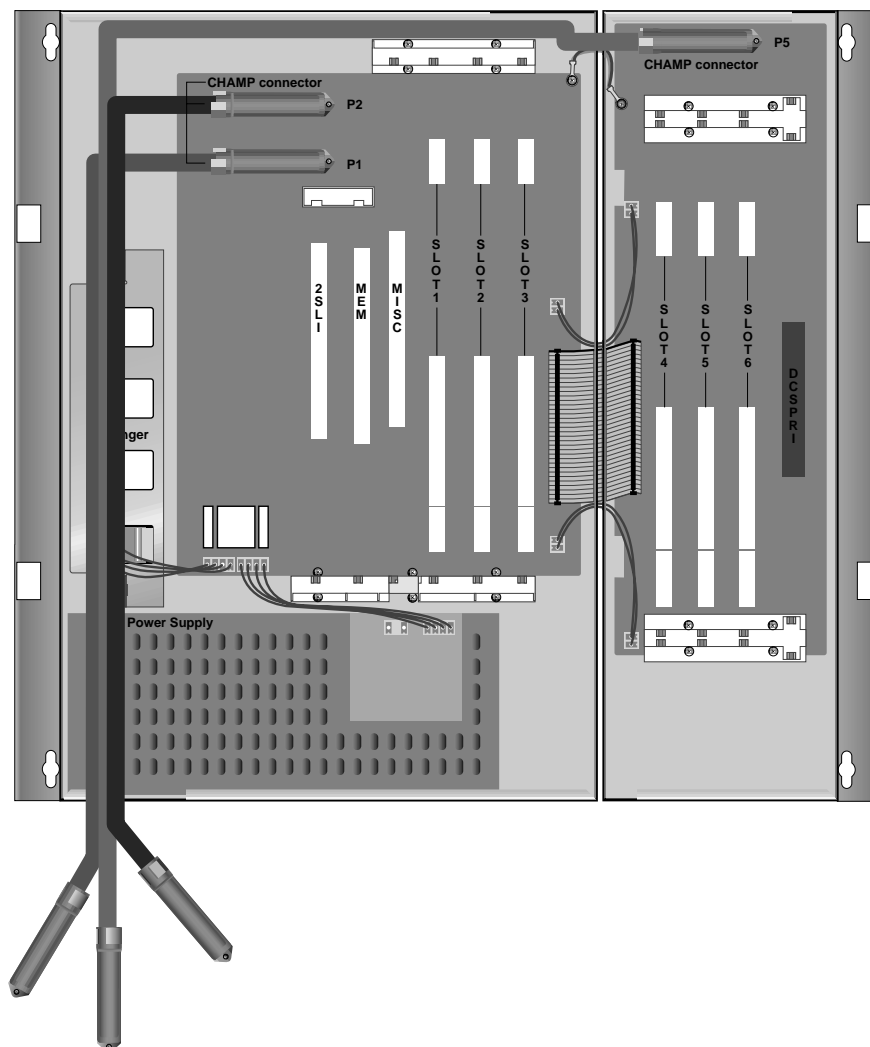


FIGURE 2-8 CABLING FOR MDF

8. Now cover the cabinets and switch ON the power.

RGU(Ring Generator Unit) Installation

The RGU can be mounted in the Basic KSU by offered screw.

The Cable Ass'y(4Pin) of RGU should be connected to connector P11 of 008 Base board. (See Figure 2-9)

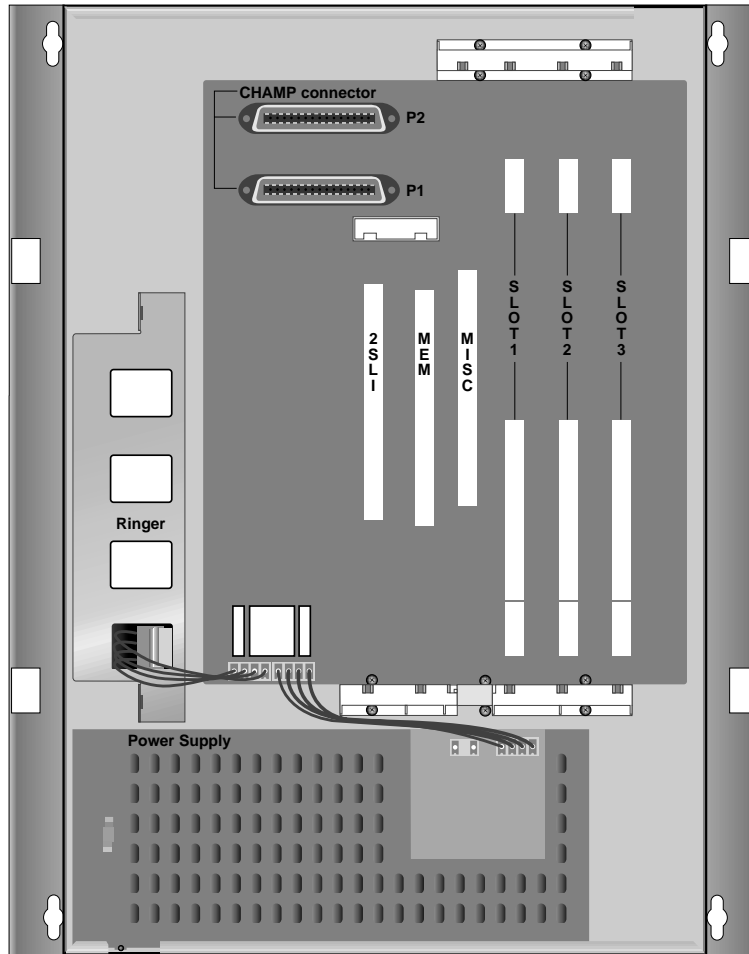


FIGURE 2-9 INSTALLATION OF RGU

Grounding

iDCS 100 comes equipped ready to use with a third wire AC ground provided through the power cord. This third ground will be adequate for most application. However, if it is suspected that there is a problem with the ground provided at AC outlet or local codes require a solid earth ground to be connected to the KSU, the existing third wire ground must be disconnected before power is applied. The existing third wire ground is disconnected by removing the holding screw and tapping and storing the wire. After this wire has been disconnected, the grounding lug on the PSU(Power Supply Unit) must be connected to a ground rod or metal cold water pipe using #A10 AWG solid copper wire.

Failure to provide an adequate ground may cause intermittent problems 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.
.....

MDF Cabling

All connection to the iDCS 100 system are made by way of a customer-provided main distribution frame (MDF). The KSU and expansion kit are each connected to the MDF using a 25 pair female amphenol-type cable(with the exception of the TEPRI, ITM3 cards). These cables can be routed into the KSU cabinet from below. (See Figure 2-7 & 2-8)

Use one pair twisted wire to cross-connect stations or lines to their associated port.

Battery for Power Failure

Battery Selection

If you want to use iDCS 100 system during power failure, install appropriate batteries. If you adopt battery whose capacity is too large, iDCS 100 system may be shut down, and if too small, iDCS 100 system may not operate during power failure. In any case, use battery connection cable offered with iDCS 100.

Installation Procedure

Feed battery cable through MDF cable path; connect cable to battery, RED to positive(+), BLACK to negative(-), then insert housing connector to head pin in power supply. (See Figure 2-10)

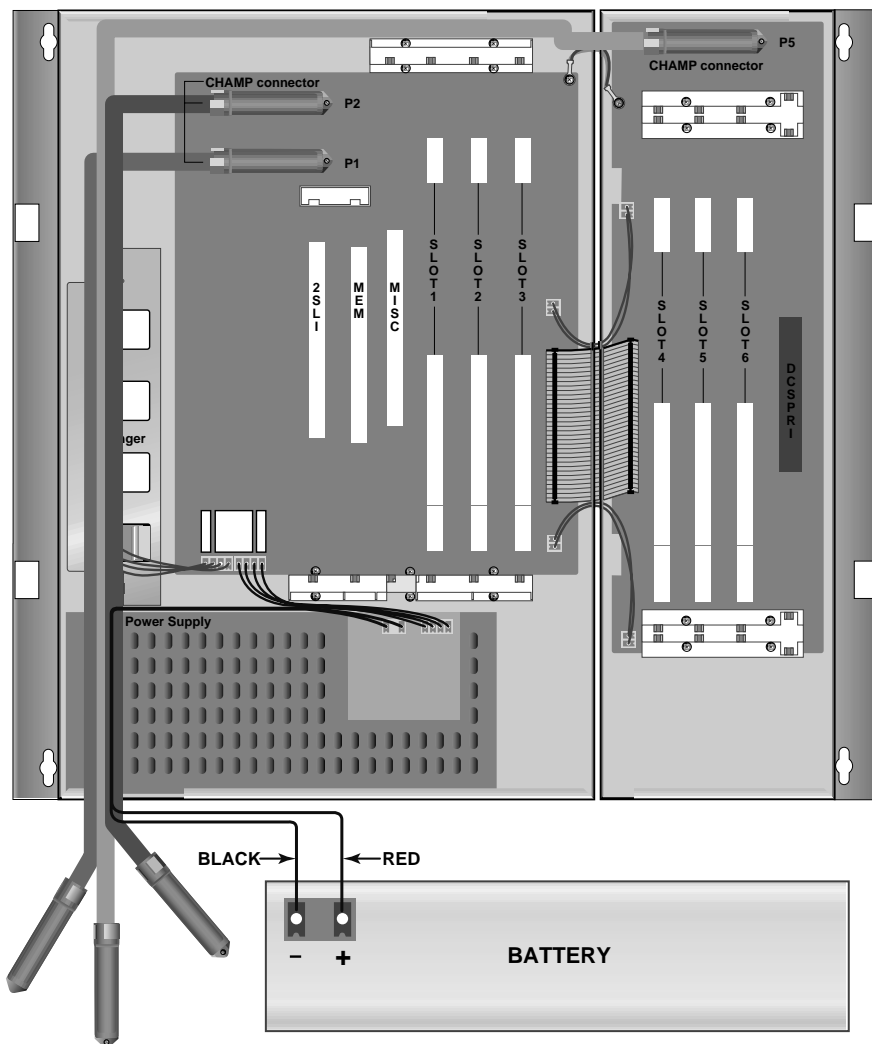


FIGURE 2-10 CABLING FOR BATTERY CONNECTION

Recommended Battery Specification

	Charge	Discharge
Minimum Load Current (A)	0	0.05
Maximum Load Current (A)	0.4	0.7
Norminal Load Current (A)	0.1	0.5
Norminal Output Voltage (V)	54	49

- Max KTS current consumption : 30mA



CAUTION: Be sure the polarity is observed. Equipment damage will result if polarity is reversed.
Do not connect external AC or DC power to the system shocked by electric power.

Chapter 3 Installing Printed Circuit Cards

Unpack and inspect each card before installing. Check for signs of physical damage. If any damage is detected, do not attempt to install. Contact Samsung Technical Support immediately.

3TRK Card

3 loop start trunk Ports and 2 PFT Ports for Power failure transfer. (See Figure 3-1)

This card has no selectable option. Insert the 3 TRK card into the appropriate slot. Push firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

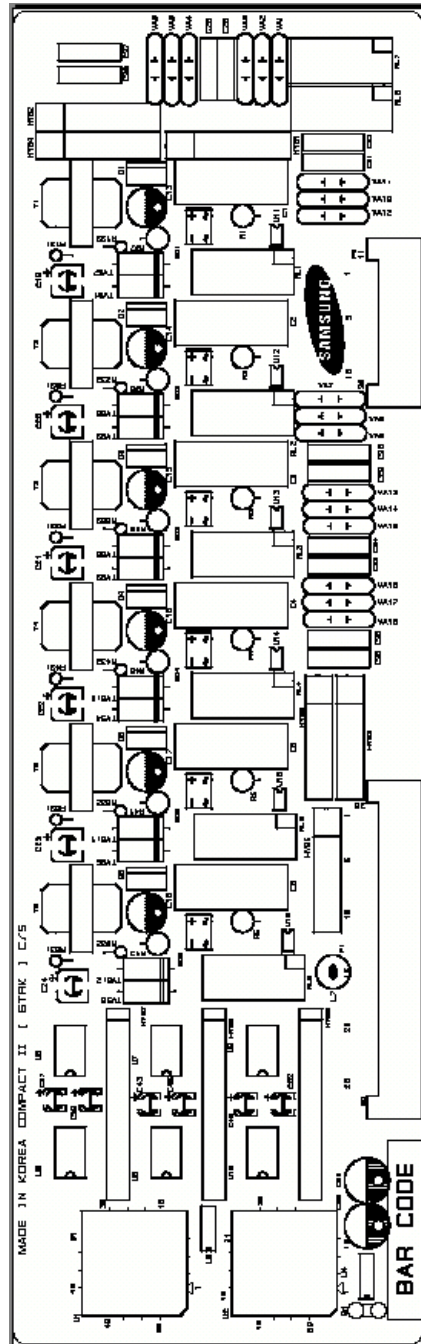
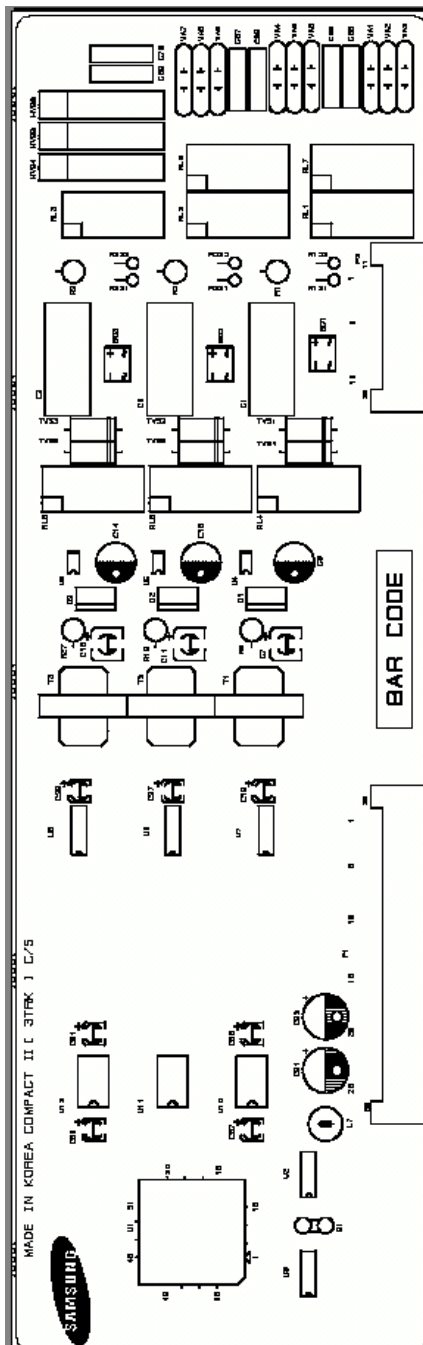


FIGURE 3-1 3TRK CARD AND 6TRK CARD

6 TRK Card

6 loop start trunk ports and 2 PFT ports for power failure transfer.
(See Figure 3-1)

This card has no selectable option. Insert the 6 TRK card into the appropriate slot. Push firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

6 MWSLI Card

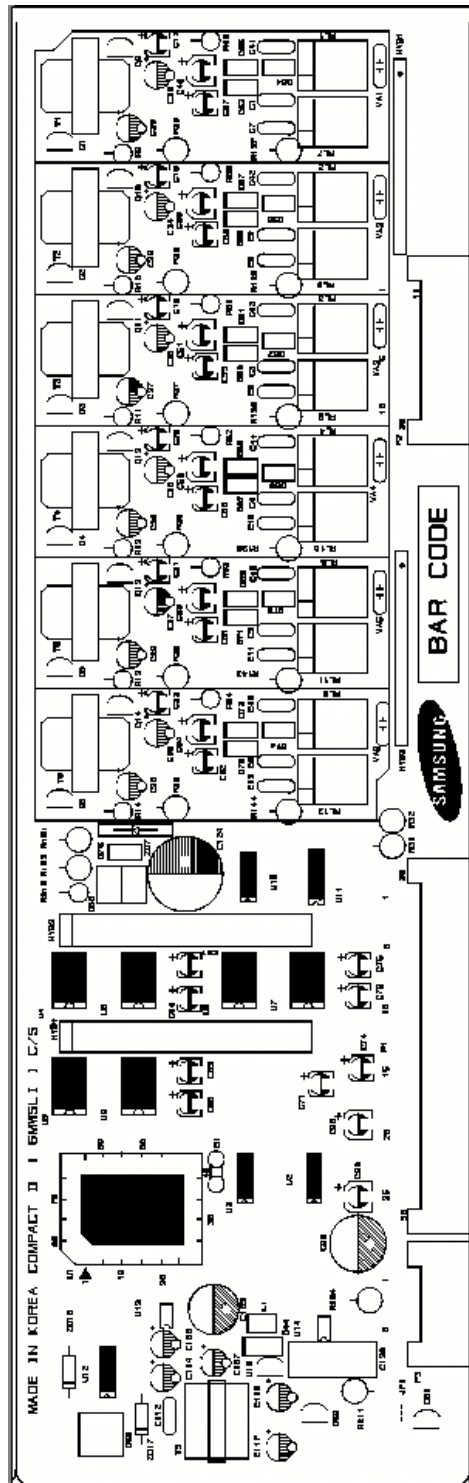


FIGURE 3-2 16MWSLI CARD

8 SLI Card

Which has 8 subscriber line ports (See Figure 3-3)

This card has no selectable option. Insert the 8 SLI card into the appropriate slot. Push firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

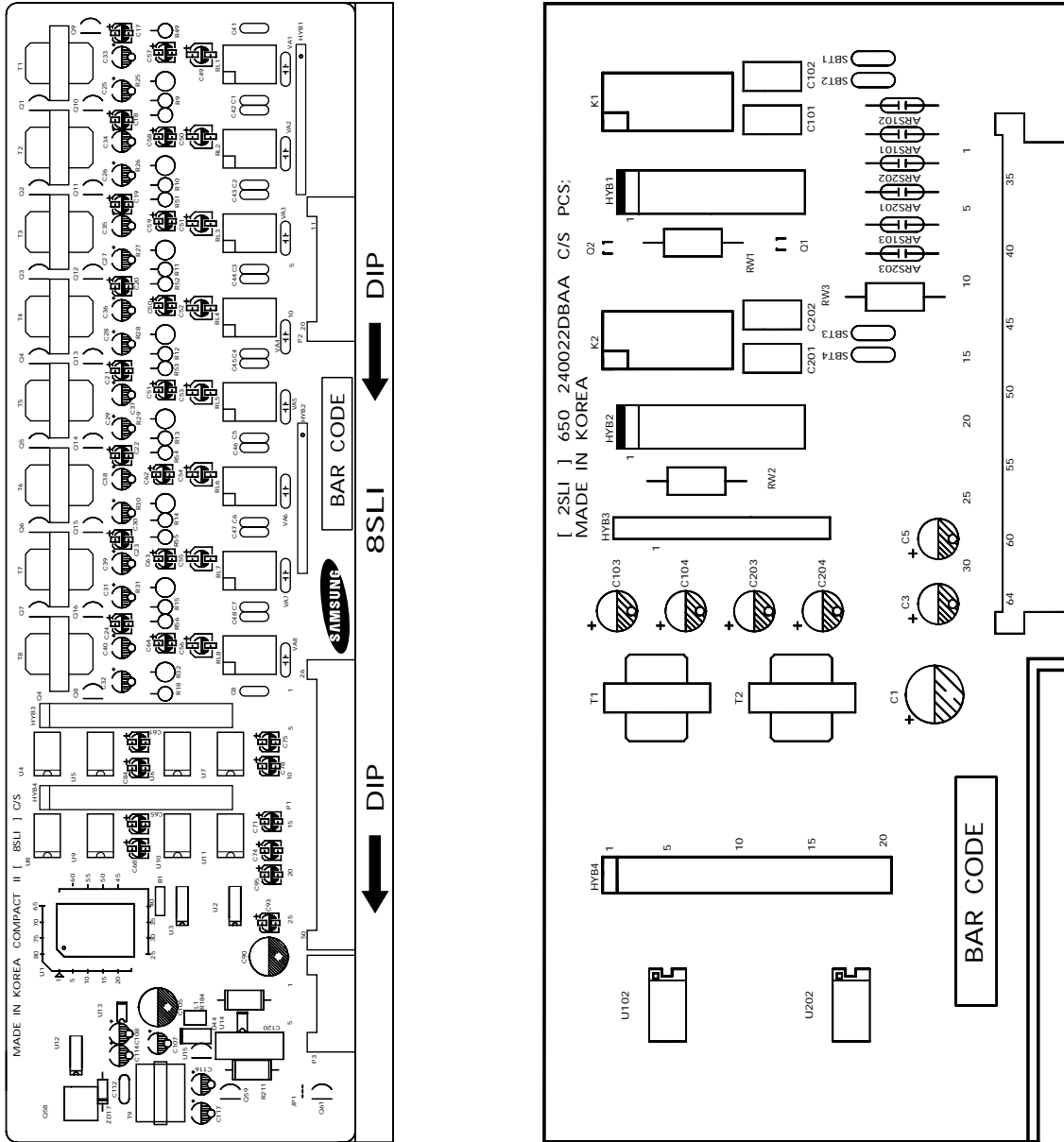


FIGURE 3-3 8SLI CARD AND 2SLI CARD

2 SLI Card

which has 2 subscriber line port (See Figure 3-3)

This card has no selectable option. Insert the card into the 2 SLI slot. Push firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

8 DLI Card

Which has 8 digital phone ports. (See Figure 3-4)

This card has no selectable option. Insert the 8 DLI card into the appropriate slot. Push firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

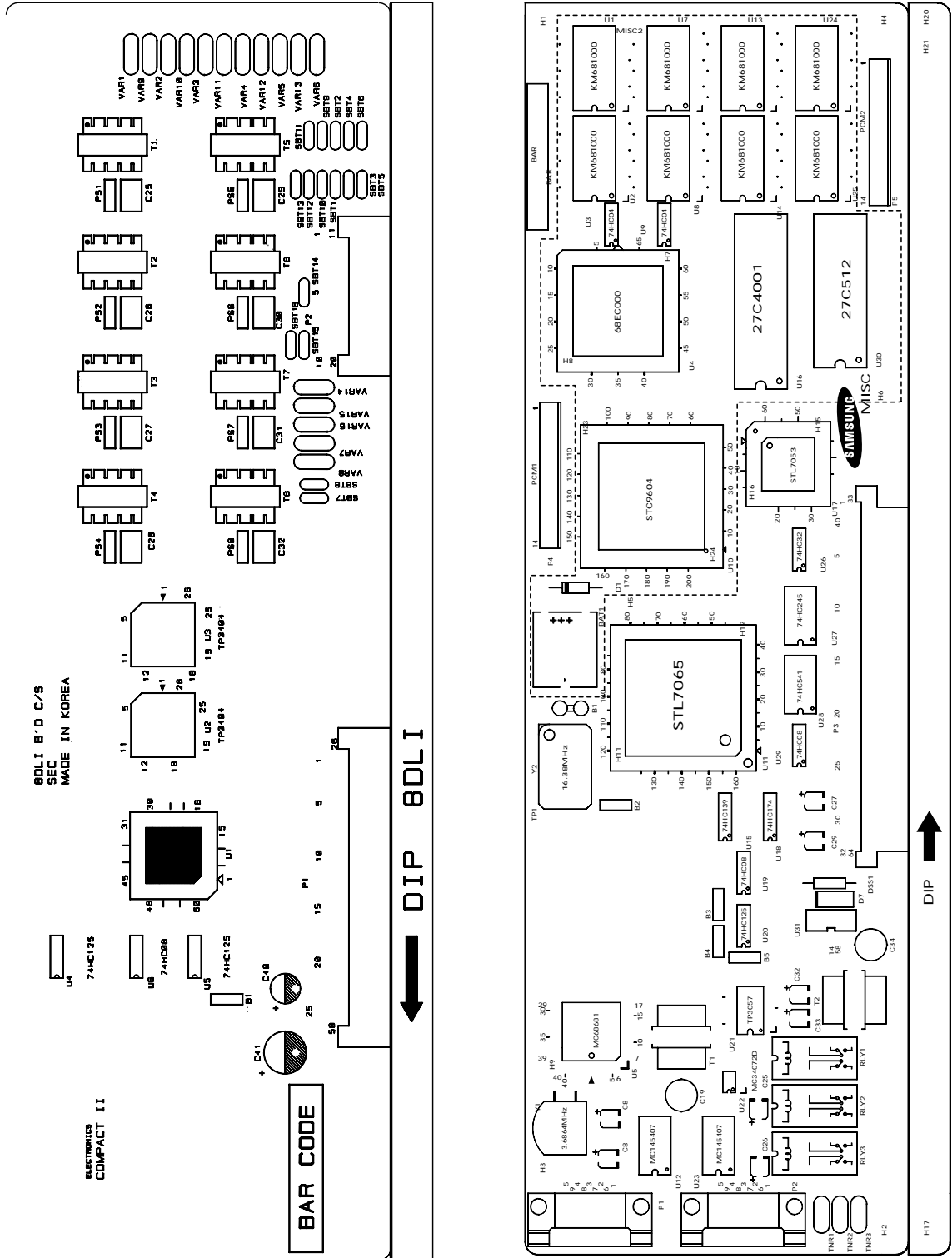


FIGURE 3-4 8DLI CARD AND MISC1/ MISC2 CARD

MISC 1 Card

Which has many miscellaneous function DTMF receiver(4ch), RS232C, BGM, PAGE, COMMON PURPOSE RELAY(3port), MODEM(option) (See Figure 3-4)

Select appropriate type of MISC card for your system. If you choose MISC 1 card then insert the MISC 1 card into the MISC slot and PUSH firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

MISC 2 Card

Which has many miscellaneous function DTMF receiver (4ch), RS232C, BGM, PAGE, COMMON PURPOSE RELAY (3port), AA, MODEM (option) (See Figure 3-4)

Select appropriate type of MISC card for the system. If you choose MISC 2 card then insert the MISC 2 card into the MISC slot and PUSH firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

TEPRI or PRI Card

Which has 30 channel U interface ports.

This card has no selectable options. Insert PRI into the last slot in the Expansion cabinet (type A or B).

Firmly push in the middle of the card to ensure that it is fully inserted into the back plane connector. PRI card needs PLL B'd installing first. Before installing PRI card, PLL B'd must be installed.

The TEPRI card is installed in the DCS slot on expansion cabinet. The iDCS 100 supports either E1 or ISDN PRI service. The first four LEDs on the front of the card provide the status of the service (Sync, AIS, Loss and Layer 2 Active states). The second four LED's on the front of the card display the type of service. There are two RJ45 modular jacks on the face of the card. The settings for E1 or PRI service are selected by a bank of DIP switches as defined below (See Figure 3-5). Push firmly in the middle of both card ejectors on each card to ensure that it is fully inserted into the back plane connector.

TEPRI CARD DIP SWITCH

Switch No.	ON	OFF
1	T1	E1
2	PRI	T1
4	NETWORK	USER
5,6,7	Not-used	Not-used
8		Not-used

TEPRI LED DEFINITIONS

LED Name	Function	Status (Normal Status/Error Status)
SYN	Synchronization Loss. Indicates wander or loss of framing.	OFF/ON
LOS	Loss of Signal. No PCM Clocking is being received.	OFF/ON
AIS	Alarm Indicating Signal. Indicating that all one's are being received.	OFF/ON
L2	Layer 2 is active. PRI messaging is being received.	OFF/ON
IPC	IPC link set up.	OFF/IPC link set up
CLK	Card clock status.	OFF/CARD is secondary source ON card is primary source.
MODE	LED's TP1 & TP2 show the span type	TP1, TP2
	E1 mode	OFF/OFF
	E1 PRI mode	OFF/ON
	T1 mode	ON/OFF
	T1 PRI mode	ON/ON

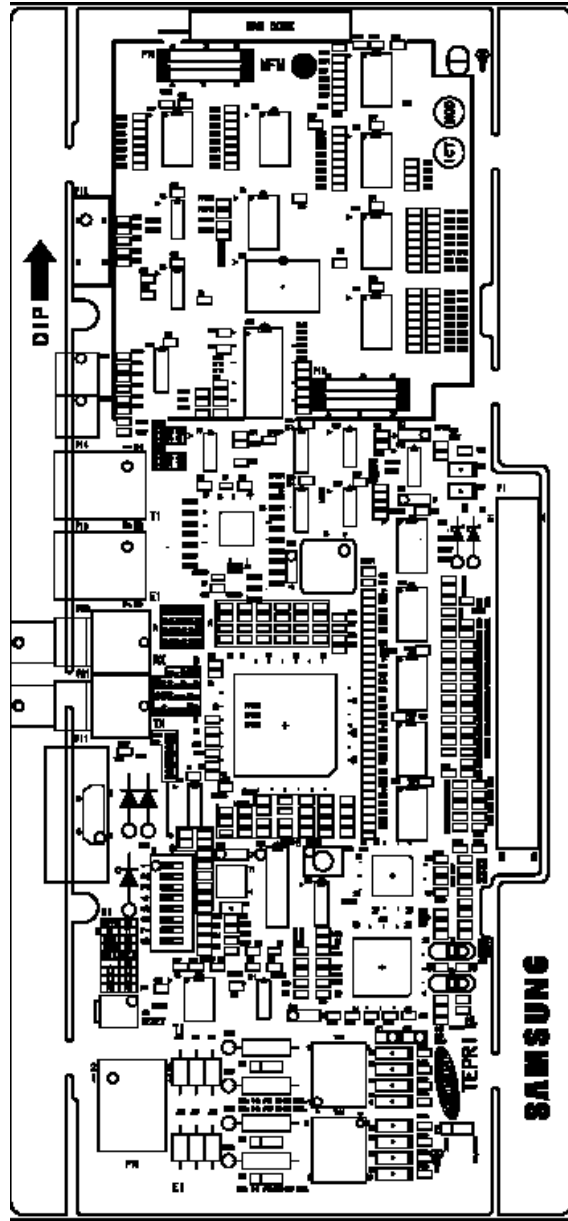


FIGURE 3-5 TEPRI CARD

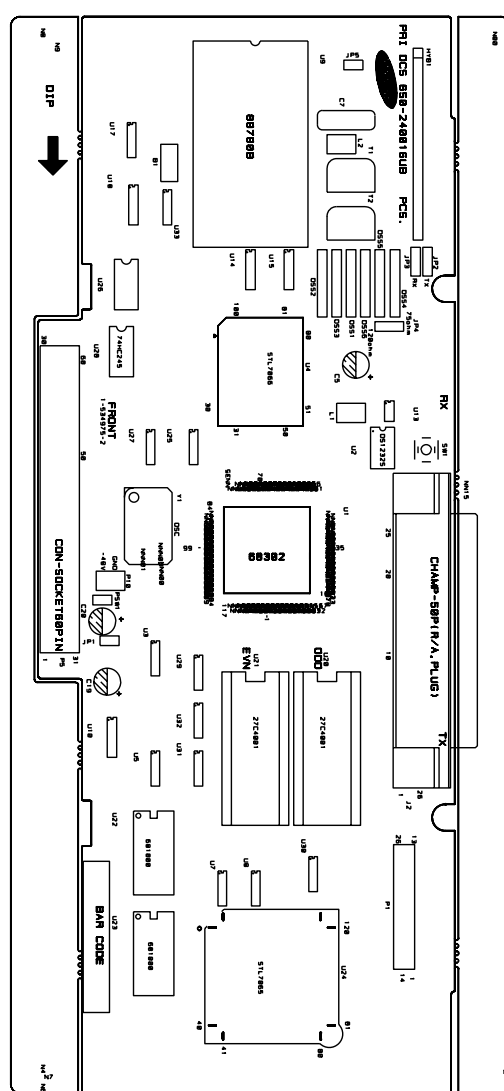


FIGURE 3-6 PRI CARD

4BRI(4S0T0)/2BRI(2S0T0) Card

This card supports both of S and T reference points defined by ITU-T. You can select the S/T mode of each port respectively by MMC. Insert the 4BRI (4S0T0) card or 2BRI(2S0T0) into the universal slot and push firmly in the middle of both card ejectors to ensure that it is fully inserted into the back plane connector.

PLL Card

This card has no selectable option and this card is only used when TEPRI, PRI or BRI card is adopted. Push firmly in the middle of 14 pin female connector. (See Figure 3-9)

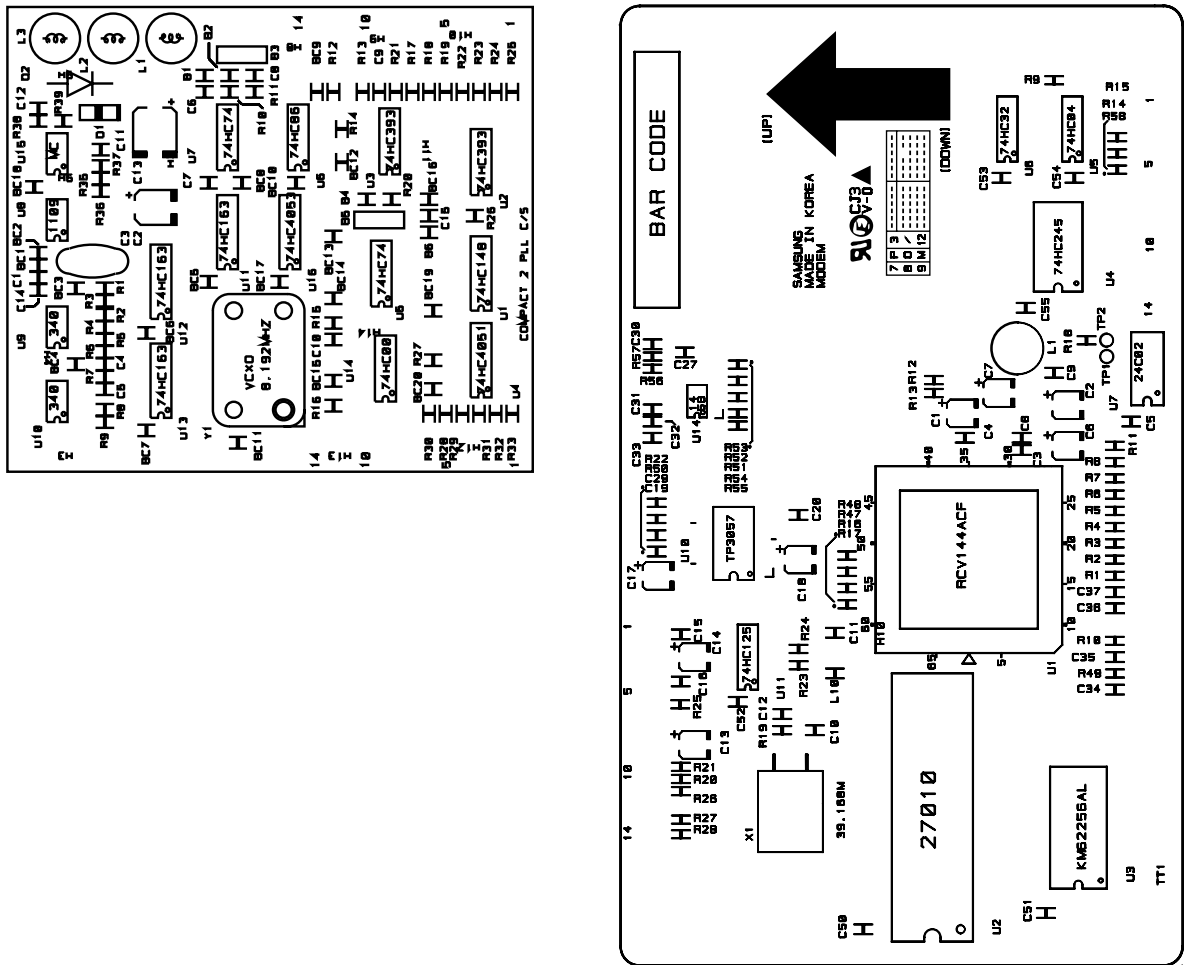


FIGURE 3-9 PLL CARD AND MODEM

MODEM Card

This card is option card of MISC 1 or MISC 2, iDCS 100 can adopt internal modem. Push firmly in the middle of 14 pin female connector. (See Figure 3-9)

MEM Card (MEM3 or MEM4)

Select the appropriate of MEM for the system. Make sure that back up switch is OFF position. Insert the MEM card in the KSU slot labeled MEM. Push in middle of the MEM card (MEM3 or MEM4) to ensure that it is fully inserted into the back plane connector.

To prevent accidental damage to MEM card, the connector on the back plane is positioned to mate only with the MEM card. Other interface cards will not mate with this connector and MEM card will not mate with any other connector.

MEM3 card has EPROM memory to support new features Window PC-MMC, ITM3 & TEPRI cards. MEM4 card with LAN interface module, no selectable options. The LAN module is required to expand the system memory, to provide SIO ports 1EA, and a 10/100 base T LAN interface processor. MEM4 card has Flash memory to support new features Window PC-MMC, ITM3, TEPRI cards and Networking solution by TEPRI, Program/Database up/down-load by LAN interface. (See Figure 3-10 and Figure 3-11)

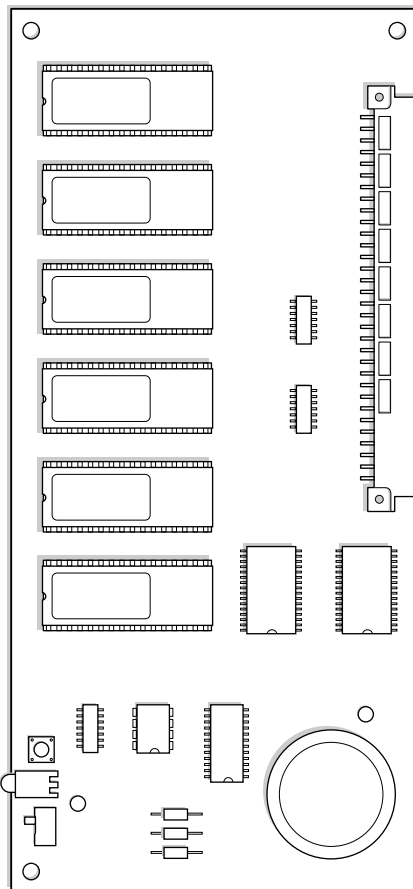


FIGURE 3-10 MEM3 CARD

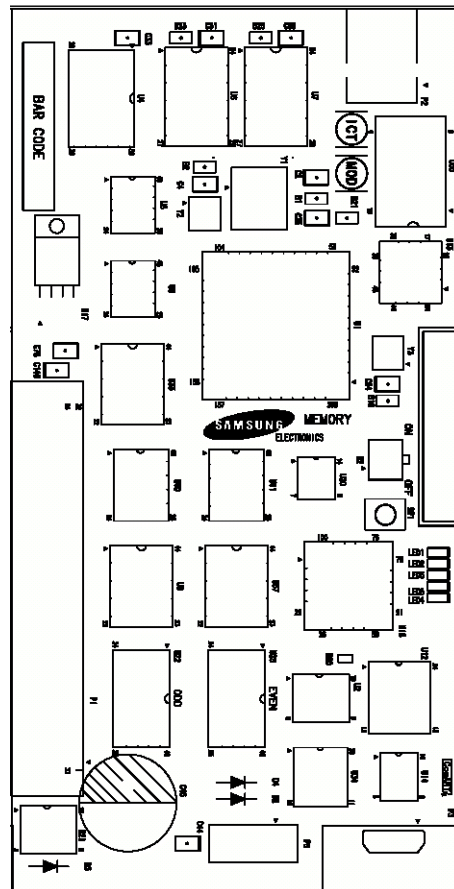


FIGURE 3-11 MEM4 CARD

SVMi-4 CARD

The SVMi-4 is a self contained plug in voice mail and auto attendant card for the iDCS 100. It is designed to meet the demands of the sophisticated voice mail user without sacrificing simplicity.

The SVMi-4 may act as an Auto Attendant system only, a Voice mail system only or both.

Out of the box the SVMi-4 can handle 2 calls simultaneously. It can be easily upgraded to handle up to 4 calls simultaneously.

No external line or power connections are necessary, these are accomplished directly through the phone system.

At this time of this writing the memory capacity is about 5 hours, although changes in technology will allow for additional storage as time goes on. (See Figure 3-12)

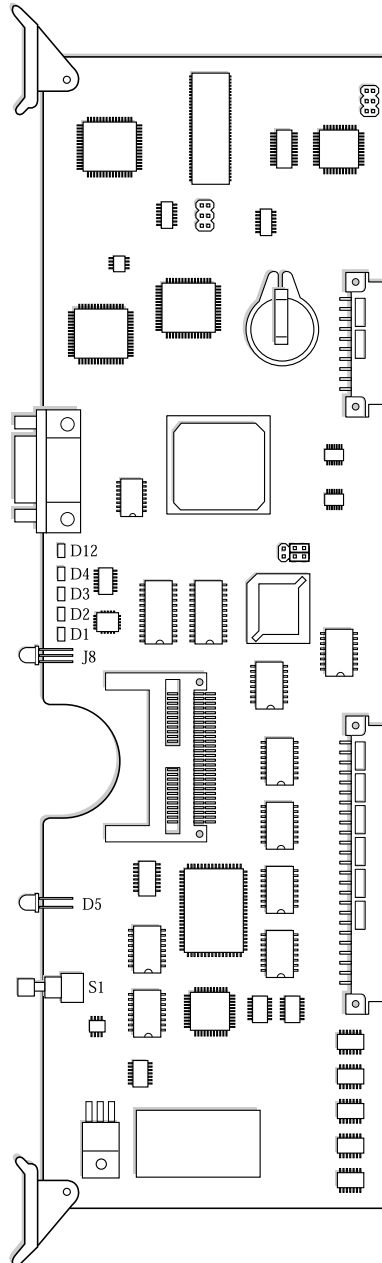


FIGURE 3-12 SVMi-4 CARD

SVMi-8 CARD



NOTE: Before installing this card it should be correctly configured with a hard disk drive and the appropriate number of voice processing modules. One additional Voice Processing Module can be added.

The SVMi-8 card is installed in DCS slot on the expansion cabinet. Only one SVMi-8 can be installed in an iDCS 100 system and it counts as eight(8) stations of the power supply rating. Check that the cabinet power switch is in the OFF position. Next, position the SVMi-8 card in the grooves of the card guide and gently slide the card in until it makes contact with the connector. Press gently but firmly on the top and bottom of the front edge of the card until the card sits in its connector. Ensure that you have installed the correct power supply. (See Figure 3-13)

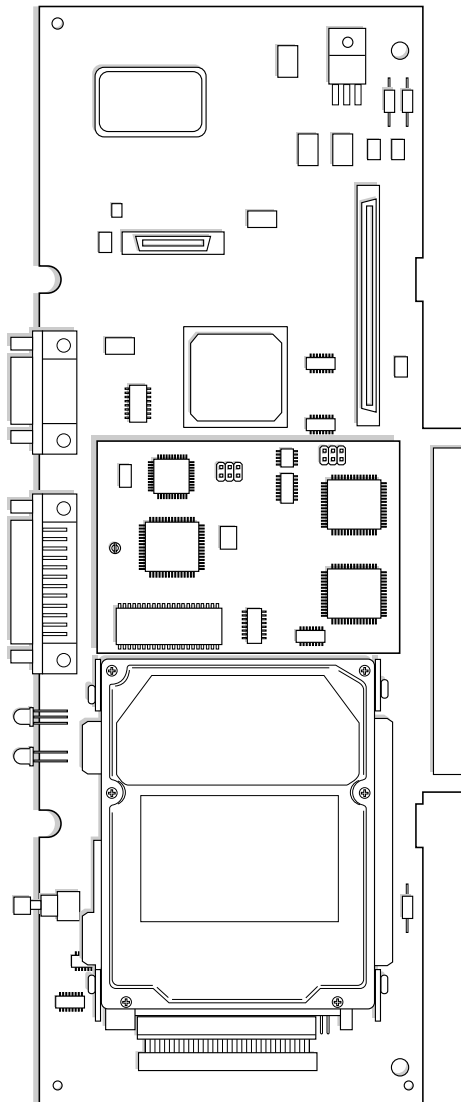


FIGURE 3-13 SVMi-8 CARD

ITM3 Card

The number of the installed ITM3 card is limited to one in the iDCS 100 system. The ITM3 card can be installed in the universal slots on the Basic KSU.

There are no options to select on the ITM3 card. The card has eight(8) LEDs on its faceplate to indicate the status of the card.

These indications are described below. Insert the card into any universal card slot. Push firmly in the middle of both card ejectors to ensure the card is firmly seated into the back plane connector.

LED Name	Function	Status
PWR	Power State	OFF Power is OFF ON Power is ON
RUN	Processor Status	OFF Power is OFF ON Card is booting Flicker Normal Operation
RX	LAN TX State	
TX	LAN RX State	
SPD	LAN Speed	OFF 10 MBPS ON 100 MBPS
L1	Future	
L2	Future	
L3	Future	

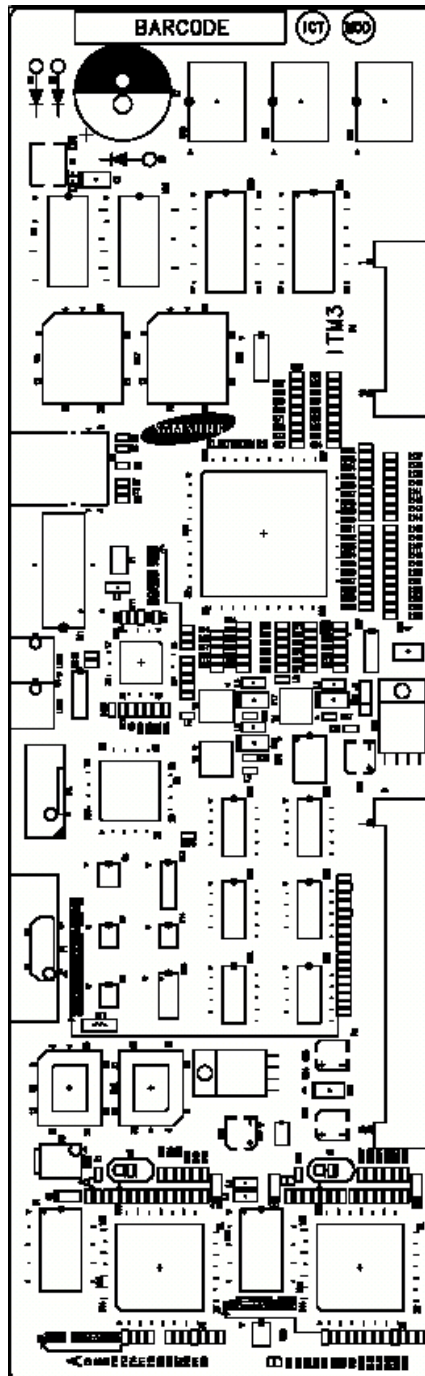


FIGURE 3-14 ITM3 CARD

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Chapter 4 Power Up Procedures

Connect Power to The System

During the initial installation, it is best to verify proper system operation before plugging in any amphenol-type cable 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 220-240 VAC.

Make sure the AC power switch is in the OFF position and that MEM battery switch is OFF. Plug the KSU power cord into the dedicated polarized AC outlet. Turn the AC power switch to the ON position. The AC and DC LED on the power supply will light steady to confirm the presence of power. If the PSU is operated by external battery, AC LED is OFF and DC LED is ON. If the PSU AC LED fails to illuminate, unplug the system, remove the power supply and check the AC fuse located on the bottom.

If the fuse is good but the AC LED does not illuminate, check your AC outlet. Turn off the power switch; unplug all cards using card ejectors. Turn the system on. Check the AC LED again. If the problem is corrected, you have a defective card. Test and remove the faulty card before continuing. If the AC LED still does not light, unplugging the KSU and change power supplies. This in all probability will solve the problem.

If it does not, contact Samsung Technical Support.

MEM Card Indications

Having verified proper operation of the power supply, visually check the MEM card indications. The LED of MEM3 or the LED4 of MEM4 should flicker rapidly indicating the main processor is functioning.

The battery switch should now be turn ON. 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 manual operation. See MMC 810 for operation of the halt program.

MEM4 LED INDICATION

LED	Status	Indication
1	OFF	The status of LAN transmit chip (LST972) is in abnormal
	ON	The status of LAN transmit chip (LST972) is in normal
2	OFF	LAN is linked
	ON	LAN is not linked
3	OFF	There is no LAN Rx data
	ON	There is LAN Rx data
4	Flicker Slowly (500ms)	RUN LED for main program. The main program is in normal operation status.
	Flicker Quickly (200ms)	RUN LED for main program. The main program is in booting operation status.
5	Flicker Slowly (500ms)	RUN LED for main program. The LAN program is in normal operation status.
	Flicker Quickly (200ms)	RUN LED for main program. The LAN program is in booting operation status.

PCB Verification

Before connecting all MDF cable, plug in a test cable to the first DLI port. Connect a digital Telephone set and verify that it is working. Use maintenance program MMC 727 to verify the system version, and that all cards are recognized by the CPU. Process with rest of the installation.

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 as the default configuration.

The system assigns trunk numbers beginning with 701 and continues. Station numbers are assigned in the same manner. The lowest station is assigned station number 201 and continued Keypad daughter boards are assigned numbers beginning with 301 and continued.

Default data assigns the 24 button keypad in the lowest port to the operator group and all trunks ring that station until default is changed. It is recommended that the operator station will default to a 24 button keypad as extension 201.

Station and trunk numbers can be changed, rearranged and reassigned as needed using MMC 724.

Chapter 5 Connecting CO Circuit

Safety Precaution

To limit the risk of personal injury, always follow these precautions before connecting CO circuit.

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in a wet location unless the jack is specially designed for wet location.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Loop Start Lines

The iDCS 100 system requires MDF connection. All CO Line and Station is connected to the system with MDF. (See Figure 5-1)

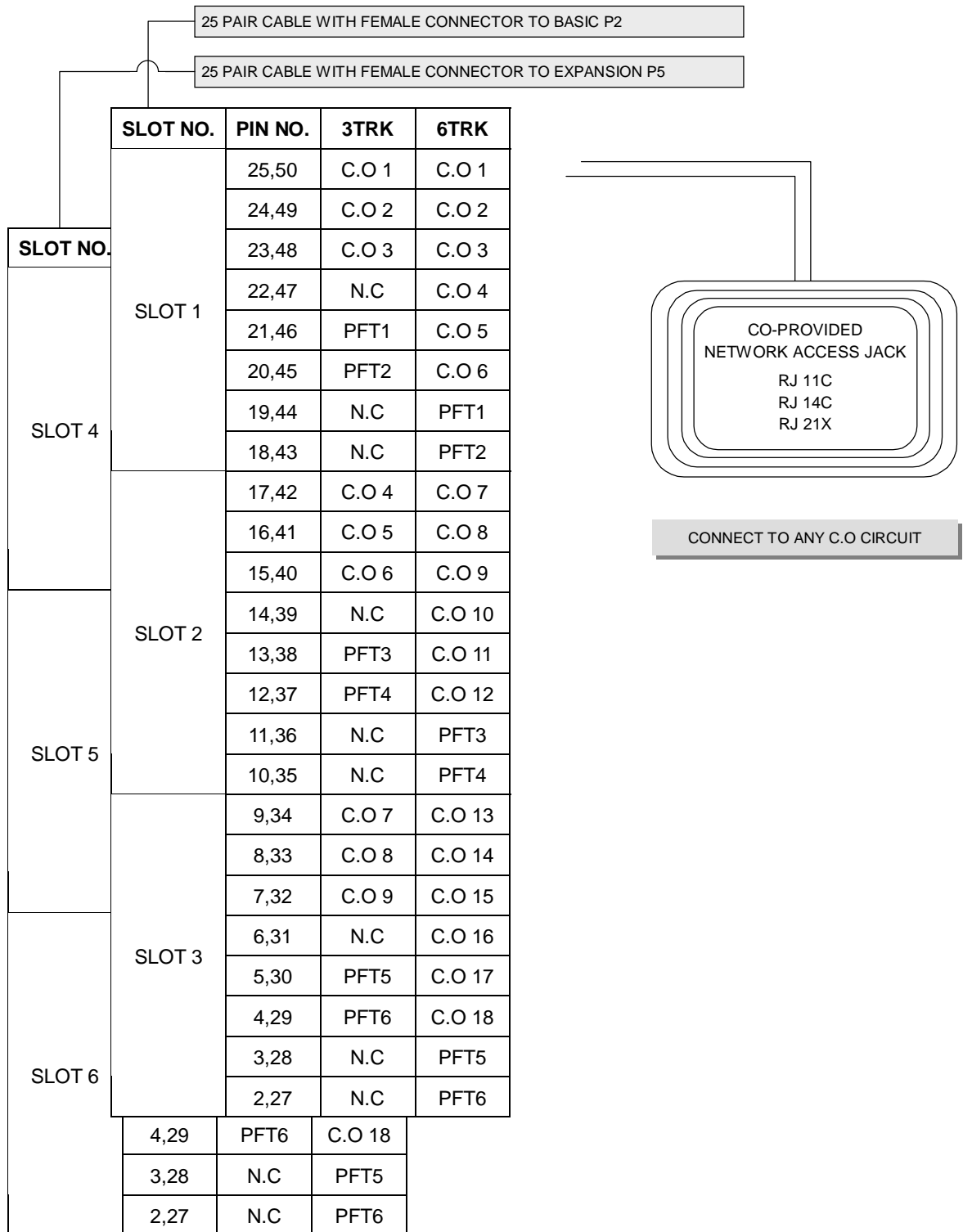


FIGURE 5-1 MDF CONNECTIONS LOOP START LINE TO OPTION CARD

OFF Premised Extension (OPX)

Using one pair twisted #24 AWG or #26 AWG wire, cross-connect each any 2SLI port to telephone company OPX circuits. (See Figure 5-2)

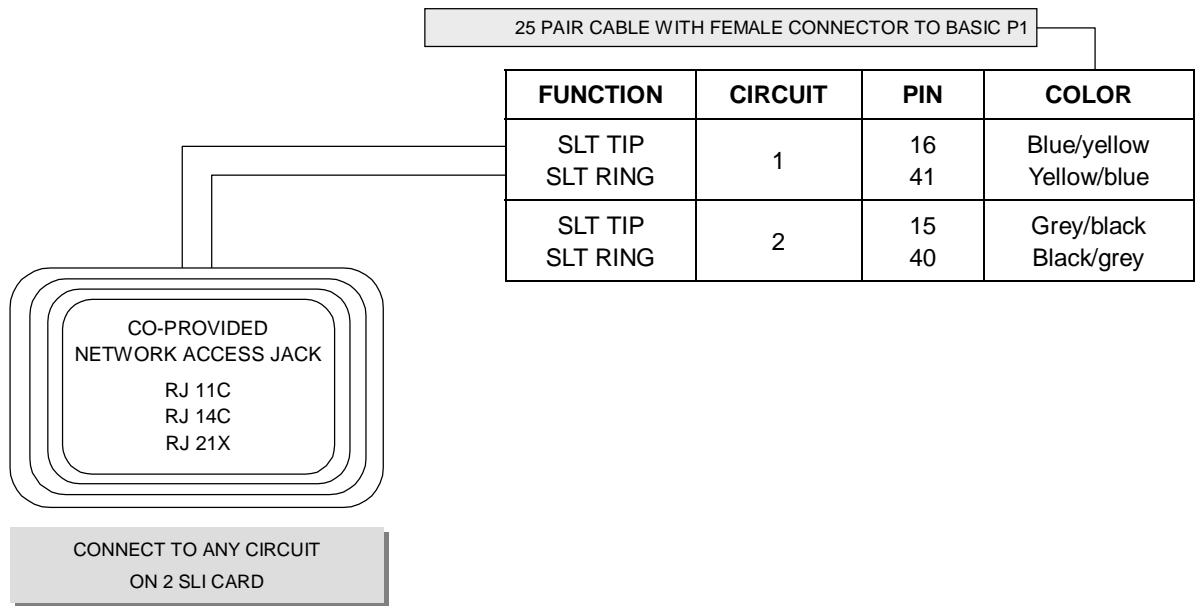


FIGURE 5-2 MDF CONNECTIONS OFF PREMISE EXTENSION FROM 2 SLI CARD

Circuit on 2SLI card is specially designed to meet CO requirements for OPX use. These circuits are provided with the same over voltage and over current protection as CO Line circuit.



WARNING: Using long line Extensions on a 8SLI or KDB SLI may cause damage to your equipment.

ISDN CO Lines

iDCS 100 system is fully ISDN compatible. For Basic Rate Interface BRI card can be used as ISDN TE(Terminal Equipment) or NT2(Network Termination 2/Multiway ISDN Interface). When programmed to T-mode(default setting) this port provides T point and can be access NT(NT1 or NT2) derived from CO Line Connect each point of BRI card to NT to use as ISDN TRK.



NOTE: When you are to connect a T port to a NT, please be careful if there is a termination present in any other place than this BRI card on the bus. Since typical 100 ohm line termination resistance exists on each port of this card.

PRI or TEPRI cards supports a RJ45 connector to access ISDN PRI lines from CO Connect the PRI port with given line cord as shown in Figure

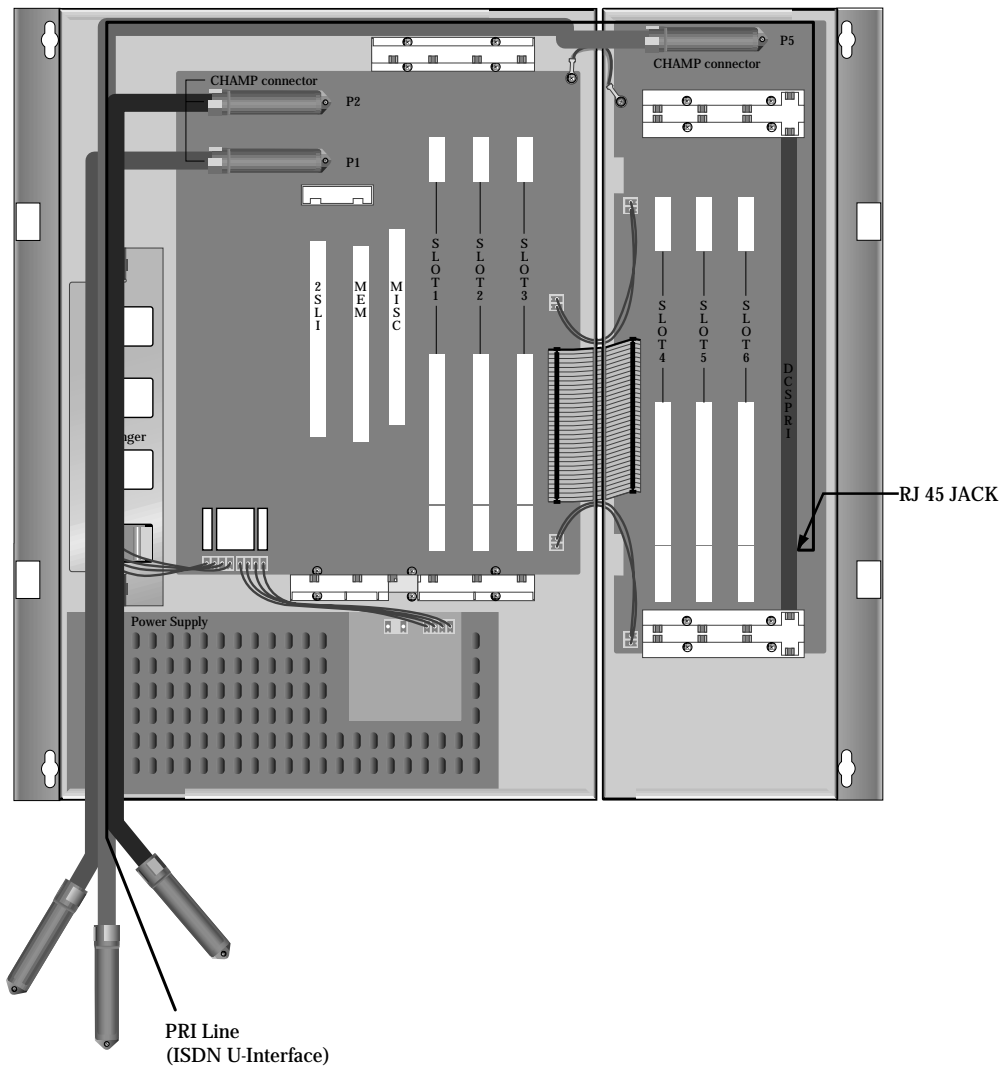


FIGURE 5-3 ISDN INTERFACE CONNECTION FOR PRI

If S-interface is needed, ISDN C.O line from C.O must be connected to MDF. (See Figure 5-4 & 5-5)

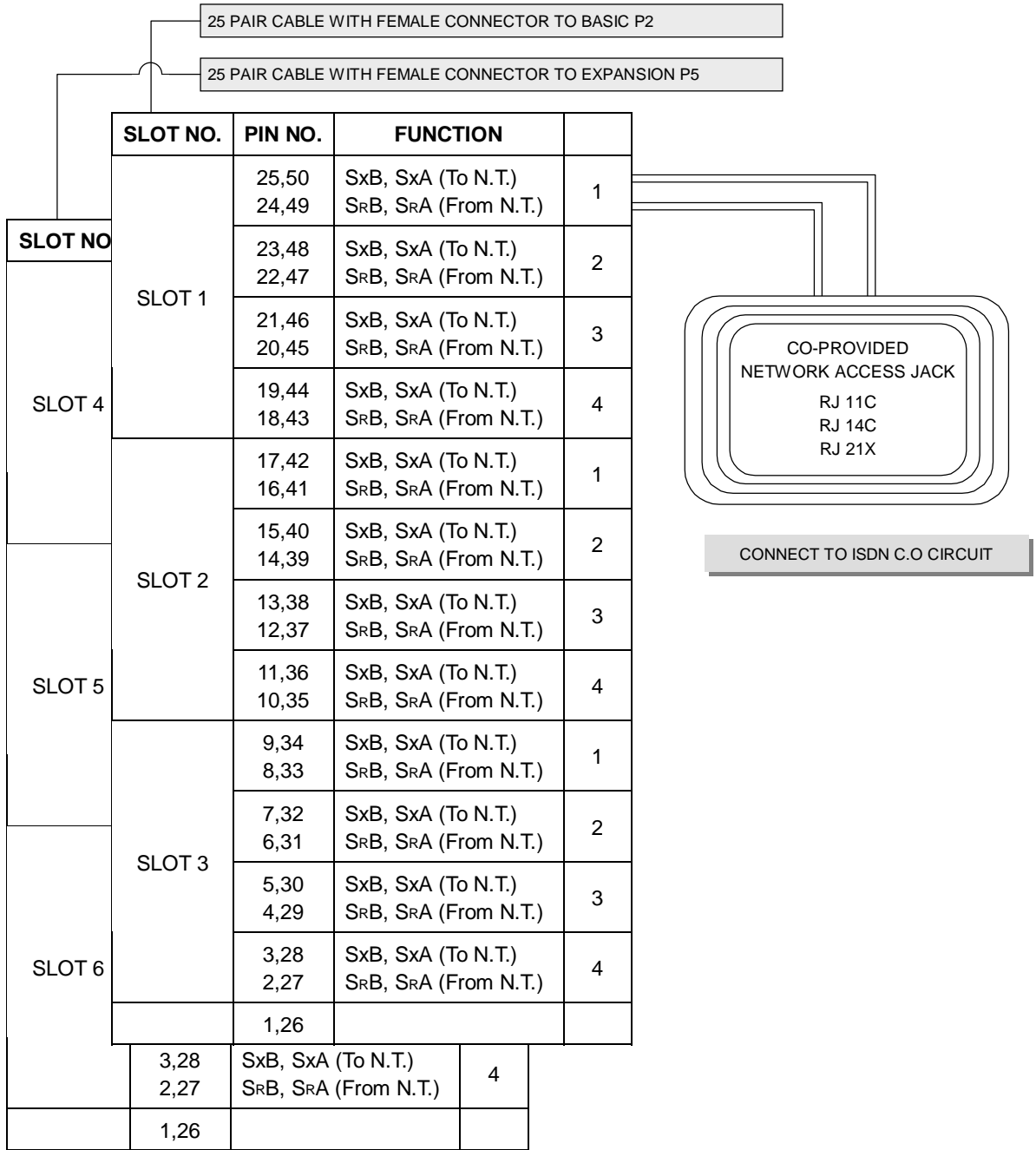


FIGURE 5-4 MDF CONNECTIONS FOR ISDN CO LINE TO CARD (4BRI)

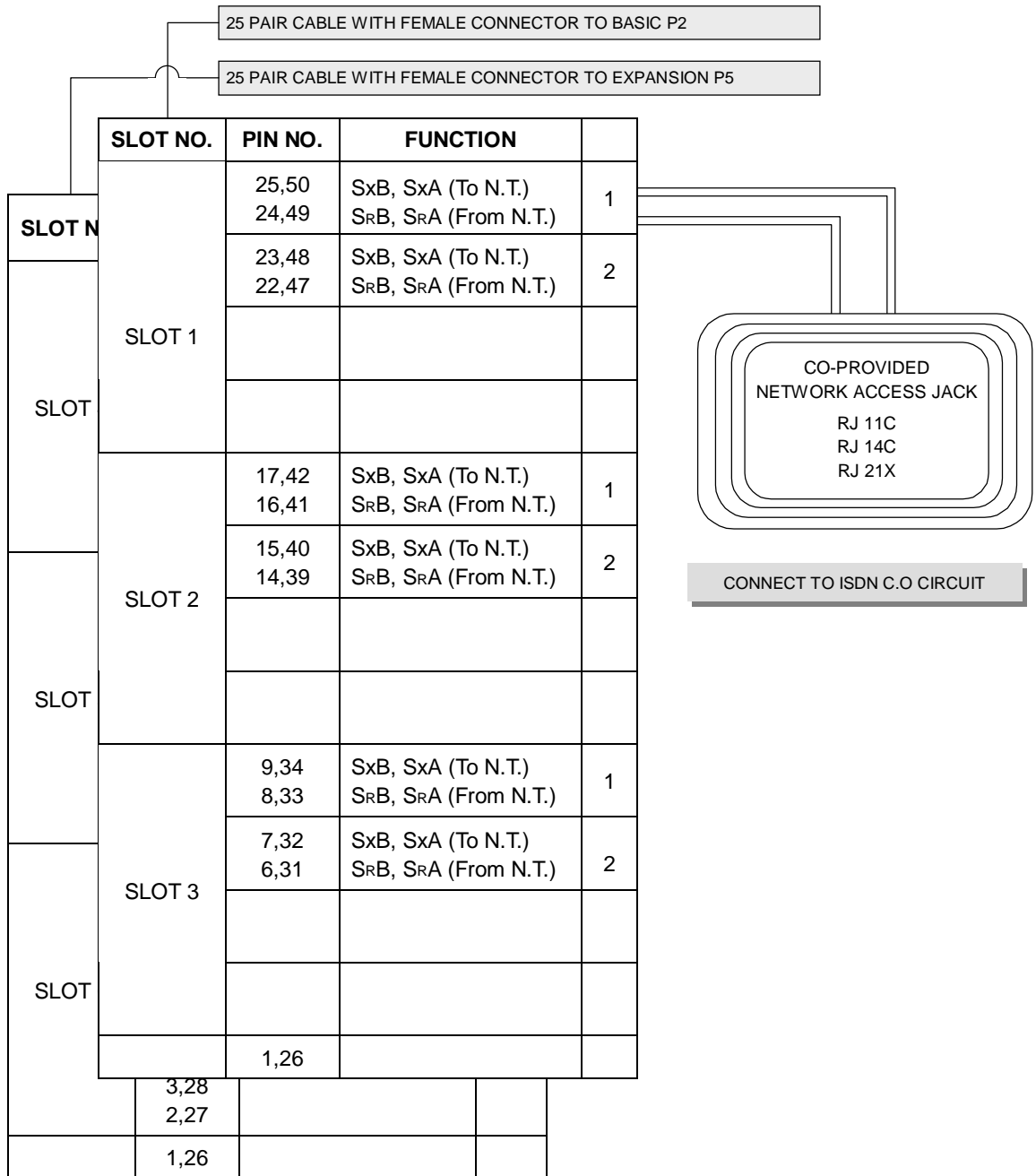


FIGURE 5-5 MDF CONNECTIONS FOR ISDN CO LINE TO CARD (2BRI)

4BRI(including 2BRI) card can support both of S and T reference points defined by ITU-T. Detailed description & MMC is referred in Programming Guide.

RJ-45 connector to TEPRI(PRI) card

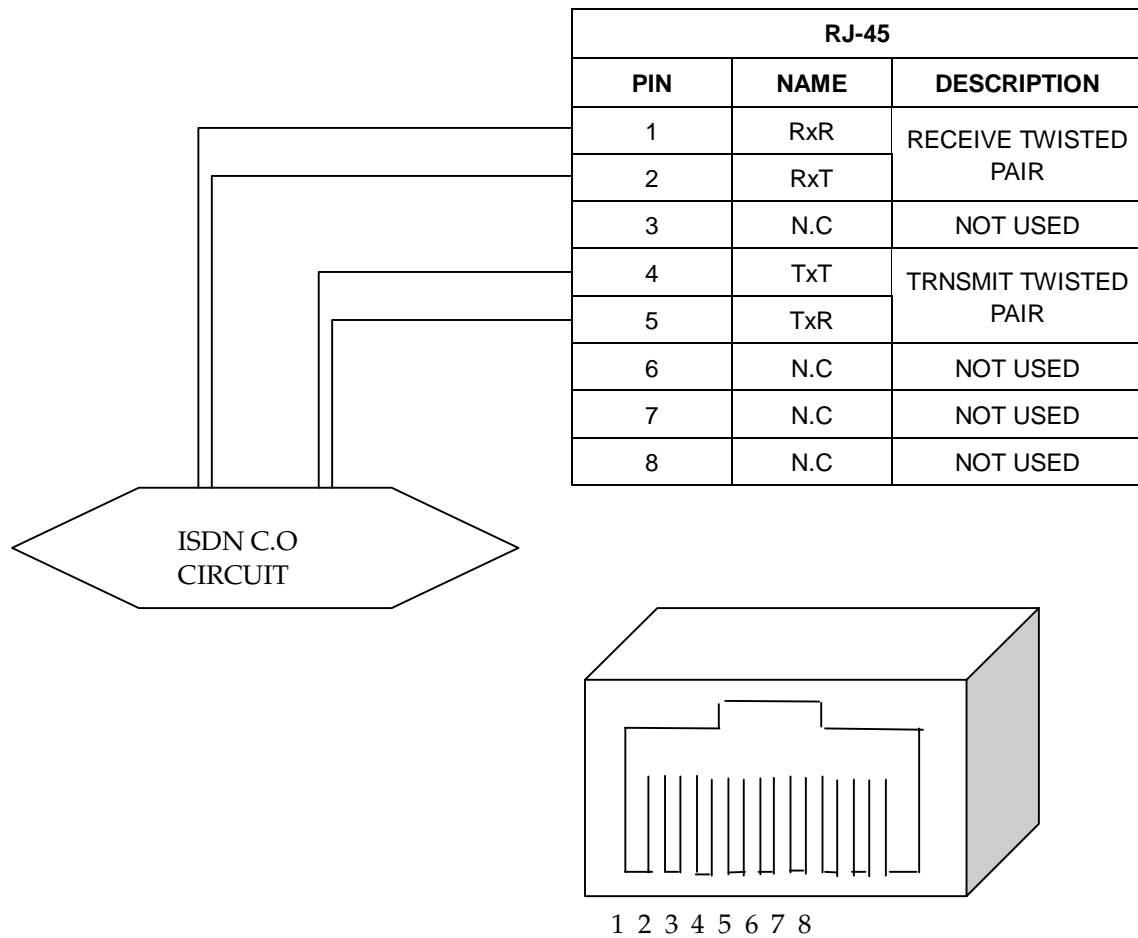


FIGURE 5-6 TEPRI (PRI) CONNECTION FOR REFERENCE ONLY



NOTE: TEPRI(PRI) card must be installed to DCS slot in Expansion Cabinet only. TEPRI(PRI) connection is provided via the RJ-45 socket. Connect the system and network termination point (NT1) using an 8 conductor UTP CAT 5 cable.

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Chapter 6 Connecting Station Equipment

Safety Precautions

To limit the risk of personal injury, always follow these precautions before connecting telephone circuits:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in a wet location unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

iDCS 100 Keyset

Using one pair twisted #24 AWG or #26 AWG wire, cross-connect each keyset to the DLI port of your choice (See Figures 6-1 and 6-2). 8DLI port in the base board can support the KDB-D/KDB-S function.

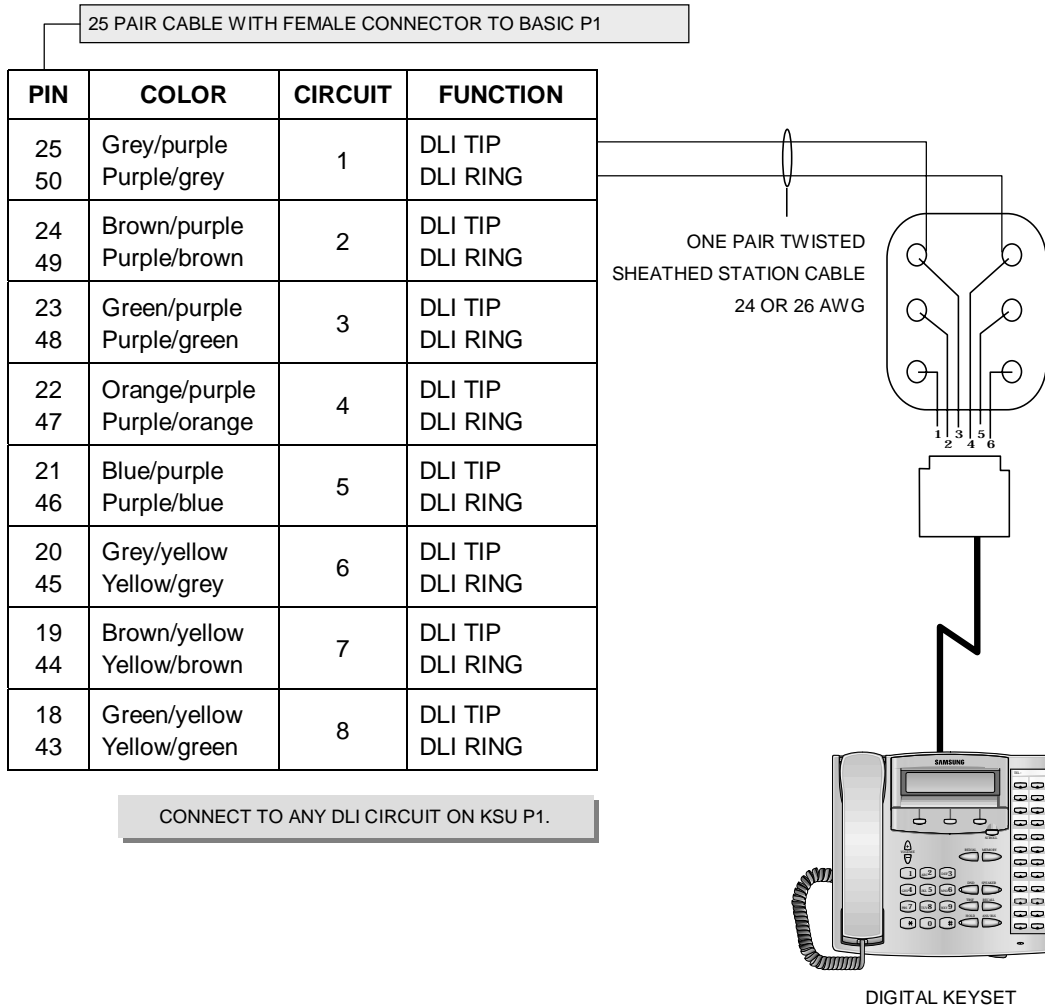


FIGURE 6-1 MDF CONNECTIONS DIGITAL KEYSET TO BASIC KSU P1

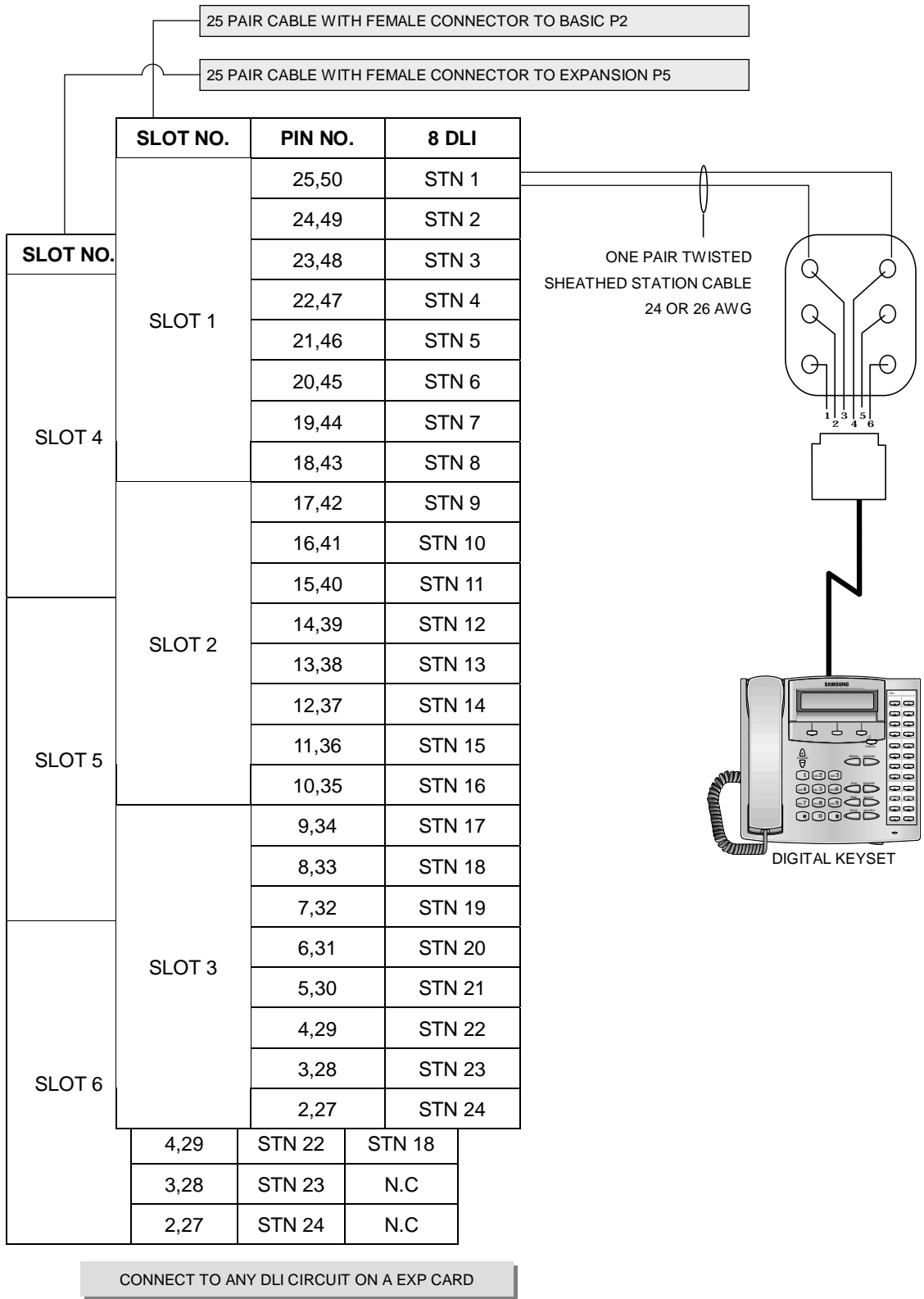


FIGURE 6-2 MDF CONNECTIONS DIGITAL KEYSSET TO OPTION CARD



NOTE: Because the iDCS 100 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 (See MMC 723).

Add-On Module

Using one pair twisted #24 AWG or #26 AWG wire, cross-connect each add-on module (AOM) to the DLI port of your choice (See Figures 6-3 and 6-4).

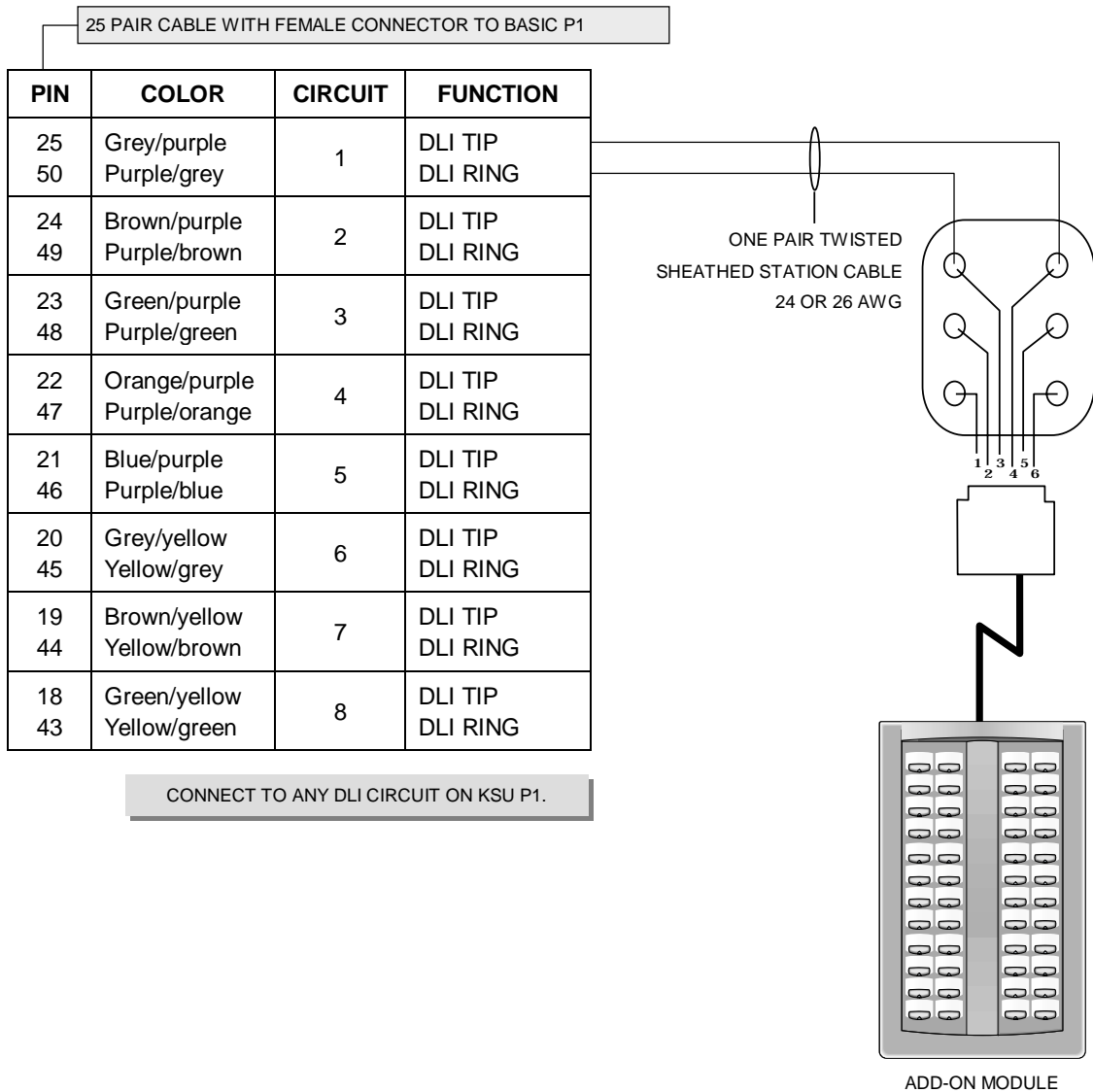


FIGURE 6-3 MDF CONNECTIONS AOM TO BASIC KSU P1

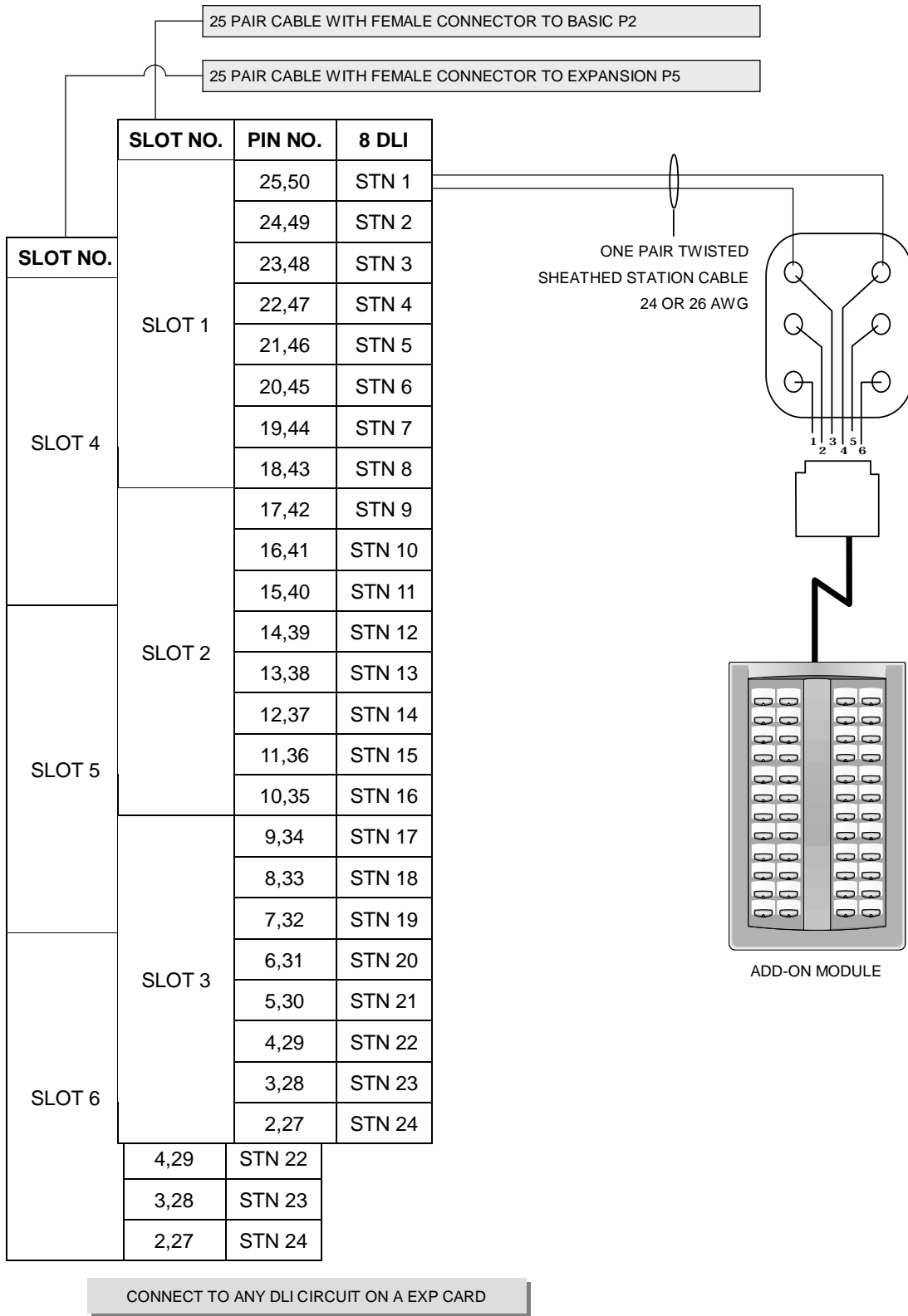


FIGURE 6-4 MDF CONNECTIONS AOM TO OPTION CARD

If an AOM is to operate as a stand-alone unit, there is nothing else required other than assigning keys. When an AOM is to be used with a station, it must be assigned in MMC 209. Add-on modules can be assigned to any keyset.

Single Line Telephone

Using one pair twisted #24 AWG or #26 AWG wire, cross-connect each single line telephone to the SLI port of your choice (See Figures 6-5 and 6-6). Circuit on 2SLI card is specially designed to meet CO requirements for OPX use (See Figure 5-3).

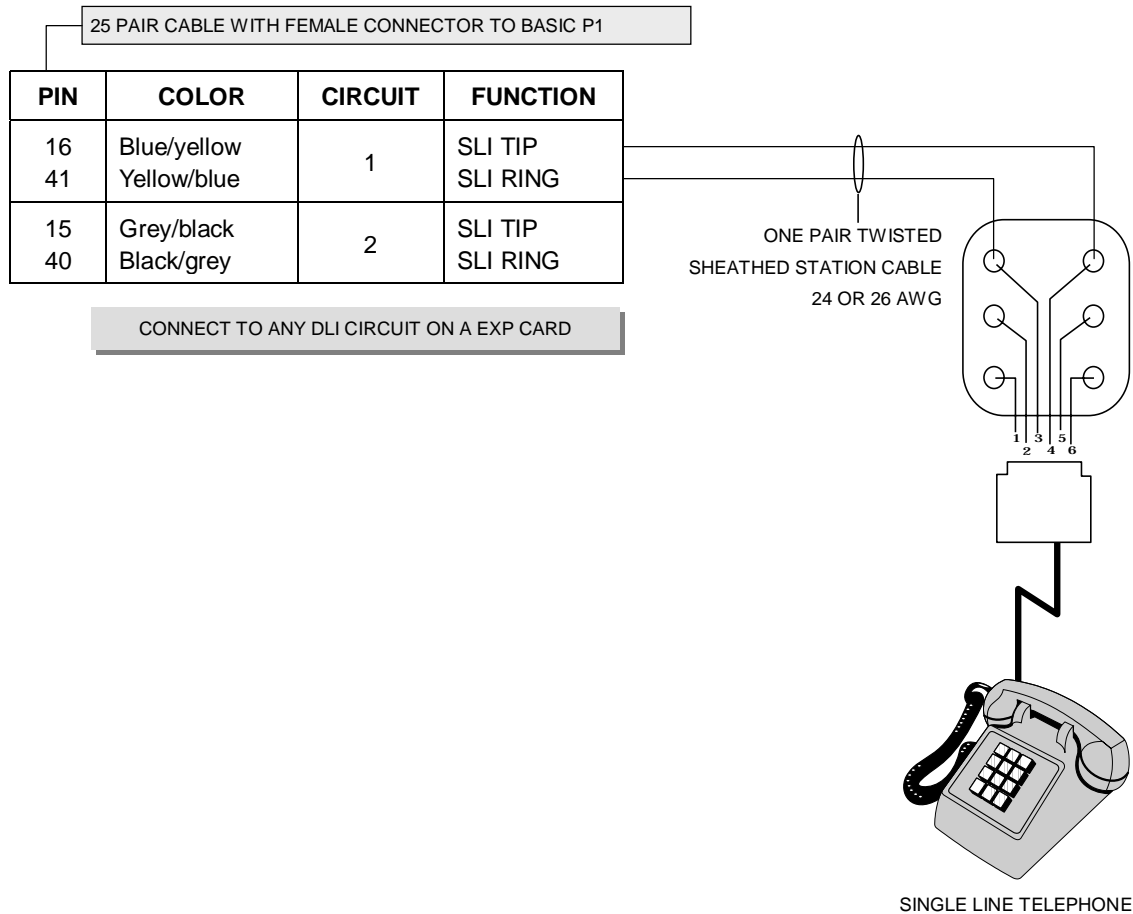


FIGURE 6-5 MDF CONNECTIONS SINGLE LINE TELEPHONE TO 2 SLI CARD

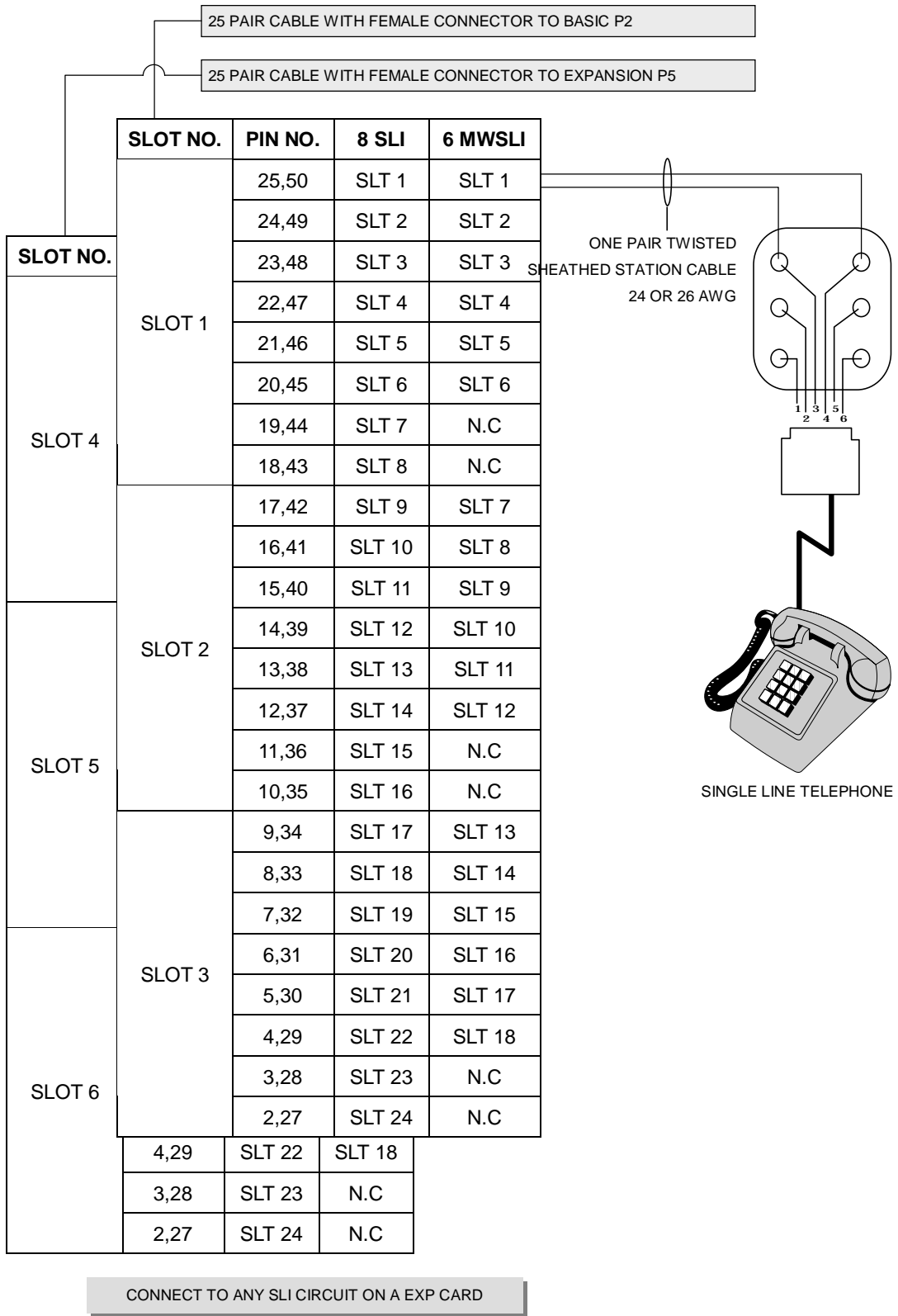


FIGURE 6-6 MDF CONNECTIONS SLT TO OPTION CARD

Door Phone and Door Lock Release

Using one pair twisted #24 AWG or #26 AWG wire, cross-connect each DPIM to the DLI port of your choice (See Figures 6-7 and 6-8). Next, connect the DPIM to the door phone using #24 AWG or #26 AWG twisted pair wire.

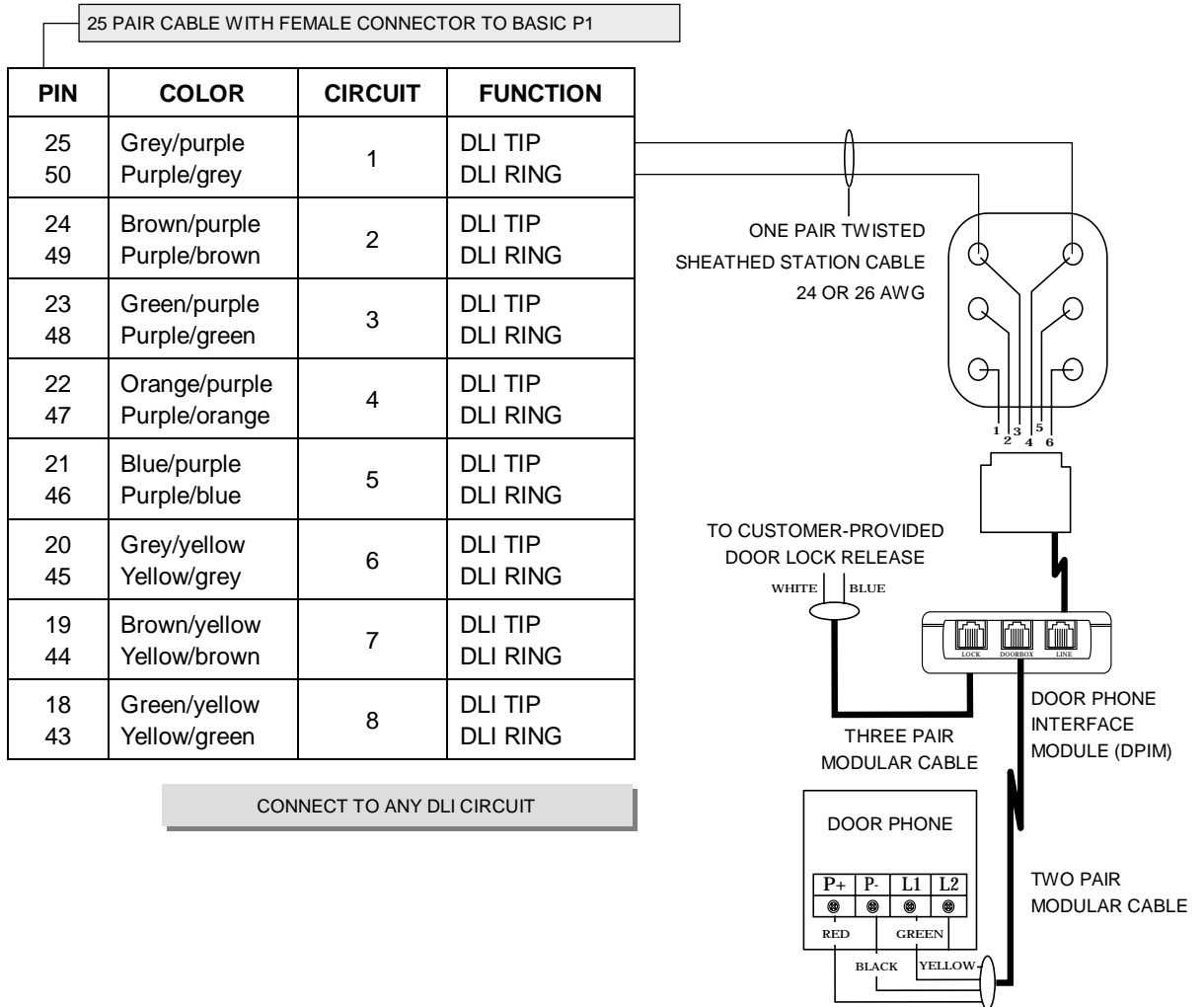


FIGURE 6-7 MDF CONNECTIONS DOOR PHONE TO BASIC KSU P1

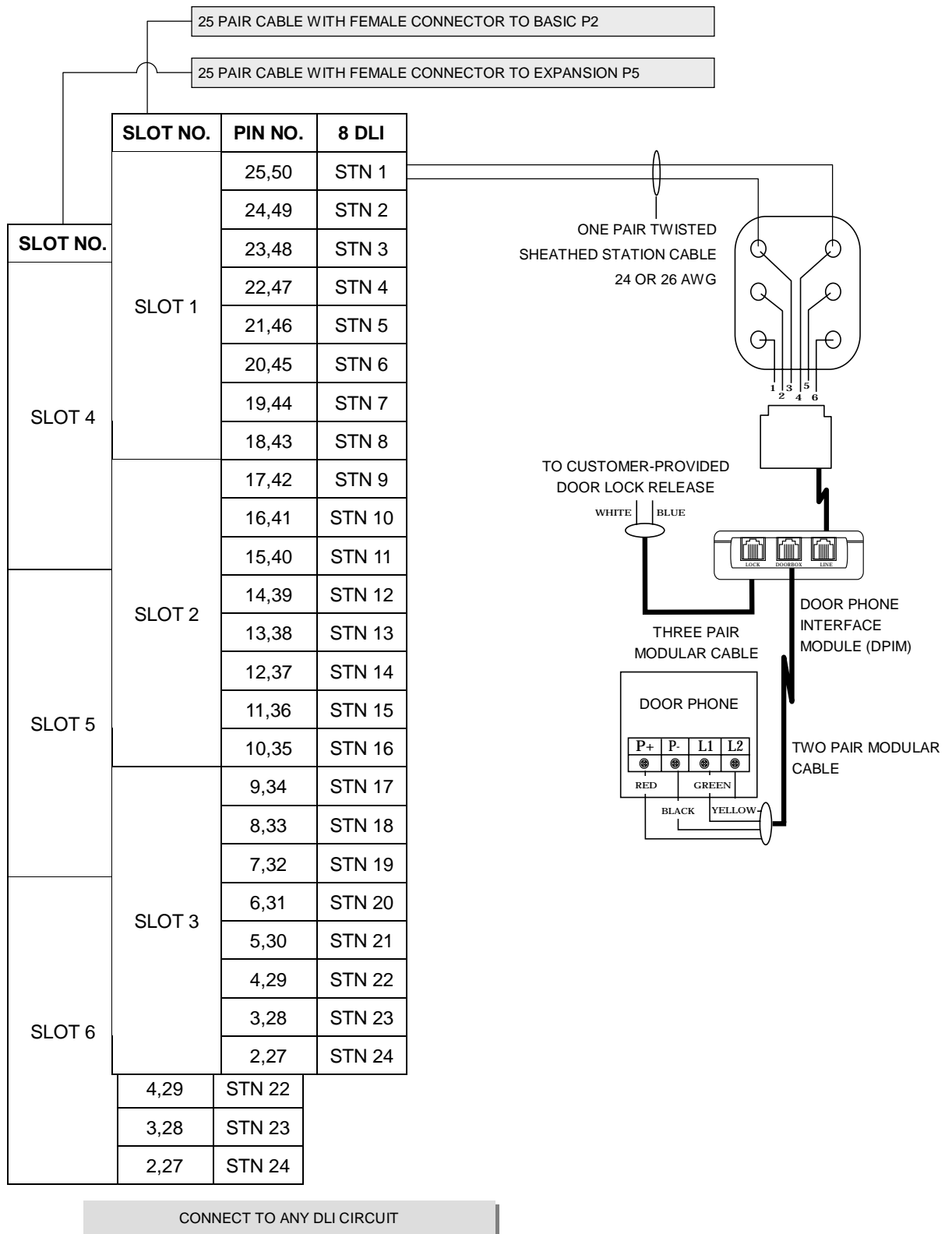


FIGURE 6-8 MDF CONNECTIONS DOOR PHONE TO DOOR CARD

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 Figures 6-7 and 6-8). 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.

ISDN TE (ISDN Phone, G4 FAX, etc)

Using two pair twisted #24 AWG or #26 AWG wire, cross connect each ISDN TEs to 4BRI's S mode slot. (See Figure 6-9)

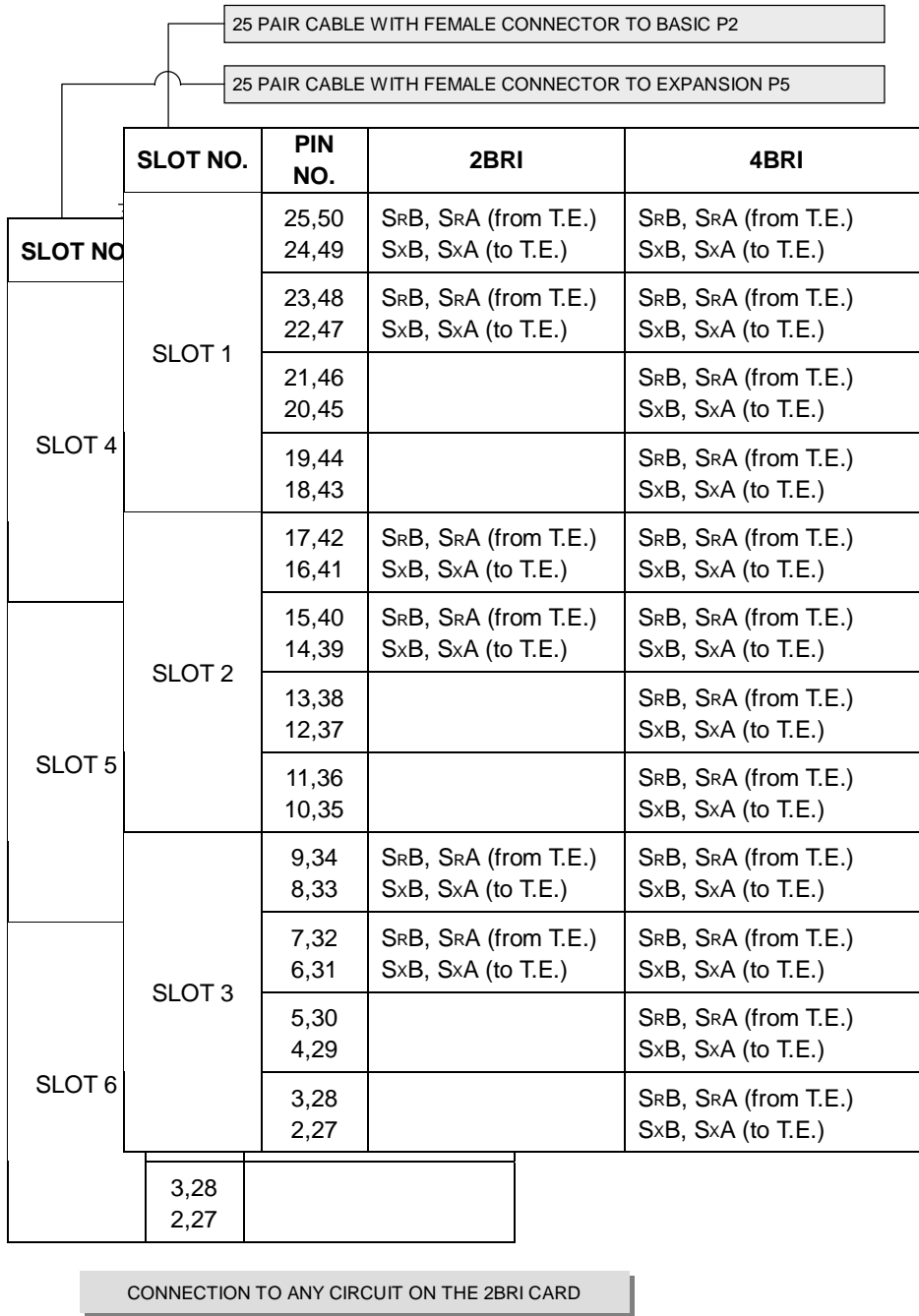


FIGURE 6-9 MDF CONNECTIONS ISDN TEs TO 2BRI/4BRI CARD



NOTE: iDCS 100 is a self-configuring system, but you must program 4BRI (including 2BRI) mode by MMC #423, #419, #421, #418, #424.

Chapter 7 Connecting Optional Equipment

Music On Hold/Back Ground Music

Connect each customer-provided music source to the music input on the KSU connecting block (See Figure 7-1).

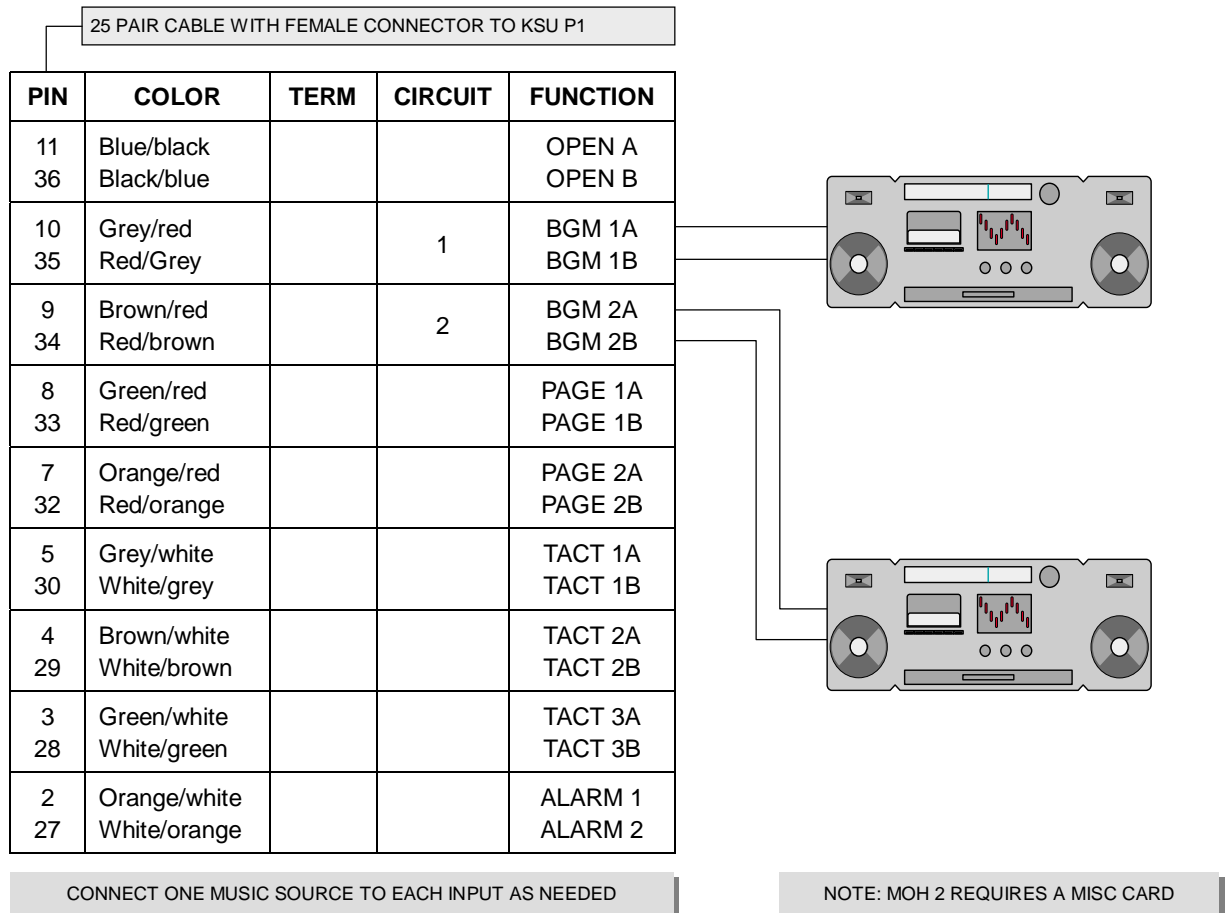


FIGURE 7-1 MDF CONNECTIONS CONNECTING MOH SOURCE TO KSU

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 programming manual for instructions (See MMC 308).

External Paging

The KSU provides a voice pair to be used with customer-provided paging equipment. Connect the customer provided paging equipment to the page output pins of the KSU connecting block (See Figure 7-2). The page voice pair is 600 ohm impedance. When the amplifier page input is not 600 ohm, an impedance matching transformer must be used.

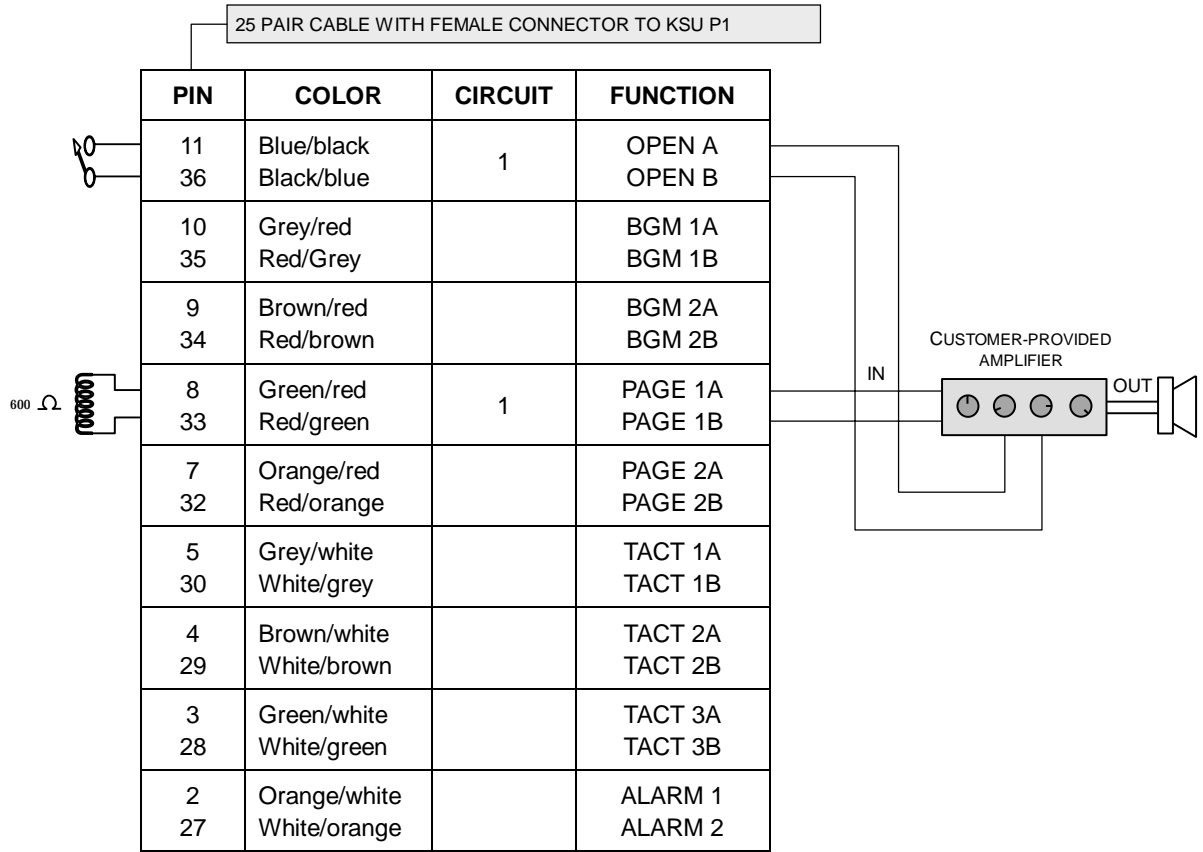


FIGURE 7-2 MDF CONNECTIONS CONNECTING PAGE AMPLIFIER TO KSU

Basic provide 1 zone control relays and If installed, the MISC card provides three zone control relays (See Figure 7-3). These paging contact pairs are for control of low voltage circuits or amplifier output. The contacts are rated at 24 VDC-1 amp.

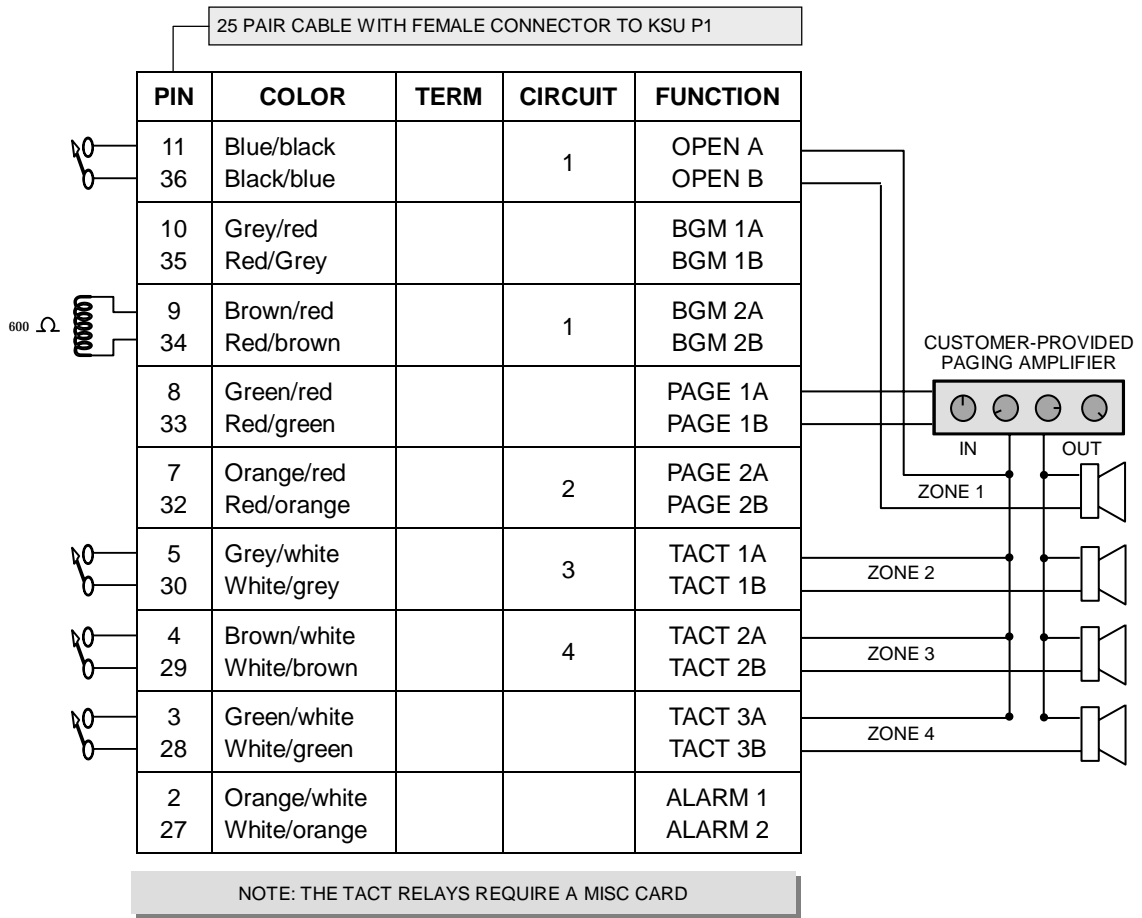


FIGURE 7-3 MDF CONNECTIONS CONNECTING PAGE AMPLIFIER TO KSU



WARNING: Do not attempt to connect commercial AC power to these contacts.

Common Bell

A customer-provided loud ringing device can be controlled using the dry contact pair on the KSU. (See Figure 7-4).

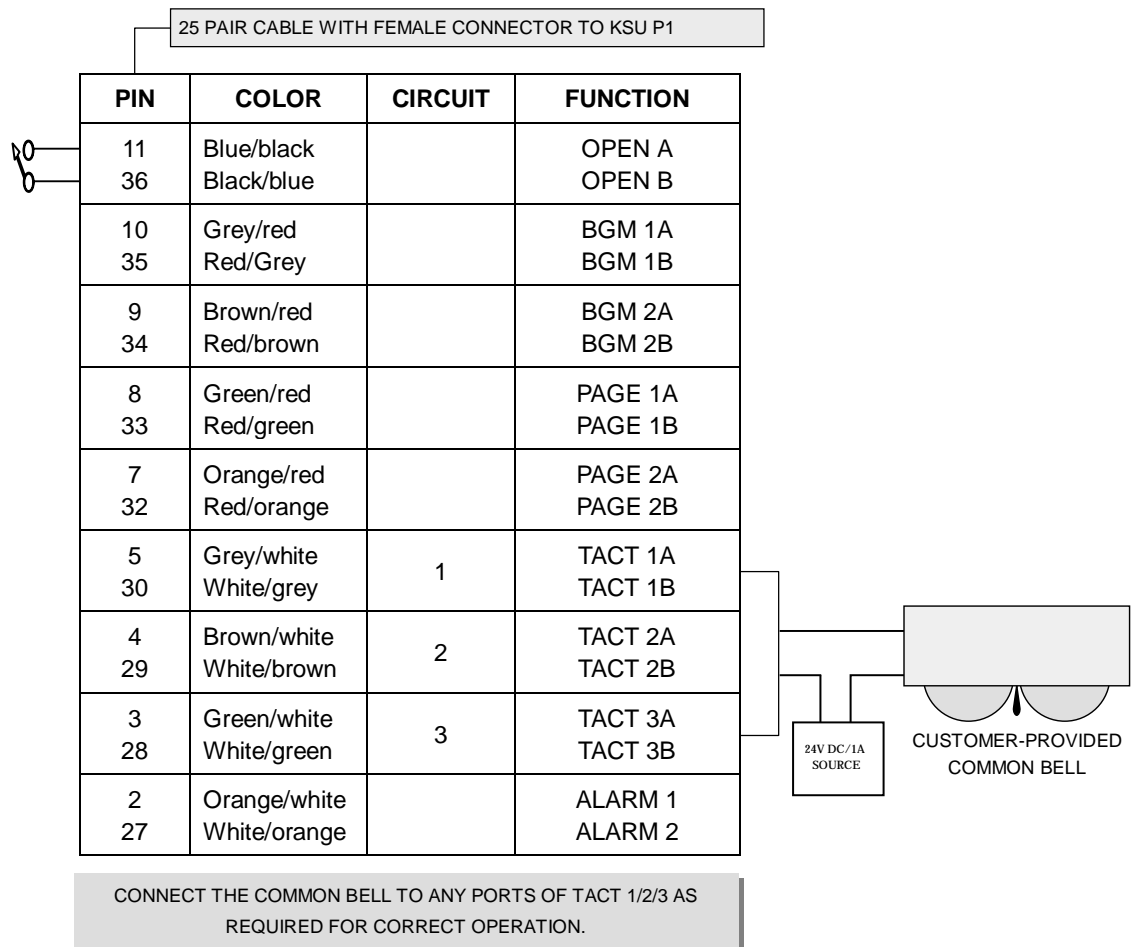


FIGURE 7-4 MDF CONNECTIONS COMMON BELL CONTACTS

Programming allows for INTERRUPTED or CONTINUOUS operation of the contacts using MMC 204. The interrupted selection follows the C.O. ring cadence - one second ON/two seconds OFF.

After connecting a common bell, you must assign it to a group in MMC 601 as a ring destination by using the code for Common Bell.

The basic steps for common bell operation are the following:

- Wire the loud ringing device to the common bell control contact pair.
- Program the contacts for continuous or steady operation.
- Program the hunt group to include the common bell.
- 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.

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.

Station Message Detail Recording (SMDR)

To receive an SMDR printout, connect a customer-provided printer to one of the serial interface connectors on a MISC card (See Figure 7-5). SIO2 defaults as SMDR.

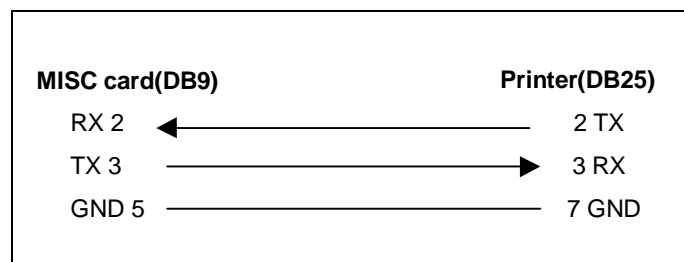


FIGURE 7-5 PIN CONNECTIONS FOR MISC CARD TO PRINTER

Use a pin to pin RS232C cable. Only pins 2, 3, 4 and 5 are required (See Figure 7-5).

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 DB9 connector to the MISC end and then attach one that matches 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 MMC 804 to set the transmission parameters and the MISC port.

PC Programming

To program the system via a personal computer (PC), connect a PC equipped with PCMMC to a serial interface connector on a MISC card (See Figure 7-6). SIO1 defaults as PCMMC.

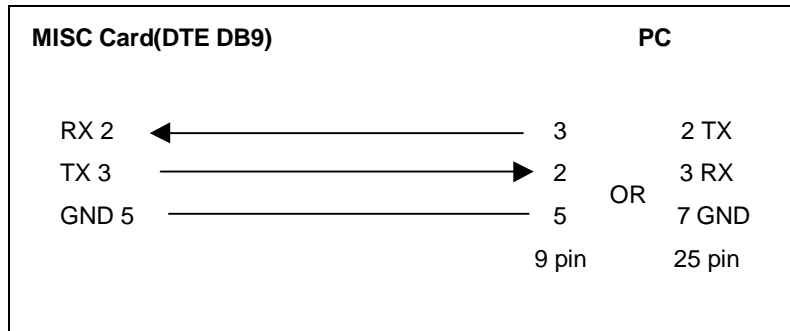


FIGURE 7-6 PIN CONNECTIONS FOR MISC CARD TO PERSONAL COMPUTER

Use an RS232C cable with connections as shown in Figure 7-6. When the PC needs to be more than 15 feet away from the KSU, use shielded computer cable. Attach a male DB9 connector to the MISC end and then attach one that matches the requirements of the PC to the other end. This cable must not exceed 300 feet.

Use MMC 804 to set the transmission parameters and the MISC port.

Remote Programming

To remotely program a system, connect a customer-provided modem to a serial interface connector on a MISC card (See Figure 7-7).

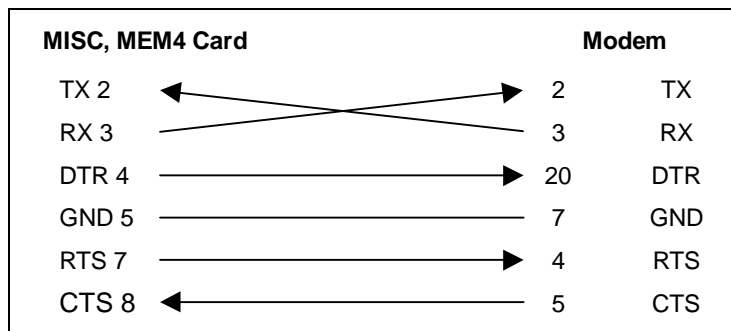


FIGURE 7-7 PIN CONNECTIONS FOR MISC CARD TO MODEM

Use an RS232C cable as shown in Figure 7-7. When the modem needs to be more than 15 feet away from the KSU, use shielded computer cable. Attach a male DB9 connector to the MISC end and then attach one that matches the requirements of the modem to the other end. This cable must not exceed 300 feet.

Use MMC 804 to set the transmission parameters and the MISC port to be used.

Power Failure Transfer (PFT)

When the system loses AC power and have no external battery, the first two loop start lines in 3/6 TRK card are automatically switched to the PFT ports. Directly connect these outputs to any SLI valid ports.

Voice Mail/Auto Attendant

System operation provides special programming and hardware for use with a customer-provided voice mail/auto attendant system. Both single line stations on the 2 SLI card provide a disconnect signal required for VM/AA operation. Use one pair twisted #24 AWG or #26 AWG wire to cross-connect these SLI circuits to the VM/AA system (See Figure 7-8).

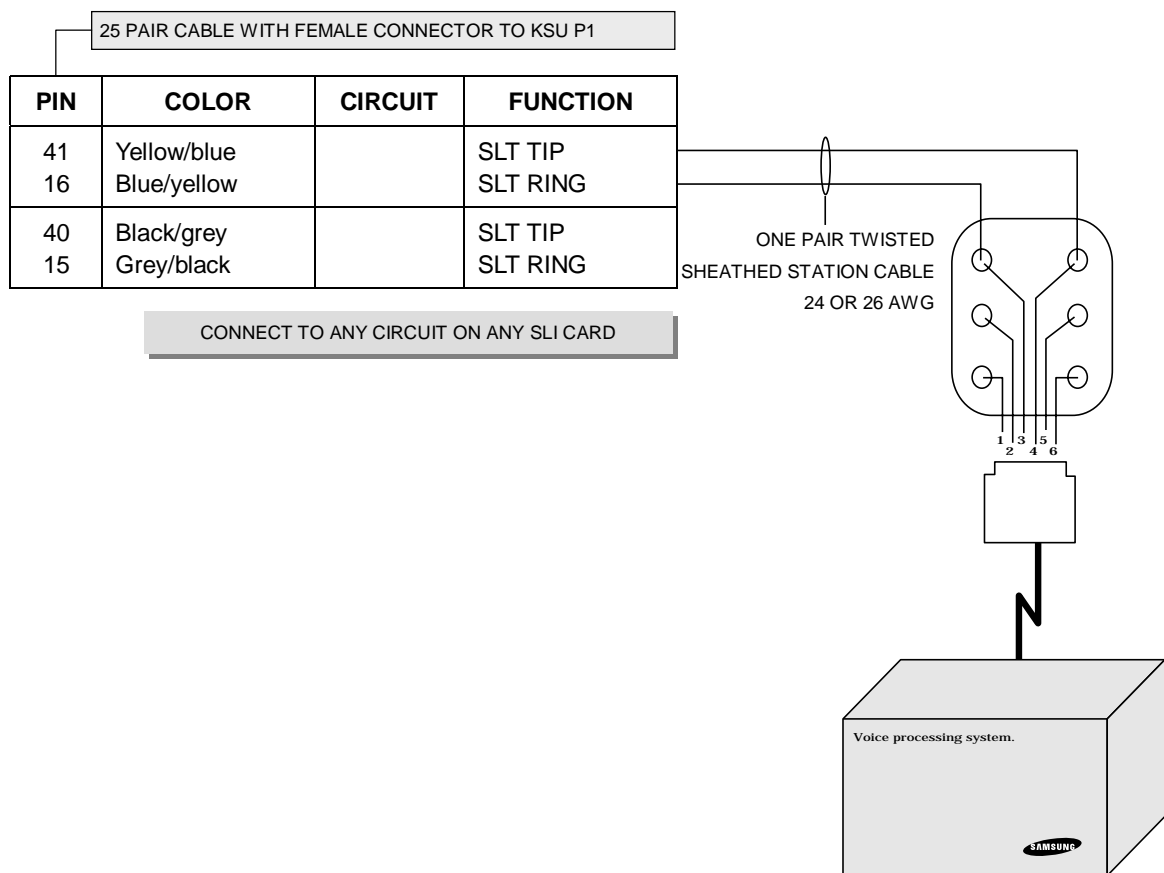


FIGURE 7-8 MDF CONNECTIONS VOICE MAIL TO SLI CARD

Program these ports for VM/AA use in MMC 207 and set VM/AA options in MMC 726. See the Standard Telephone User Guide for feature codes and instructions. Some voice mail manufacturers may require you to set these stations for data security (See MMC 208) to stop call waiting and intrusion tone.

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Chapter 8 Adding a Keypad Daughter Module

Adding a Daughter Module to Euro Keypad

(For Europe)

KDB-S

1. Unplug line code of the phone before performing this procedure. (See Figure 8-1)

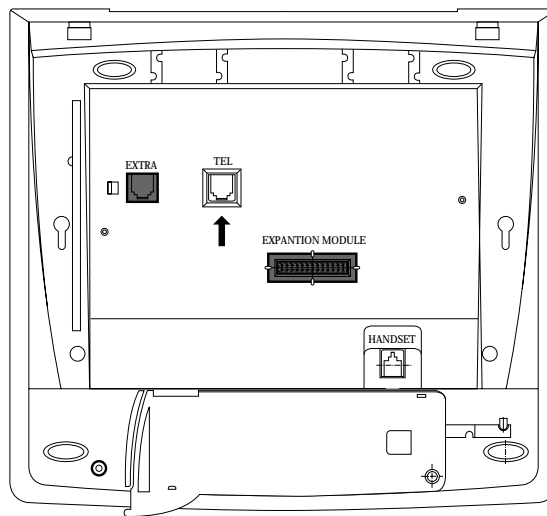


FIGURE 8-1 BOTTOM KTS (Euro KTS)

2. Remove with a driver molding substances of expansion module of base housing. (See Figure 8-2)

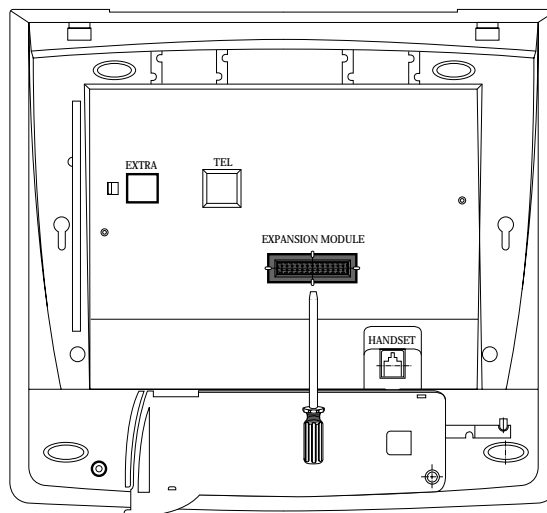


FIGURE 8-2 BOTTOM OF KTS (Euro KTS)

3. Remove extra molding substances by the same method as step2. (See Figure 8-3)

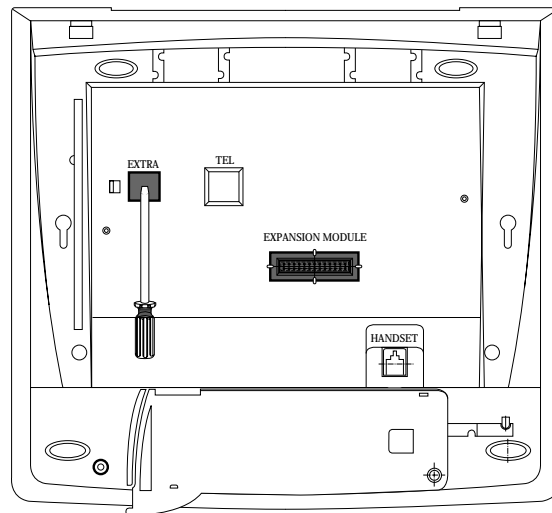


FIGURE 8-3 BOTTOM OF KTS (Euro KTS)

4. Mount module KDB-S. (See Figure 8-4)

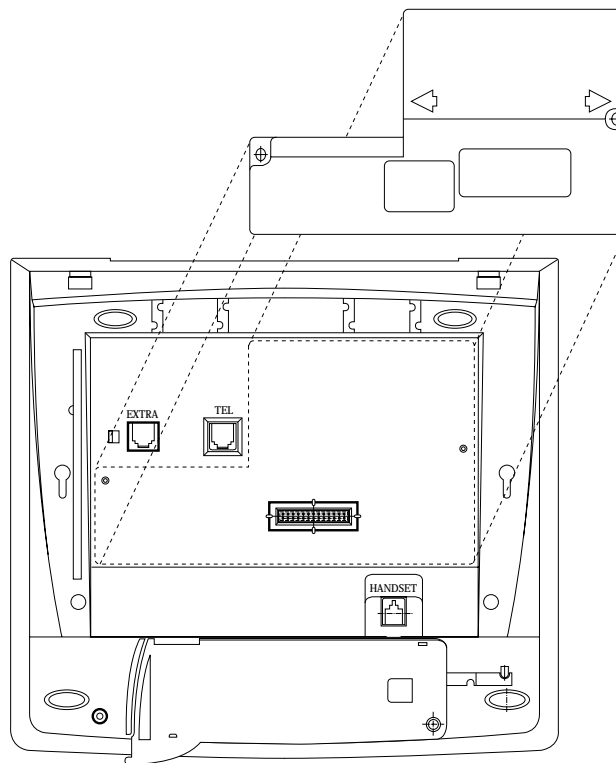


FIGURE 8-4 BOTTOM OF KTS (Euro KTS)

5. Tighten two (2) screws of KDB-S. (See Figure 8-5)

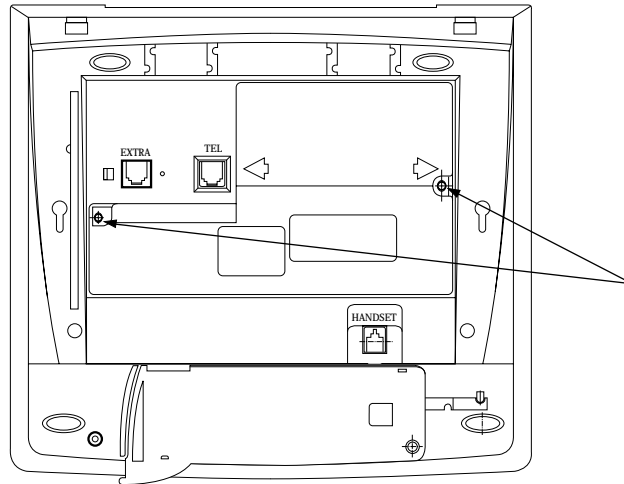


FIGURE 8-5 BOTTOM OF KTS (Euro KTS)

6. Connect modular jack of phone line with DLI line of basic system. (See Figure 8-6)

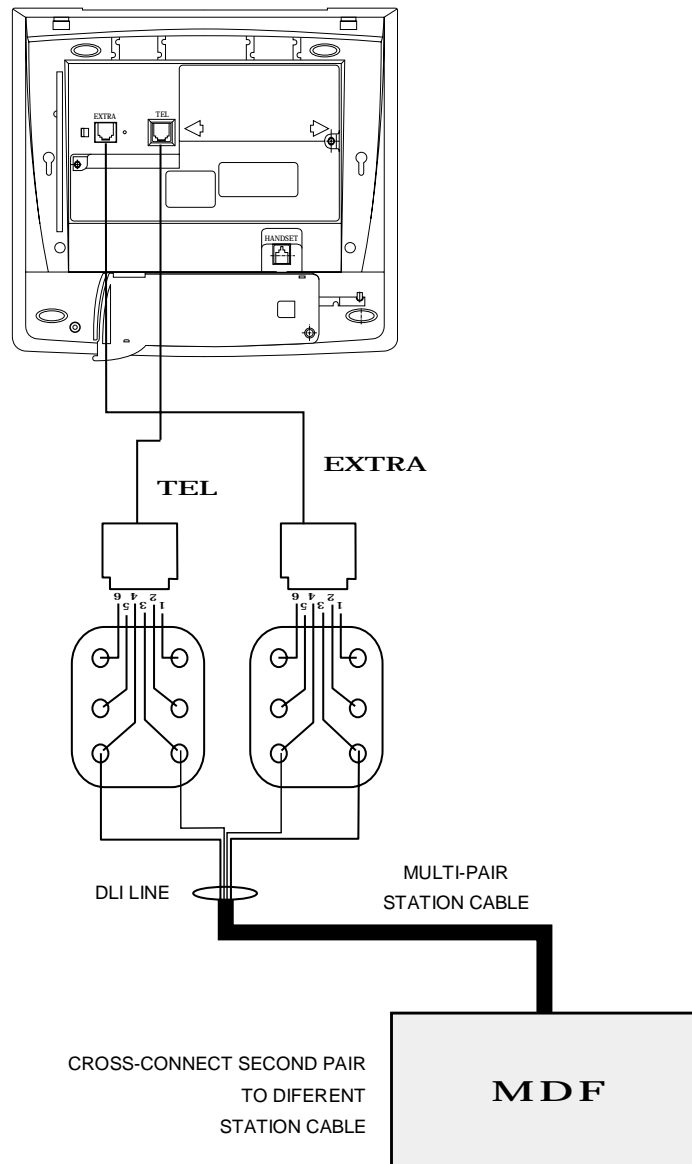


FIGURE 8-6 CONNECTING FOR MDF (Euro KTS)

7. Connect extra modular jack with a general phone. (See Figure 8-7 & 8-8)

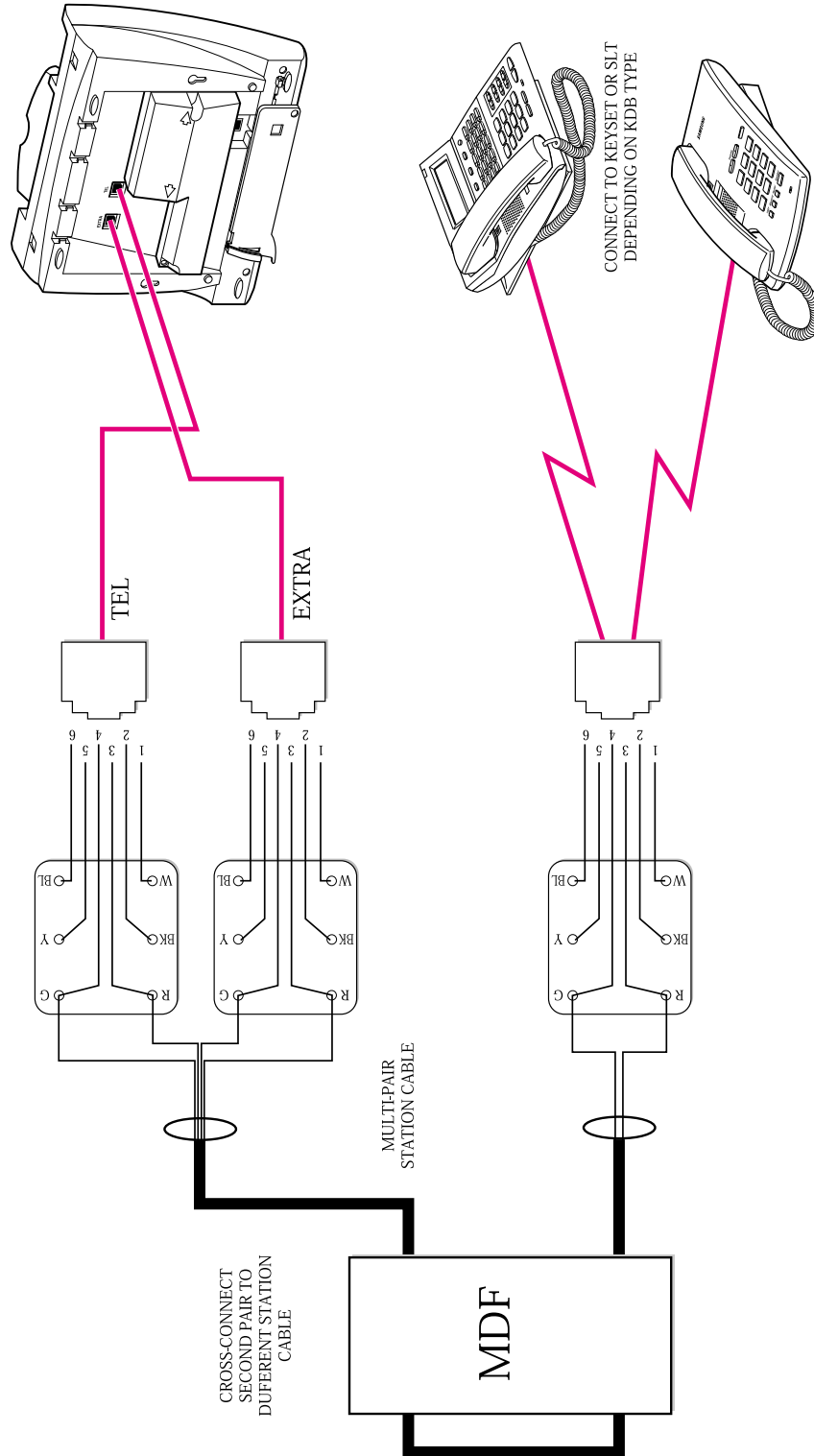


FIGURE 8-7 CONNECTING A STATION DEVICE TO A KDB VIA THE MAIN DISTRIBUTIONFRAME (Euro KTS)

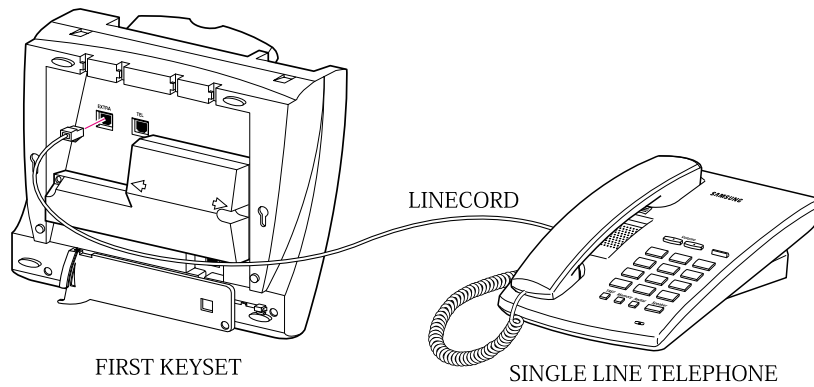


FIGURE 8-8 CONNECTING A SINGLELINE TELEPHONE TO A KDB-S (Euro KTS)

KDB-D

1. Unplug line code of the phone before performing this procedure. (See Figure 8-1)
2. Remove with a driver molding substances of expansion module of base housing. (See Figure 8-3)
3. Remove extra molding substances by the same method as step2. (See Figure 8-2)
4. Mount module KDB-D. (See Figure 8-4)
5. Tighten two (2) screws of KDB-D. (See Figure 8-5)
6. Connect modular jack of phone line with DLI line of basic system. (See Figure 8-6)
7. Connect extra modular jack with a key phone. (See Figure 8-7 & 8-8)

Connecting to the KDB-D & KDB-S

See Figure 8-7, 8-8 and 8-9.

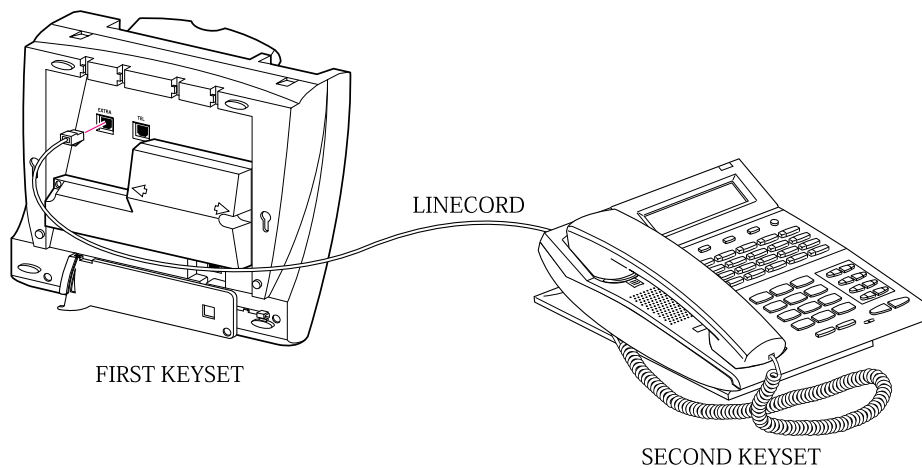


FIGURE 8-9 CONNECTING A KEYSSET TO A KDB-D (Euro KTS)

Adding a Daughter Module to *i*DCS Series Keypad (For U.S)

(See Figure 8-10)

1. Place the keypad face down on a flat surface.
2. Remove the base pedestal by placing your thumbs over the attachment clips and press outward while simultaneously pressing down on the keypad body with your fingertips.
3. Remove the two knockouts from the bottom of the keypad.
4. Plug in the daughter module (KDB-S/KDB-D/KDB-F) and secure with the two screws provided.

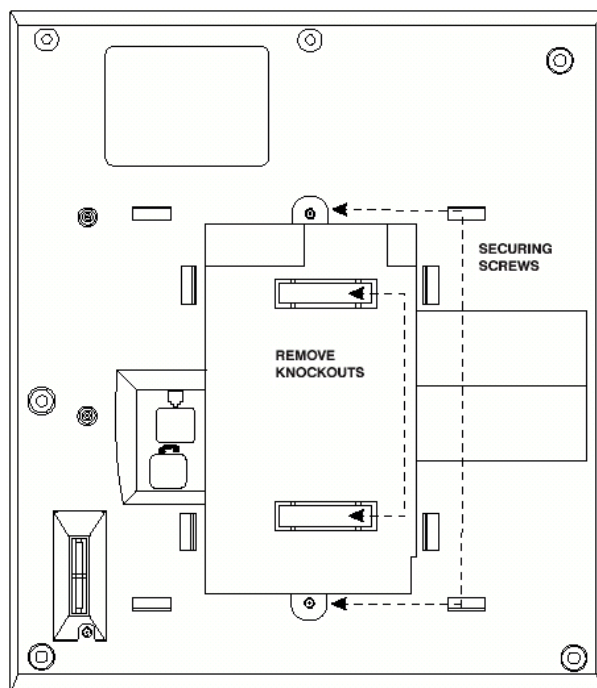


FIGURE 8-10 BOTTOM OF KTS (*i*DCS Series KTS)

Chapter 9 Changing Software

In order to easily replace the system software, it may be necessary to partially disassemble the KSU. This procedure should be performed in the following sequence.

MEM3

1. Check the battery switch on the MEM card and make sure it is ON.



NOTE: If the documentation with the new software indicates that reprogramming will be necessary. You may wish to switch the battery OFF at this stage to ensure the system is properly defaulted.

2. Switch OFF the KSU. Do not unplug the KSU.
3. Remove the EPROMs from MEM card using a chip extraction tool or by gently prying with small flat bladed screw driver. Set the removed EPROMs aside carefully in case the need to be reinstalled.
4. Remove the new EPROM from their protective packaging and confirm that the legs on the EPROMs are straight. If the legs are not straight, contact Samsung Technical Support. Carefully insert the new EPROM in their designated sockets.
5. Install the MEM card carefully.
6. Switch ON the KSU and verify that it is operating. If the KSU does not operate, remove the new EPROMs and reinstall the EPROMs and test again. If the system still fails to operate, contact Samsung Technical Support.
7. When the system is operating satisfactorily, switch ON the battery switch on the MEM card and cover the system.

MEM4

When software change is required, it must be done via PCMMC through the LAN interface. Please refer to the PCMMC Technical Manual to perform a software upgrade for a MEM4 card.

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