SAMSUNG

TECHNICAL MANUAL

NX-828 (For EUROPEAN)

SAMSUNG ELECTRONICS

EC DECLATATION OF CONFORMITY

For the following named product :

KEY TELEPHONE SYSTEM, NX-828

We hereby declare, that all major safety requirements, concerning to Electro-Magnetic Compatibility (89/336/EEC) are fulfilled, as laid out in the guidelines set down by the number states of the EEC commission.

This declaration is valid for all samples that are part of this declaration, which are manufactured according to the production chart appendix.

This standards relevant for the evaluation of Electro-Magnetic Compatibility requirements are as follows ;

EN55022 (1987 LIMIT CLASS B)

Radiated Emission : 30 MHz ~ 1 GHz
Conducted emission : 150 MHz ~ 30 MHz

EN60555 (1992 LIMIT CLASS B)

Power Harmonics : 2nd ~ 40th Harmonics

EN50082-1 (1992)

Radiated Susceptibility : 27 MHz ~ 500 MHz (3V/m)
ESD : Air Discharge 8KV
EFT/BURST : AC Power Lines (1000V / 5KHz)
I/O Lines (500V / 5KHz)

IEC950(1991) Second Edition with Amendment 1(1992) and 2(1993) ;

EN60 950(1991) with Amdts. 1 & 2 : EN41 003 and National Deviations

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NX-828

ELECTRONIC KEY/HYBRID
TELEPHONE SYSTEM

TECHNICAL MANUAL

INCLUDES :

GENERAL DESCRIPTION SECTION
INSTALLATION SECTION
FEATURE SECTION
PROGRAMMING SECTION
APPENDIX SECTION
BACK-UP DATA SHEETS

GENERAL DESCRIPTION

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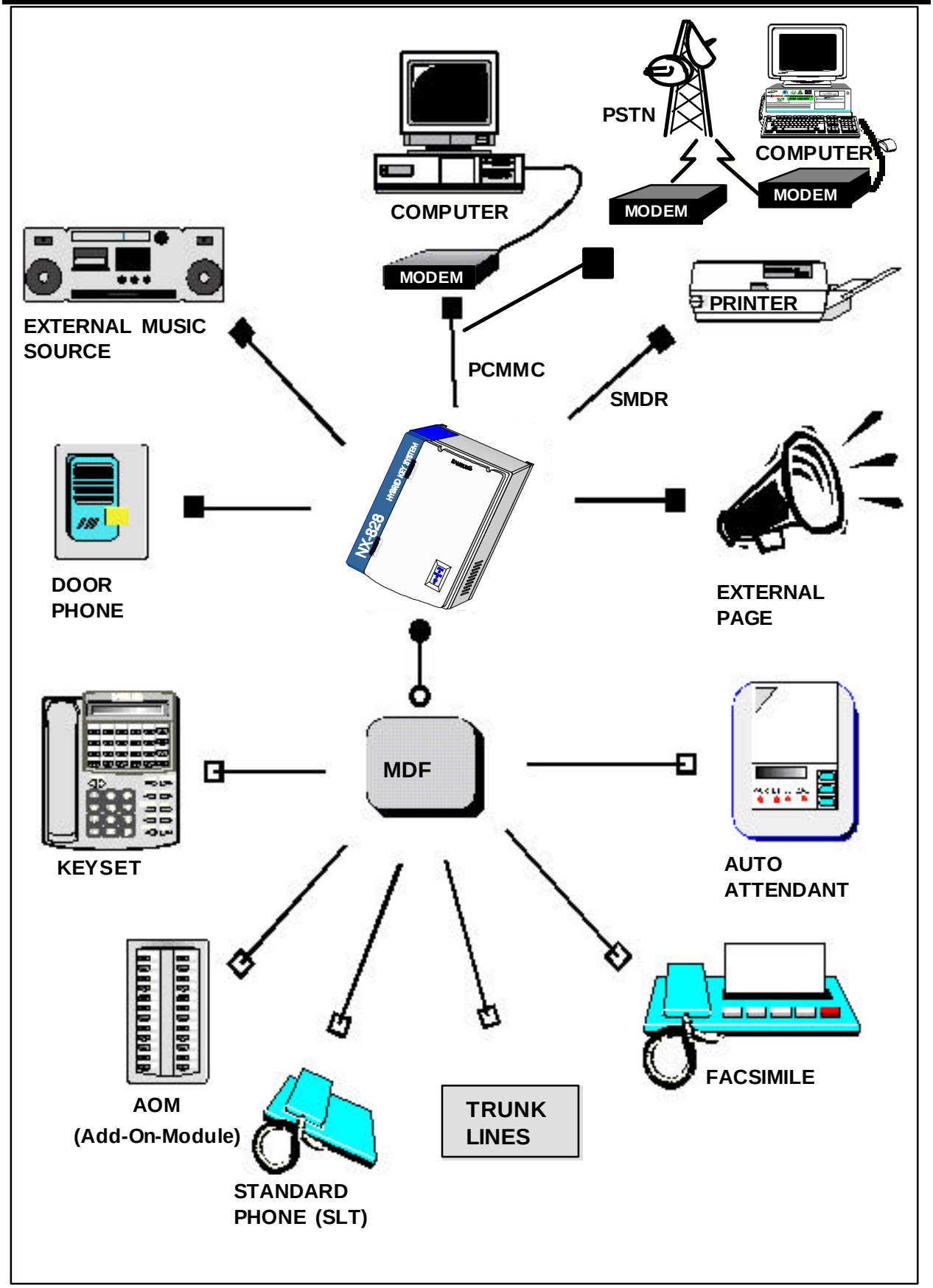
GENERAL DESCRIPTION

NX-828 General System Diagram



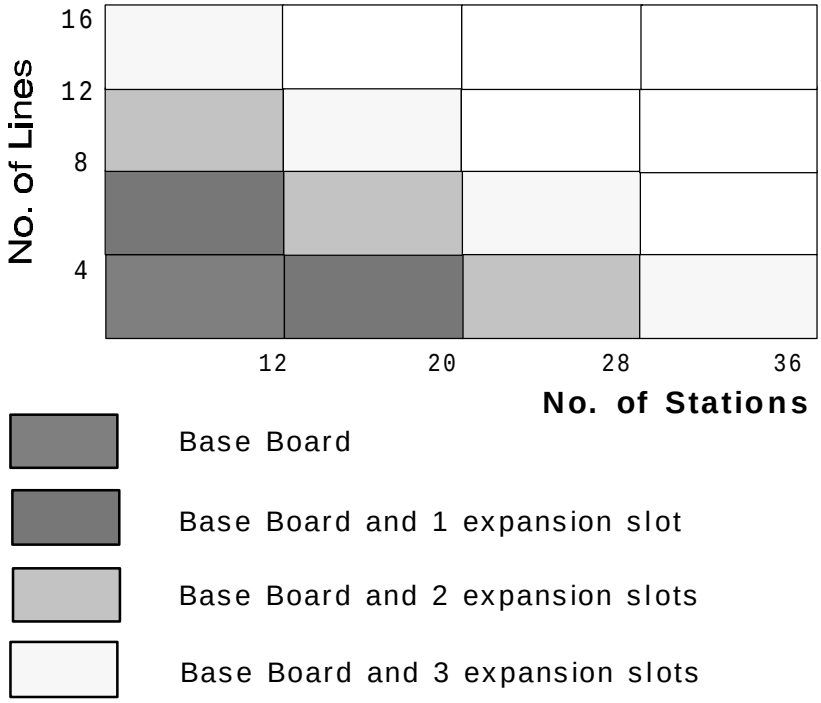
1. System Overview

The NX-828 system is an analogue telephone system designed for small to medium-sized businesses and for meeting CE (EMC + safety) regulations as well as the related PTT regulations. The system has a maximum capacity of forty (40) ports, being the sum of telephone lines and stations-the combinations of which are flexible. Comprising only a Key Service Unit (KSU), option cards, electronic keysets and conventional single line telephones, the system offers small or medium-sized business user's the flexibility and control of telephone communications. A powerful HM64180R1 microprocessor digitally controls all speech paths and system functions. The operating program with default memory is stored in non-volatile ROM 27C 020. Customer data is stored in RAM 681000 and is protected by a rechargeable Ni-Cd battery for up to seven day's continuous loss of system power.

2. System Configuration

The basic KSU comes equipped to operate four (4) telephone lines and twelve (12) stations. Stations from #1 to #4 are assigned to keysets, and stations from #5 to #12 are assigned to single line telephones. The NX-828 system has several types of option card: the NX-4TRK, NX-8KLI, NX-8SLI and NX-4OPX card can be installed in any slot of the three expansion slots. By combining these cards, the system can be increased to its maximum capacity of forty (40) ports. Optionally, the NX-SMDR/R-MMC and NX-DPH/PAGING cards can be installed on the base board for value-added features.

The NX-SMDR/R-MMC card is the serial interface card for SMDR and Remote MMC, and the NX-DPH/PAGING card is the door phone and external paging interface card. The NX-MPD Hybrid IC (50Hz, 12 or 16KHz) can be installed on the base board and the NX-4TRK option card for four (4) trunk ports up to a maximum of four per card. The chart below describes configurations using option cards.



You may connect up to 24 keystations to the system. More than 24 KLI connections may cause problems with system features.

3. Hardware Description

3.1 Key Service Unit (KSU)

The **NX-828** system is a single cabinet, wall mounted, metal-cased unit containing the following:

- **Power Supply**
  - System main DC regulator from AC 230V, 50Hz
  - Sinusoidal ring signal generator
  - Battery charging/ Re-charging circuitry
  - DC power regulator for single line telephones
  - +12V DC power regulator and -5V DC power regulator

- **Connection Board**

.

- **Base Board**
  - Four (4) loop start trunk line interface circuitry with Metering Pulse Detectors (optionally, 50Hz, 12kHz or 16kHz)
  - Four (4) keyset interfaces and eight (8) single line telephone interfaces
  - 16 speech paths
  - Internal music source and external music interface
  - Two (2) power failure transfers (trunk #1, #2 - station #11, #12)
  - Memory back-up battery
  - Real-time clock
  - Four (4) connectors for Metering Pulse Detectors related to four (4) trunks
  - Connector for NX-DPH/PAGING card and NX-SMDR/R-MMC card
  - Three (3) expansion slots
  - +5V DC power regulator

3.2 Option Cards

- **NX-4TRK** card provides four (4) loop start trunk interfaces, with Metering pulse Detectors (optionally, 50Hz, 12KHz or 16KHz).

- **NX-8KLI** card provides eight (8) ports for keysets.

- **NX-8SLI** card provides eight (8) single line telephones indoors.

- **NX-4OPX** card provides four (4) line telephones outdoors.

- **NX-SMDR/R-MMC** card provides two serial ports for SMDR and Remote MMC.

- **NX-DPH/PAGING** card provides two door phone interface and one external paging interface.

¡Ü **MPD Hybrid IC** can be installed on the system base board and NX-4TRK option card (maximum of four per card) for detecting metering pulses.
Optionally, MPD Hybrid ICs for 50Hz, 12kHz or 16kHz can be provided.

¡Ü **MDF** Samsung Electronics Co. can provide several types if user order.
NX-828 has room enough to accommodate MDF's in the cabinet if user install the MDF's provided by Samsung Electronics Co.

3.3 Station Equipments

¡Ü **Keyset with 24 buttons (NX-24E, NX-24B)**

- Built-in speakerphone
- 24 programmable soft keys (12 with tri-colored LEDs) and 10 fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes.
- Four selective ring tones per keyset
- Desk-mounted or wall-mounted
- Can be connected to the SKP-308H/816H system
- NX-24E keyset has a 1-line 16-character display.

¡Ü **Basic keyset with 6 buttons (NX-6B)**

- 6 programmable soft keys and 10 fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes.
- Four selective ring tones per keyset
- Desk-mounted or wall-mounted
- can be connected to **SKP-308H** system

Keysets come in one colour: Dark Grey.

¡Ü **Add-On Module (NX-AOM)**

- 24 programmable soft keys

¡Ü **Door phone set (DPH)**

- Can be connected to NX-DPH/PAGING card and uses a one (1) pair modular cable.

4. Specifications

4.1 Electrical Specifications

AC INPUT	230 VAC, 50 Hz
POWER CONSUMPTION	55 Watts maximum
MAX CURRENT DRAW AT 230 VAC	0.29 AMP
RING GENERATOR	AC 80 VRMS, 25 Hz
BATTERY BACKUP SUPPLY	24 VDC Batteries rating not less than 6 AH but not more than 26 AH

4.2 Dimensions and Weights

KEY SERVICE UNIT	530 mm H¡¿412 mm W¡¿140 mm , 8.9 kg
KEYSET	214 mm H¡¿206 mm W¡¿150 mm , 1.1 kg
AOM	214 mm H¡¿133 mm W¡¿150 mm , 0.4 kg
DOOR PHONE	158 mm H¡¿ 89 mm W¡¿ 41 mm , 0.23 kg

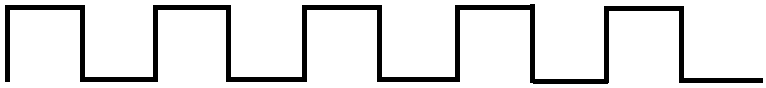
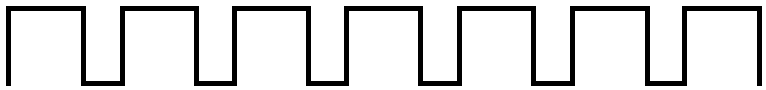
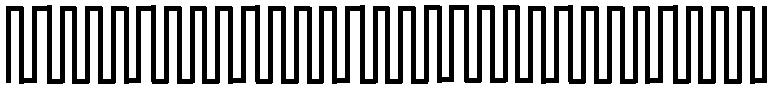
4.3 Environmental Limitations

OPERATING TEMPERATURES	0 ¡É - 45 ¡É (18 ¡É - 25 ¡É recommended)
OPERATING HUMIDITY	10 % - 90 % (without condensation)
OPERATING INPUT VOLTAGE	230 VAC(20%), 48~62Hz

4.4 Cable Requirements

ELECTRONIC SET	2 pair twisted, 400 m 24 AWG maximum
SINGLE LINE TELEPHONE	1 pair twisted, 1 km 24 AWG maximum
DOOR PHONE	1 pair twisted, 100 m 24 AWG maximum

4.5 SYSTEM TONES AND RINGS

DIAL TONE	: A steady tone that indicates you can begin dialing.
	CONTINUOUS
RING BACK TONE	: Indicates the station you dialed is ringing.
	1000 ON / 2000 OFF / 1000 ON / 2000 OFF
BUSY TONE	: Indicates the station you dialed is busy.
	500 ON / 500 OFF / 500 ON / 500 OFF
TRANSFER TONE	: Indicates your call is being held and you can dial another party.
	200 ON / 200 OFF / 200 ON / 200 OFF
ERROR TONE	: Indicates you have done something incorrectly.
	500 ON / 250 OFF / 500 ON / 250 OFF
CONFIRMATION TONE	: Indicates you have correctly set or canceled the system features.
	100 ON / 100 OFF / 100 ON / 100 OFF
INTRUSION TONE	: Indicates you are barged.
	200 ON / 200 OFF / 200 ON / 5000 OFF
MESSAGE WAITING TONE	: In case of SLT, indicates you have messages left.
	200 ON / 200 OFF / 200 ON / 200 OFF

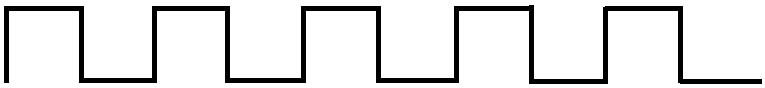
CO LINE RING : Indicates a outside call is ringing on your station.

1000 ON / 3000 OFF /
1000 ON / 3000 OFF

STATION RING : Indicates an intercom call is ringing on your station.

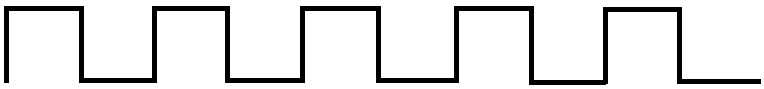
400 ON / 200 OFF /
400 ON / 3000 OFF

DOORPHONE RING : Indicates a door phone call is ringing on your station.



500 ON / 500 OFF /
500 ON / 500 OFF

ALARM RING : Indicates an alarm ring is ringing on your station.



500 ON / 500 OFF /
500 ON / 500 OFF

4.6 Keyset LED Indications

CONDITION	LED COLOR	LED STATUS
LINE IDLE	OFF	OFF
LINE IN USE	RED/GREEN	STEADY ON
RECALL	AMBER	FAST FLICKER
CALL ON HOLD	RED/GREEN	SLOW FLICKER
RINGING C.O. CALL	GREEN	FAST FLICKER
RINGING INTERNAL CALL	RED	FAST FLICKER
DND INDICATION	RED	STEADY ON

INSTALLATION

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INSTALLATION

1. Site Requirements

When planning the installation of the **NX-828** system, choose a site that meets the following requirements:

- Select a location for the Key Service Unit (KSU) that has enough room for installation and has adequate lighting.
- Select a location that minimises cable lengths. Maximum cable length is 400 meters using AWG #24 cable for a keyset and 1 km using AWG #24 cable for a single line telephone.
- 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 copying machines.
- A direct commercial AC power outlet is required. Do not use extension cords. Preferably, a dedicated circuit should be used to minimise the risk of other electrical equipment being connected that could adversely affect system operation. Ensure that all wires and cables 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 0 - 40¡ÆC and a humidity range of 10% - 90% non-condensing.
- Do not install in close proximity to a fire sprinkler head or other sources of water.
- Do not install within a 2-mile radius of a broadcasting antenna.

2. Installation Basic KSU

2.1 Unpacking basic KSU

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

Check to see that the KSU carton includes the following items:

- Key Service Unit
- Wall-mount bracket and three (3) screws
- Power cord

2.2 Mounting the KSU

The KSU must be wall-mounted using the bracket supplied (Figure 2-1). The KSU should be mounted on a plywood backboard at least 1.5 mm thick. Attach the bracket to backboard with the two screws supplied. Next, hang the KSU on the mounting bracket

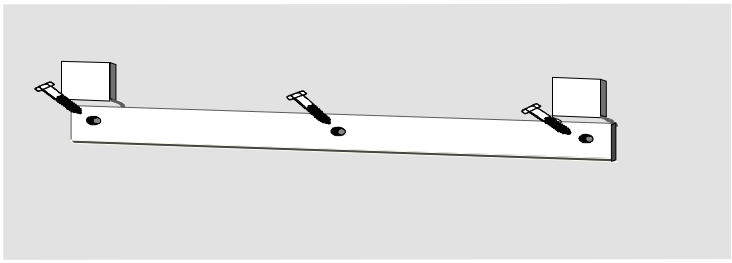
2.3 Grounding the KSU

WARNING: Unplug the power cord from the AC supply before attempting to onnect the ground. Hazardous voltage may cause death or injury. Observe extreme caution when working with AC power.

The NX-828 system comes equipped ready to use with a third wire AC ground provided through the power cord (Figure 2-2).

The grounding lug on the bottom of the KSU must be connected to a ground rod or metal cold water pipe using 10 AWG solid copper wire.

CAUTION: Failure to provide an adequate ground may cause problems or even circuit board failure.



1. Fix the 3 screws into the wall
2. Hang the KSU on the wall-mount bracket

Figure 2-1 Mounting the KSU

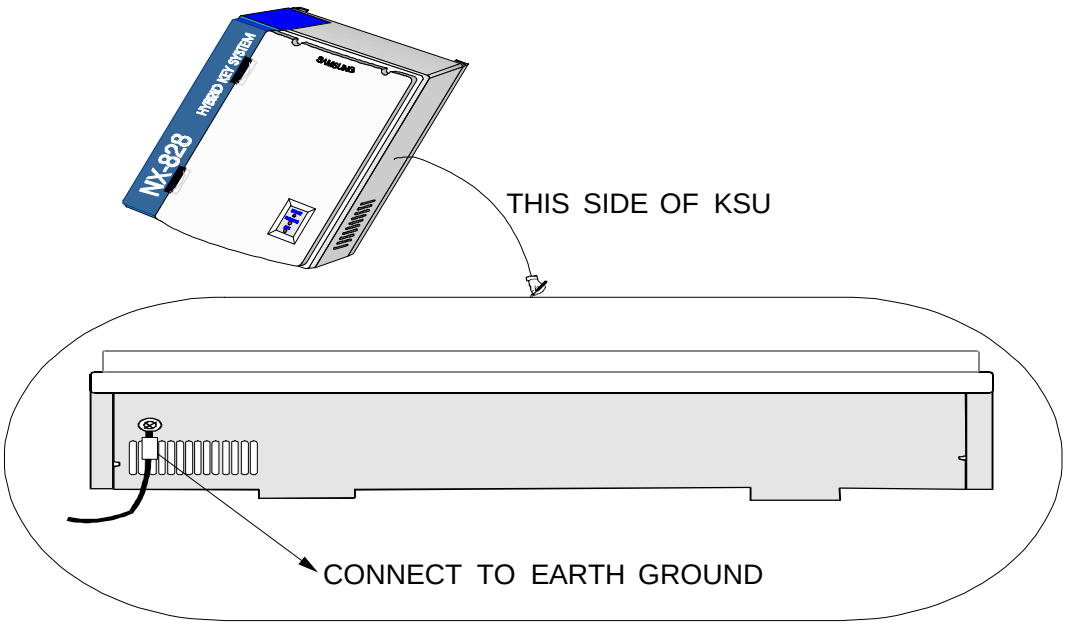


Figure 2-2 Grounding the KSU

2.4 MDF Cabling

All connections to the **NX-828** system are made by way of the main distribution frame (MDF) provided by SAMSUNG. The MDF connection can be done by using a 25 pair female amphenol-type cable. There are five(5) kinds of MDF(MDFB-CEU, MDFB-MEU, MDFD-C, MDFD-M4TRK and MDFD-M) for NX system and **Optional** MDF can be used with the **NX-828** system. MDFB-CEU and MDFB-MEU are for the basic KSU and the MDFD-C, MDFD-M and MDFD-M4TRK are used to connect the expansion B'd.

¡Ü MDFB (Option B'd)

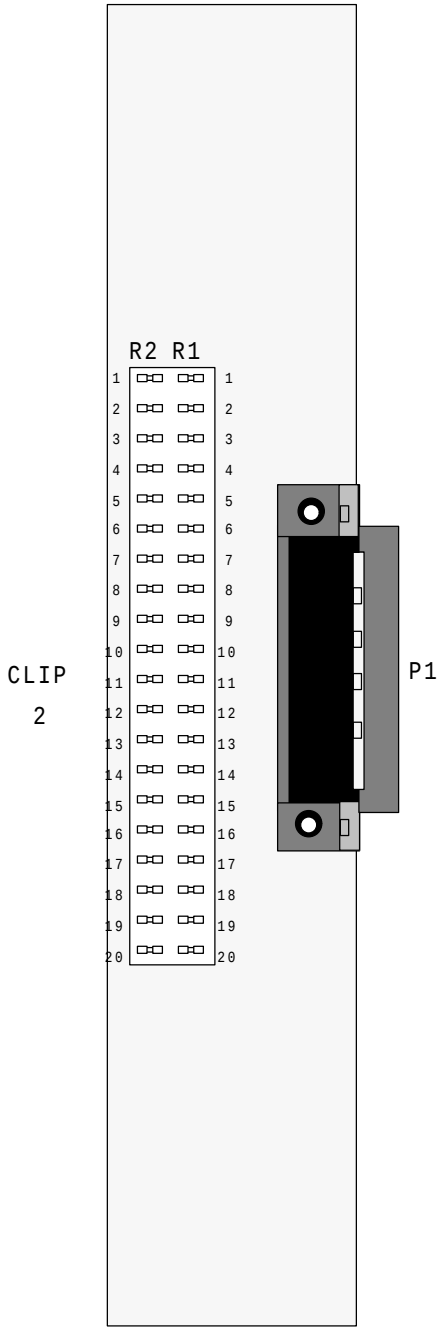
Used to connect the **NX-828** basic KSU.
There are two types of MDFB ;
- ¢¹ MDFB-CEU (See **FIGURE 2£-3**)
- ¢¹ MDFB-MEU (See **FIGURE 2£-4**)

¡Ü MDFD (Option B'd)

Used to connect the expansion cards :
NX-4TRK, NX-4OPX, NX-8KLI, NX-8SLI
There are three types of MDFD ;
- ¢¹ MDFD-C (See **FIGURE 2£-5A , 2£-5B**)
- ¢¹ MDFD-M4TRK (See **FIGURE 2£-6**)
- ¢¹ MDFD-M (See **FIGURE 2£-7**)

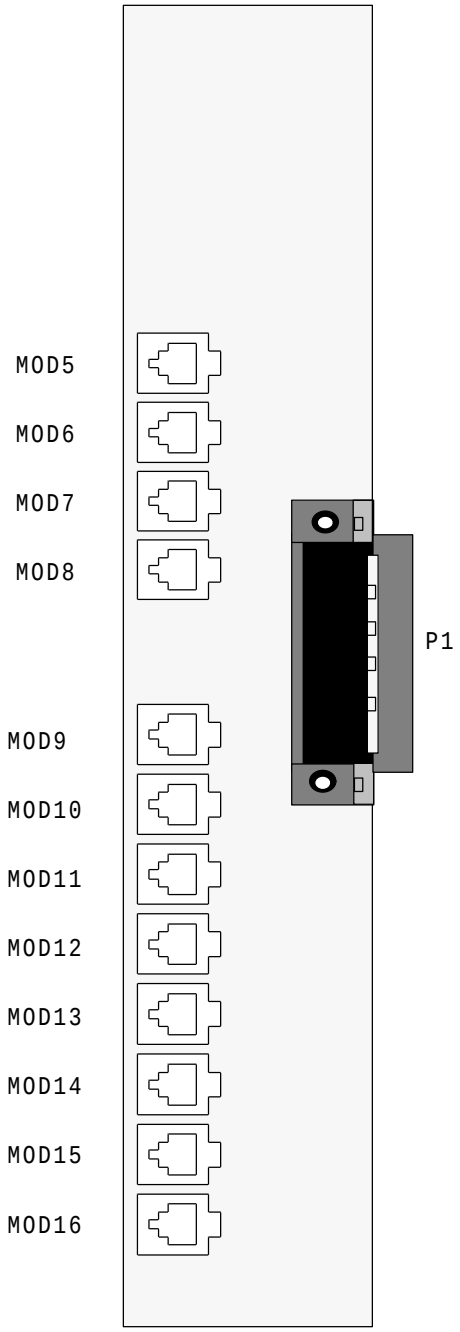
¡Ü Optional MDF (See FIGURE 2-8)

The MDF provided by SAMSUNG ELECTRONICS is configured as FIGURE 2-8.
It is composed of sixty (60) pair clips of which "IN" and "OUT" terminal is short internally. The wire from the **NX-828** system champ connector is connected to the clip terminal marked "IN" and the wire to C.O, station, or the additional feature equipment can be connected from the clip terminal marked "OUT".



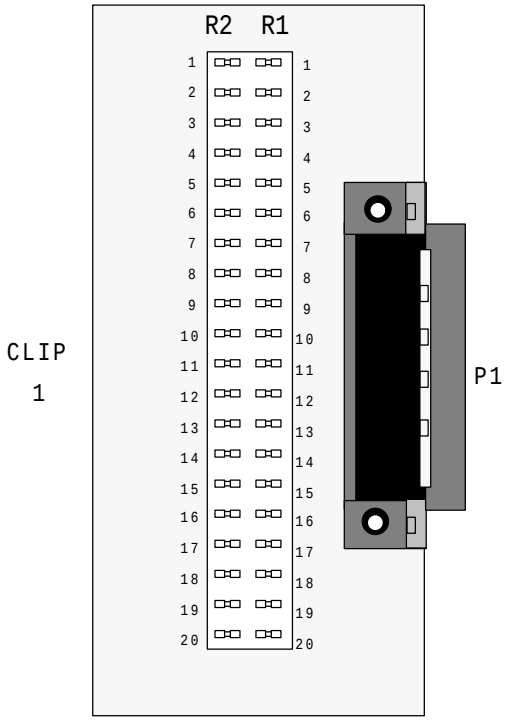
50 PIN CHAMP CONNECTOR		P1		
PIN No.	COLOR	FUNCTION	MDFB-CEU	CLIP
1 26	BL-W W-BL	NC NC	x	
2 27	O-W W-O	NC NC	x	
3 28	GN-W W-GN	NC NC	x	
4 29	BR-W W-BR	NC NC	x	
5 30	S-W W-S	NC NC	x	
6 31	BL-R R-BL	STN 1 L1 L2	R1 1 R2 1	CLIP2
7 32	O-R R-O	STN 1 D+ D-	R1 2 R2 2	
8 33	GR-R R-GR	STN 2 L1 L2	R1 3 R2 3	
9 34	BR-R R-BR	STN 2 D+ D-	R1 4 R2 4	
10 35	S-R R-S	STN 3 L1 L2	R1 5 R2 5	
11 36	BL-BK BK-BL	STN 3 D+ D-	R1 6 R2 6	
12 37	O-BK BK-O	STN 4 L1 L2	R1 7 R2 7	
13 38	GR-BK BK-GR	STN 4 D+ D-	R1 8 R2 8	
14 39	BR-BK BK-BR	STN 5 L1 L2	R1 9 R2 9	
15 40	S-BK BK-S	RESERVED RESERVED	R1 10 R2 10	
16 41	BL-Y Y-BL	STN 6 L1 L2	R1 11 R2 11	
17 42	S-Y Y-S	RESERVED RESERVED	R1 12 R2 12	
18 43	GR-Y Y-GR	STN 7 L1 L2	R1 13 R2 13	
19 44	BR-Y Y-BR	RESERVED RESERVED	R1 14 R2 14	
20 45	S-Y Y-S	STN 8 L1 L2	R1 15 R2 15	
21 46	BL-VL VL-BL	RESERVED RESERVED	R1 16 R2 16	
22 47	O-VL VL-O	STN 9 L1 L2	R1 17 R2 17	
23 48	GR-VL VL-GR	STN 10 L1 L2	R1 18 R2 18	
24 49	BR-VL VL-BR	STN 11 L1 L2	R1 19 R2 19	
25 50	S-VL VL-S	STN 12 L1 L2	R1 20 R2 20	

Figure 2-3 MDFB-CEU Connection



50 PIN CHAMP CONNECTOR		P1	
PIN No.	COLOR	FUNCTION	MDFB-MEU
1 26	BL-W W-BL	NC NC	X
2 27	O-W W-O	NC NC	X
3 28	GN-W W-GN	NC NC	X
4 29	BR-W W-BR	NC NC	X
5 30	S-W W-S	NC NC	X
6 31	BL-R R-BL	STN 1 L1 L2	MOD5 (3,2)
7 32	O-R R-O	STN 1 D+ D-	MOD5 (1,4)
8 33	GR-R R-GR	STN 2 L1 L2	MOD6 (3,2)
9 34	BR-R R-BR	STN 2 D+ D-	MOD6 (1,4)
10 35	S-R R-S	STN 3 L1 L2	MOD7 (3,2)
11 36	BL-BK BK-BL	STN 3 D+ D-	MOD7 (1,4)
12 37	O-BK BK-O	STN 4 L1 L2	MOD8 (3,2)
13 38	GR-BK BK-GR	STN 4 D+ D-	MOD8 (1,4)
14 39	BR-BK BK-BR	STN 5 L1 L2	MOD9 (3,2)
15 40	S-BK BK-S	RESERVED RESERVED	MOD9 (1,4)
16 41	BL-Y Y-BL	STN 6 L1 L2	MOD10 (1,4)
17 42	S-Y Y-S	RESERVED RESERVED	MOD11 (3,2)
18 43	GR-Y Y-GR	STN 7 L1 L2	MOD11 (1,4)
19 44	BR-Y Y-BR	RESERVED RESERVED	MOD12 (3,2)
20 45	S-Y Y-S	STN 8 L1 L2	MOD12 (1,4)
21 46	BL-VL VL-BL	RESERVED RESERVED	MOD13 (3,2)
22 47	O-VL VL-O	STN 9 L1 L2	MOD13 (1,4)
23 48	GR-VL VL-GR	STN 10 L1 L2	MOD14 (3,2)
24 49	BR-VL VL-BR	STN 11 L1 L2	MOD15 (3,2)
25 50	S-VL VL-S	STN 12 L1 L2	MOD16 (3,2)

Figure 2-4 MDFB-MEU Connection

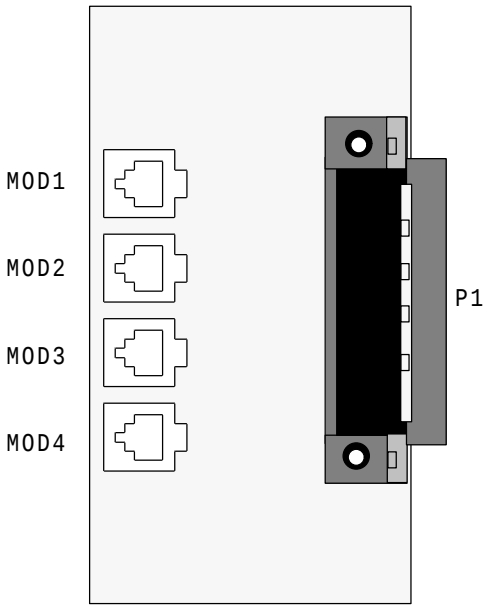


50 PIN CHAMP CONNECTOR		4 TRK	MDFD-C
PIN No.	COLOR	FUNCTION	
1 26	BL-W W-BL	C.O 1 TIP RING	R1 1 R2 1
2 27	O-W W-O	RESERVED	R1 2 R2 2
3 28	GN-W W-GN	C.O 2 TIP RING	R1 3 R2 3
4 29	BR-W W-BR	RESERVED	R1 4 R2 4
5 30	S-W W-S	C.O 3 TIP RING	R1 5 R2 5
6 31	BL-R R-BL	RESERVED	R1 6 R2 6
7 32	O-R R-O	C.O 4 TIP RING	R1 7 R2 7
8 33	GR-R R-GR	RESERVED	R1 8 R2 8
9 34	BR-R R-BR	¡¨	R1 9 R2 9
10 35	S-R R-S	¡¨	R1 10 R2 10
11 36	BL-BK BK-BL	¡¨	R1 11 R2 11
12 37	O-BK BK-O	¡¨	R1 12 R2 12
13 38	GR-BK BK-GR	¡¨	R1 13 R2 13
14 39	BR-BK BK-BR	¡¨	R1 14 R2 14
15 40	S-BK BK-S	¡¨	R1 15 R2 15
16 41	BL-Y Y-BL	¡¨	R1 16 R2 16
17 42	S-Y Y-S	NC NC	R1 17 R2 17
18 43	GR-Y Y-GR	¡¨	R1 18 R2 18
19 44	BR-Y Y-BR	¡¨	R1 19 R2 19
20 45	S-Y Y-S	¡¨	R1 20 R2 20
21 46	BL-VL VL-BL		¡¿
22 47	O-VL VL-O		¡¿
23 48	GR-VL VL-GR		¡¿
24 49	BR-VL VL-BR		¡¿
25 50	S-VL VL-S		¡¿

Figure 2-5A MDFD-C Connection

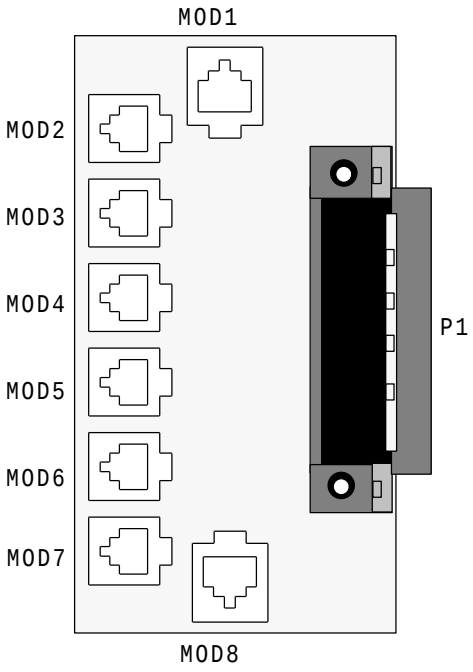
50 PIN CHAMP CONNECTOR		8 KLI	8 SLI	4 OPX	MDFD-C
PIN No.	COLOR	FUNCTION	FUNCTION	FUNCTION	
1 26	BL-W W-BL	STN 1 L1 L2	STN 1 L1 L2	STN 1 L1 L2	R1 1 R2 1
2 27	O-W W-O	STN 1 D+ D-	RESERVED	RESERVED	R1 2 R2 2
3 28	GN-W W-GN	STN 2 L1 L2	STN 2 L1 L2	STN 2 L1 L2	R1 3 R2 3
4 29	BR-W W-BR	STN 2 D+ D-	RESERVED	RESERVED	R1 4 R2 4
5 30	S-W W-S	STN 3 L1 L2	STN 3 L1 L2	STN 3 L1 L2	R1 5 R2 5
6 31	BL-R R-BL	STN 3 D+ D-	RESERVED	RESERVED	R1 6 R2 6
7 32	O-R R-O	STN 4 L1 L2	STN 4 L1 L2	STN 4 L1 L2	R1 7 R2 7
8 33	GR-R R-GR	STN 4 D+ D-	RESERVED	RESERVED	R1 8 R2 8
9 34	BR-R R-BR	STN 5 L1 L2	STN 5 L1 L2	¡¨	R1 9 R2 9
10 35	S-R R-S	STN 5 D+ D-	RESERVED	¡¨	R1 10 R2 10
11 36	BL-BK BK-BL	STN 6 L1 L2	STN 6 L1 L2	¡¨	R1 11 R2 11
12 37	O-BK BK-O	STN 6 D+ D-	RESERVED	¡¨	R1 12 R2 12
13 38	GR-BK BK-GR	STN 7 L1 L2	STN 7 L1 L2	¡¨	R1 13 R2 13
14 39	BR-BK BK-BR	STN 7 D+ D-	RESERVED	¡¨	R1 14 R2 14
15 40	S-BK BK-S	STN 8 L1 L2	STN 8 L1 L2	¡¨	R1 15 R2 15
16 41	BL-Y Y-BL	STN 8 D+ D-	RESERVED	¡¨	R1 16 R2 16
17 42	S-Y Y-S	NC NC	NC NC	NC NC	R1 17 R2 17
18 43	GR-Y Y-GR	¡¨	¡¨	¡¨	R1 18 R2 18
19 44	BR-Y Y-BR	¡¨	¡¨	¡¨	R1 19 R2 19
20 45	S-Y Y-S	¡¨	¡¨	¡¨	R1 20 R2 20
21 46	BL-VL VL-BL				¡¿
22 47	O-VL VL-O				¡¿
23 48	GR-VL VL-GR				¡¿
24 49	BR-VL VL-BR				¡¿
25 50	S-VL VL-S				¡¿

Figure 2-5B MDFD-C Connection



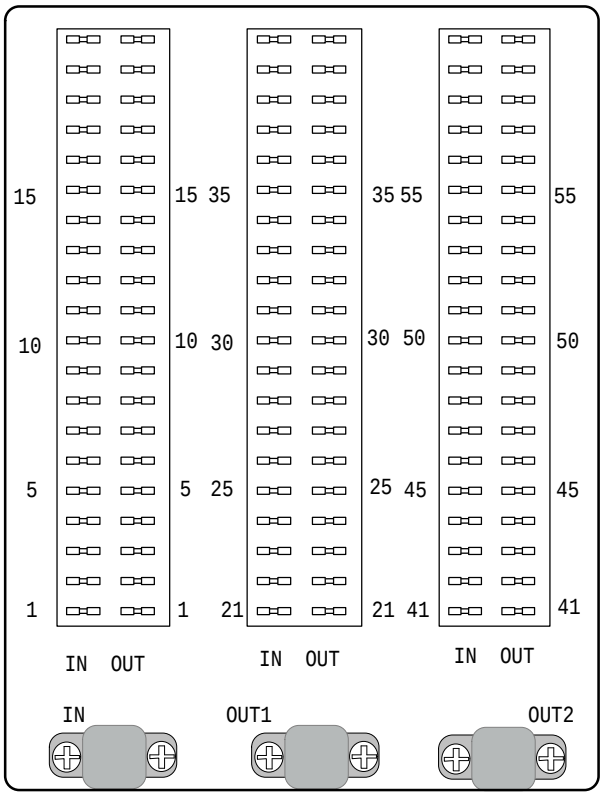
50 PIN CHAMP CONNECTOR		4 TRK	MDFD-M4TRK
PIN No.	COLOR	FUNCTION	
1 26	BL-W W-BL	C.O 1 TIP RING	MOD1 (4,1)
2 27	O-W W-O	RESERVED	¡¿
3 28	GN-W W-GN	C.O 2 TIP RING	MOD2 (4,1)
4 29	BR-W W-BR	RESERVED	¡¿
5 30	S-W W-S	C.O 3 TIP RING	MOD3 (4,1)
6 31	BL-R R-BL	RESERVED	¡¿
7 32	O-R R-O	C.O 4 TIP RING	MOD4 (4,1)
8 33	GR-R R-GR	RESERVED	¡¿
9 34	BR-R R-BR	¡¨	¡¿
10 35	S-R R-S	¡¨	¡¿
11 36	BL-BK BK-BL	¡¨	¡¿
12 37	O-BK BK-O	¡¨	¡¿
13 38	GR-BK BK-GR	¡¨	¡¿
14 39	BR-BK BK-BR	¡¨	¡¿
15 40	S-BK BK-S	¡¨	¡¿
16 41	BL-Y Y-BL	¡¨	¡¿
17 42	S-Y Y-S	NC NC	¡¿
18 43	GR-Y Y-GR	¡¨	¡¿
19 44	BR-Y Y-BR	¡¨	¡¿
20 45	S-Y Y-S	¡¨	¡¿
21 46	BL-VL VL-BL		¡¿
22 47	O-VL VL-O		¡¿
23 48	GR-VL VL-GR		¡¿
24 49	BR-VL VL-BR		¡¿
25 50	S-VL VL-S		¡¿

Figure 2-6 MDFD-M4TRK Connection



50 PIN CHAMP CONNECTOR		8 KLI	8 SLI	4 OPX	MDFD-M
PIN No.	COLOR	FUNCTION	FUNCTION	FUNCTION	
1 26	BL-W W-BL	STN 1 L1 L2	STN 1 L1 L2	STN 1 L1 L2	MOD1 (3,2)
2 27	O-W W-O	STN 1 D+ D-	RESERVED	RESERVED	MOD1 (1,4)
3 28	GN-W W-GN	STN 2 L1 L2	STN 2 L1 L2	STN 2 L1 L2	MOD2 (3,2)
4 29	BR-W W-BR	STN 2 D+ D-	RESERVED	RESERVED	MOD2 (1,4)
5 30	S-W W-S	STN 3 L1 L2	STN 3 L1 L2	STN 3 L1 L2	MOD3 (3,2)
6 31	BL-R R-BL	STN 3 D+ D-	RESERVED	RESERVED	MOD3 (1,4)
7 32	O-R R-O	STN 4 L1 L2	STN 4 L1 L2	STN 4 L1 L2	MOD4 (3,2)
8 33	GR-R R-GR	STN 4 D+ D-	RESERVED	RESERVED	MOD4 (1,4)
9 34	BR-R R-BR	STN 5 L1 L2	STN 5 L1 L2	¡¨	MOD5 (3,2)
10 35	S-R R-S	STN 5 D+ D-	RESERVED	¡¨	MOD5 (1,4)
11 36	BL-BK BK-BL	STN 6 L1 L2	STN 6 L1 L2	¡¨	MOD6 (3,2)
12 37	O-BK BK-O	STN 6 D+ D-	RESERVED	¡¨	MOD6 (1,4)
13 38	GR-BK BK-GR	STN 7 L1 L2	STN 7 L1 L2	¡¨	MOD7 (3,2)
14 39	BR-BK BK-BR	STN 7 D+ D-	RESERVED	¡¨	MOD7 (1,4)
15 40	S-BK BK-S	STN 8 L1 L2	STN 8 L1 L2	¡¨	MOD8 (3,2)
16 41	BL-Y Y-BL	STN 8 D+ D-	RESERVED	¡¨	MOD8 (1,4)
17 42	S-Y Y-S	NC NC	NC NC	NC NC	¡¿
18 43	GR-Y Y-GR	¡¨	¡¨	¡¨	¡¿
19 44	BR-Y Y-BR	¡¨	¡¨	¡¨	¡¿
20 45	S-Y Y-S	¡¨	¡¨	¡¨	¡¿
21 46	BL-VL VL-BL				¡¿
22 47	O-VL VL-O				¡¿
23 48	GR-VL VL-GR				¡¿
24 49	BR-VL VL-BR				¡¿
25 50	S-VL VL-S				¡¿

Figure 2-7 MDFD-M Connection



MDF Pin No.	Champ Pin No.	MDF Pin No.	Champ Pin No.	MDF Pin No.	Champ Pin No.
1	26	21	36	41	46
2	1	22	11	42	21
3	27	23	37	43	47
4	2	24	12	44	22
5	28	25	38	45	48
6	3	26	13	46	23
7	29	27	39	47	49
8	4	28	14	48	24
9	30	29	40	49	50
10	5	30	15	50	25
11	31	31	41	51	reserved
12	6	32	16	52	reserved
13	32	33	42	53	reserved
14	7	34	17	54	reserved
15	33	35	43	55	reserved
16	8	36	18	56	reserved
17	34	37	44	57	reserved
18	9	38	19	58	reserved
19	35	39	45	59	reserved
20	10	40	20	60	reserved

Figure 2-8 Optional MDF

3. Installation Option Cards

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

3.1 NX-4TRK

Insert the NX-4TRK card (Figure 2-9) into any expansion slot. Push firmly to ensure that it is fully inserted into the back plane connector.

3.2 NX-4OPX

Insert the NX-4SLI (OPX) card (Figure 2-10) into any expansion slot. Push firmly to ensure that it is fully inserted into the back plane connector.

3.3 NX-8KLI

Insert the NX-8KLI card (Figure 2-11) into any expansion slot. Push firmly to ensure that it is fully inserted into the back plane connector.

3.4 NX-8SLI

Insert the NX-8SLI card (Figure 2-12) into any expansion slot. Push firmly to ensure that it is fully inserted into the back plane connector.

3.5 NX-SMDR/R-MMC

Install the NX-SMDR/R-MMC card (Figure 2-13) on the base board.

3.6 MPD Hybrid IC

Insert into IC socket for MPD Hybrid IC on the NX-4TRK option card and the base board (Figure 2-14).

3.7 NX-DPH/PAGING

Install the NX-DPH/PAGING card (Figure 2-15) on the base board.

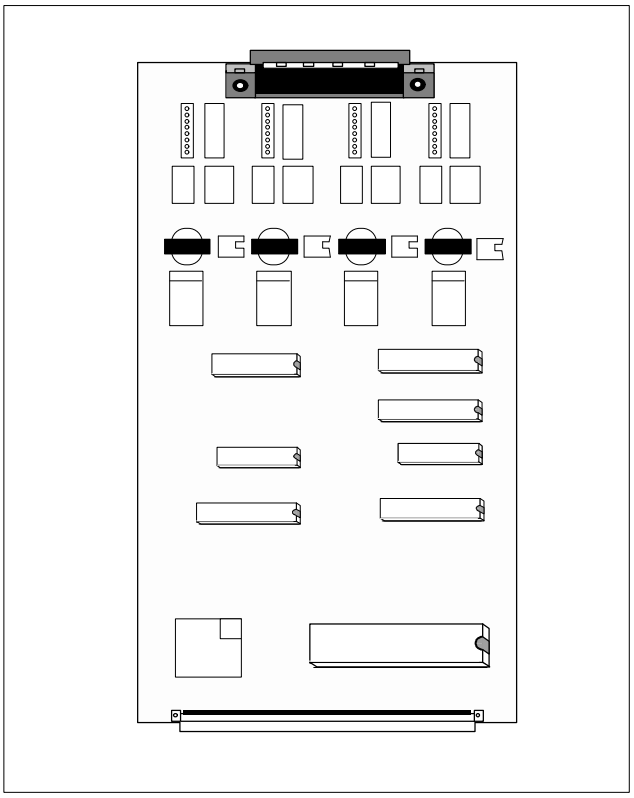


Figure 2-9 4TRK Card

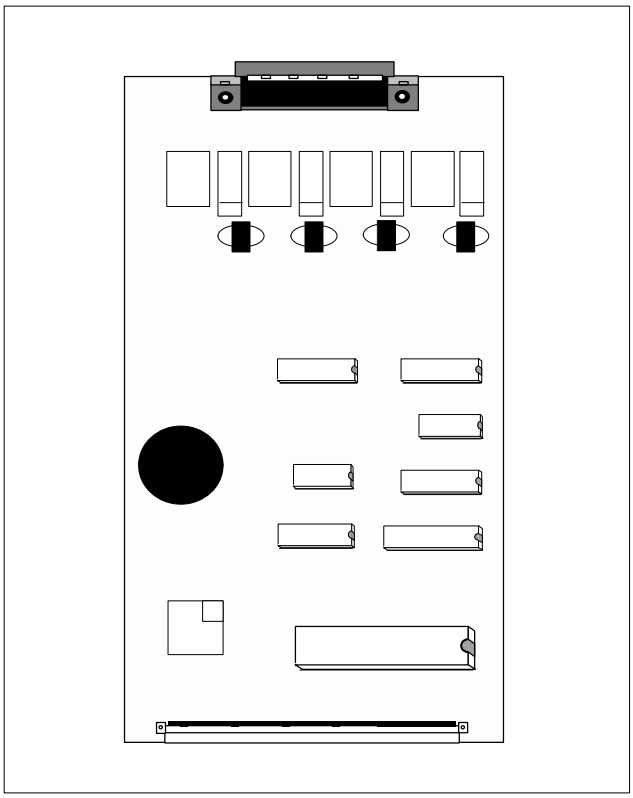


Figure 2-10 4OPX Card

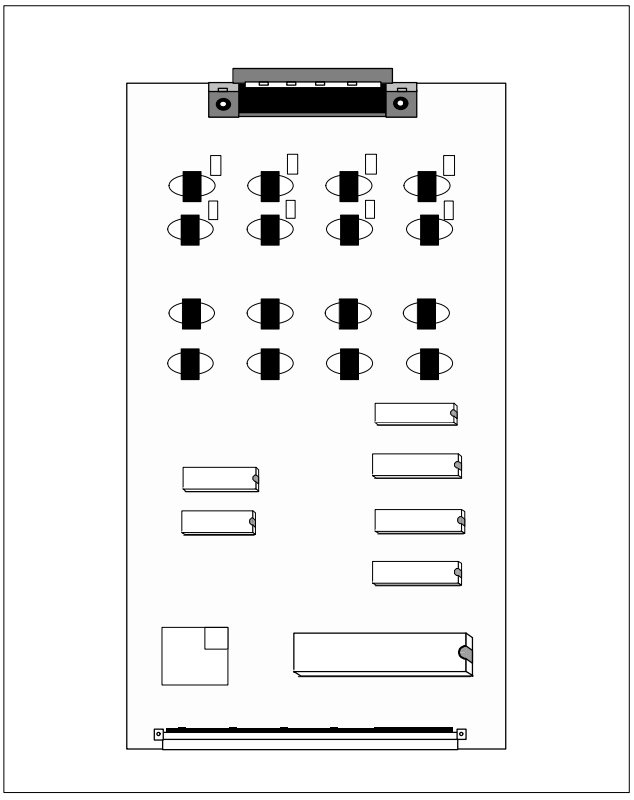


Figure 2-11 8KLI Card

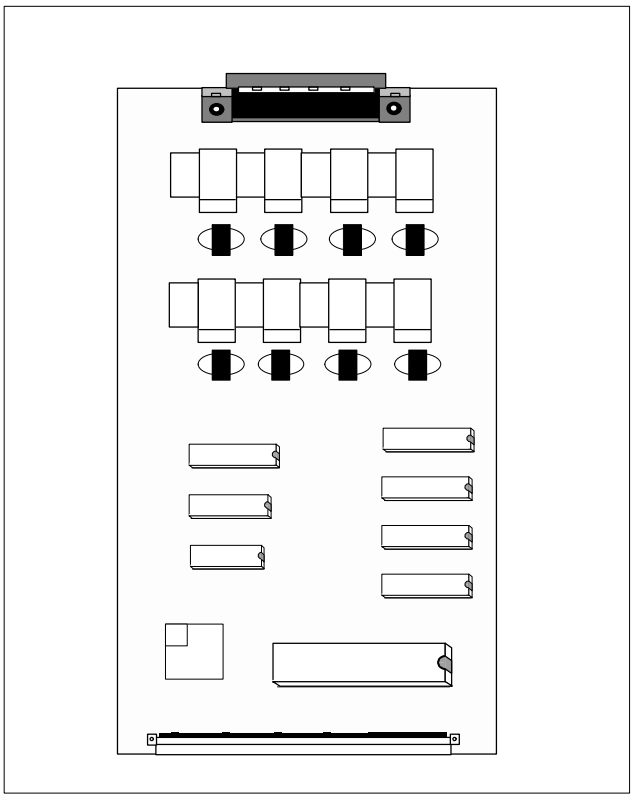


Figure 2-12 8SLI Card

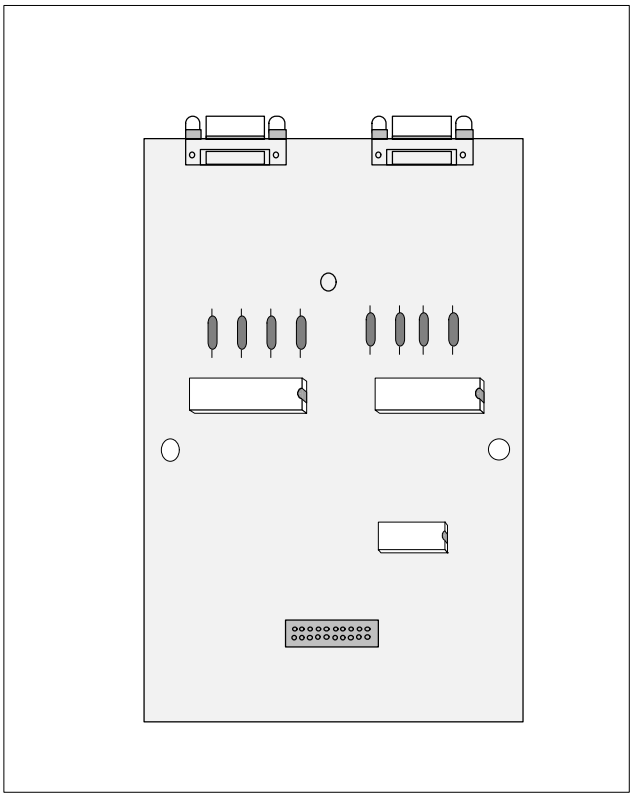


Figure 2-13 SMDR/R-MMC Card

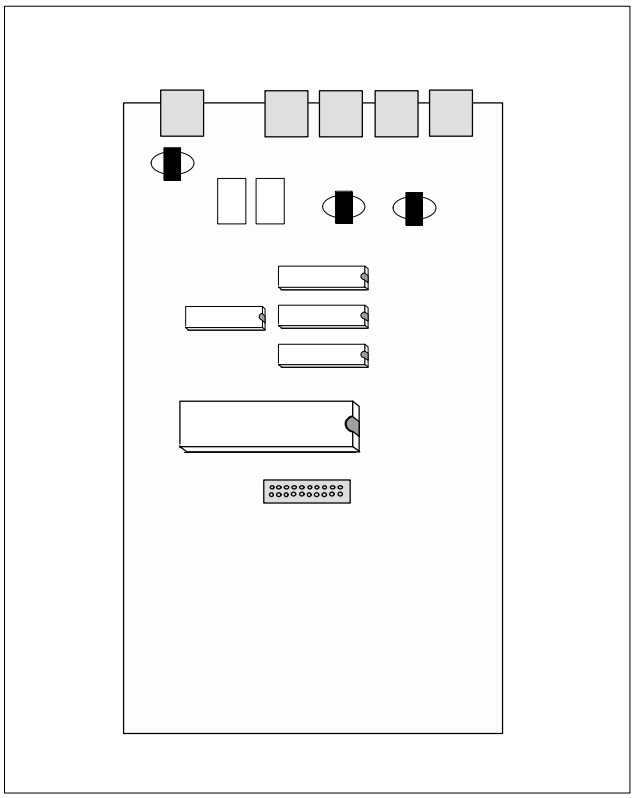


Figure 2-15 DPH/PAGING Card

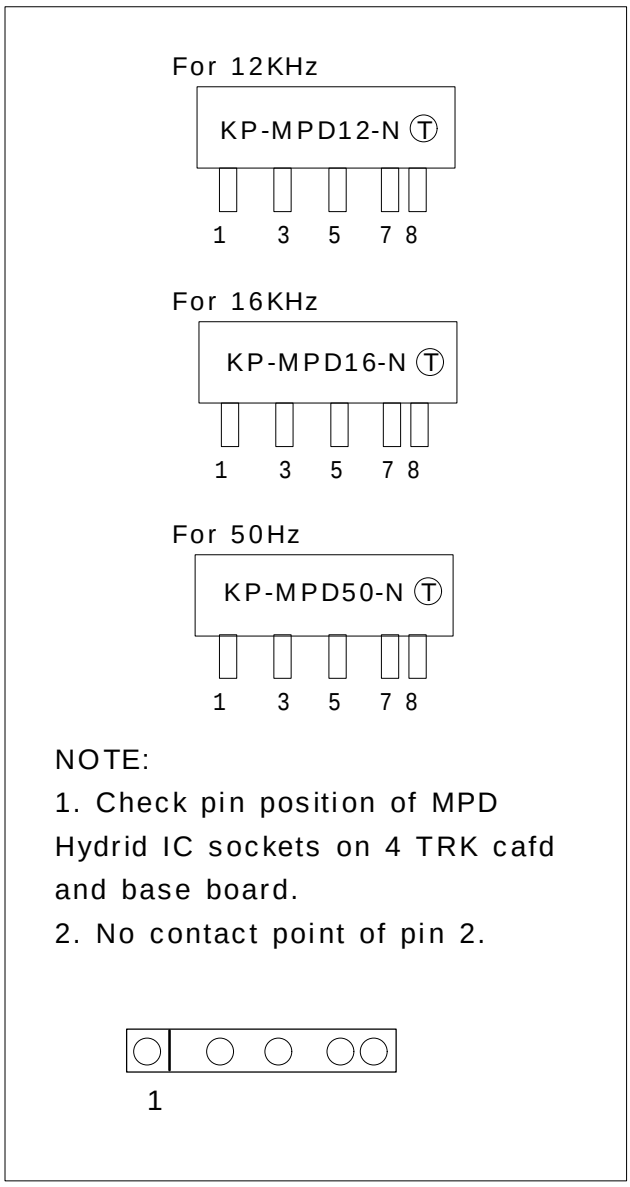


Figure 2-14 MPD Hybrid IC

3.8 Installing Expansion Cards on Base Board

NX-828 can have up to three expansion cards under the base board. NX-SMDR/R-MMC, NX-DPH/PAGING and NX-MPD Hybrid ICs are installed on the surface of the base board (Figure 2-16).

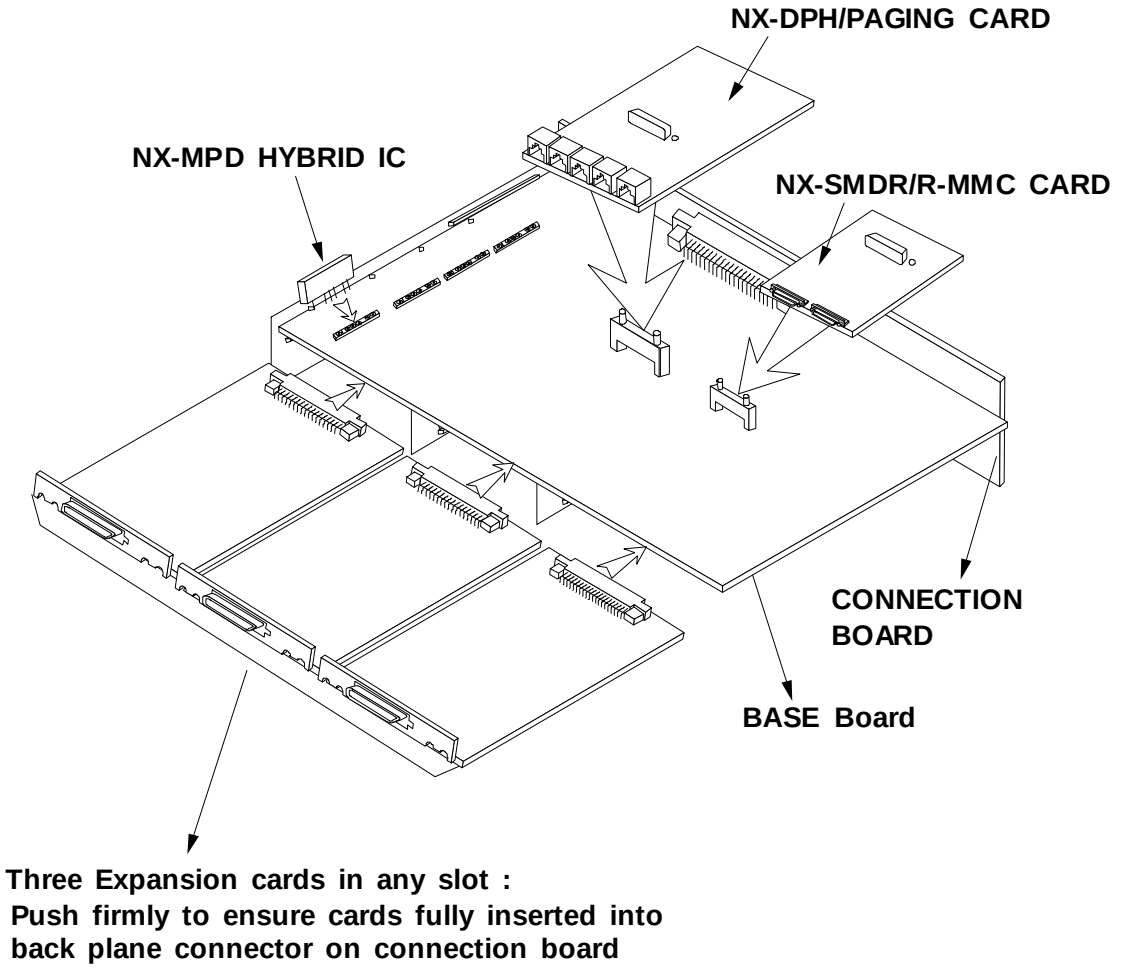


Figure 2-16 Installing Expansion Cards

4. Connecting Telephone Lines

4.1 Safety Precautions

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

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

4.2 Loop Start Lines

- ¡Ù Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each loop start C.O. line to the trunk port.
- ¡Ù Refer to **FIGURE 2-5A** and **FIGURE 2-6**.

5. Connecting Station Equipment

5.1 Connecting Keyset/ Aom

To connect the keyset or AOM to the any station from #1 to #4 of basic KSU, see Figure 2-17

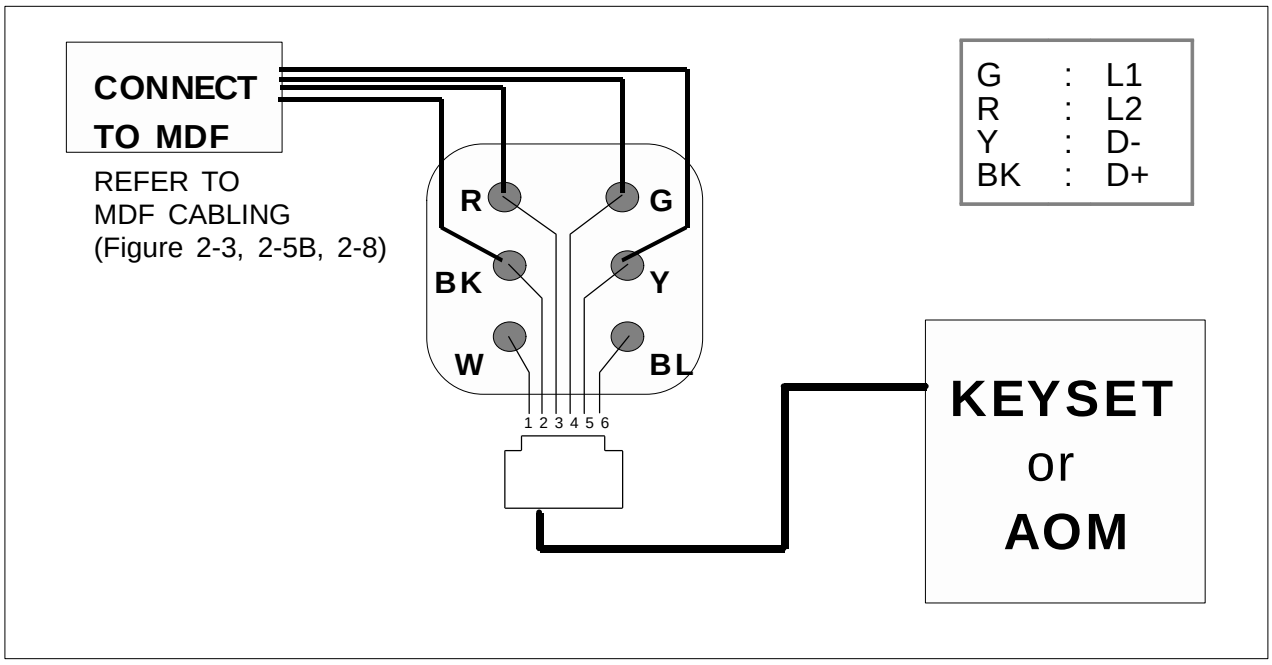


Figure 2-17 Connecting KEYSET / AOM

5.2 Connecting Single Line Telphone

To connect the single line telephone to the any station from #5 to #12 of basic KSU, see Figure 2-18

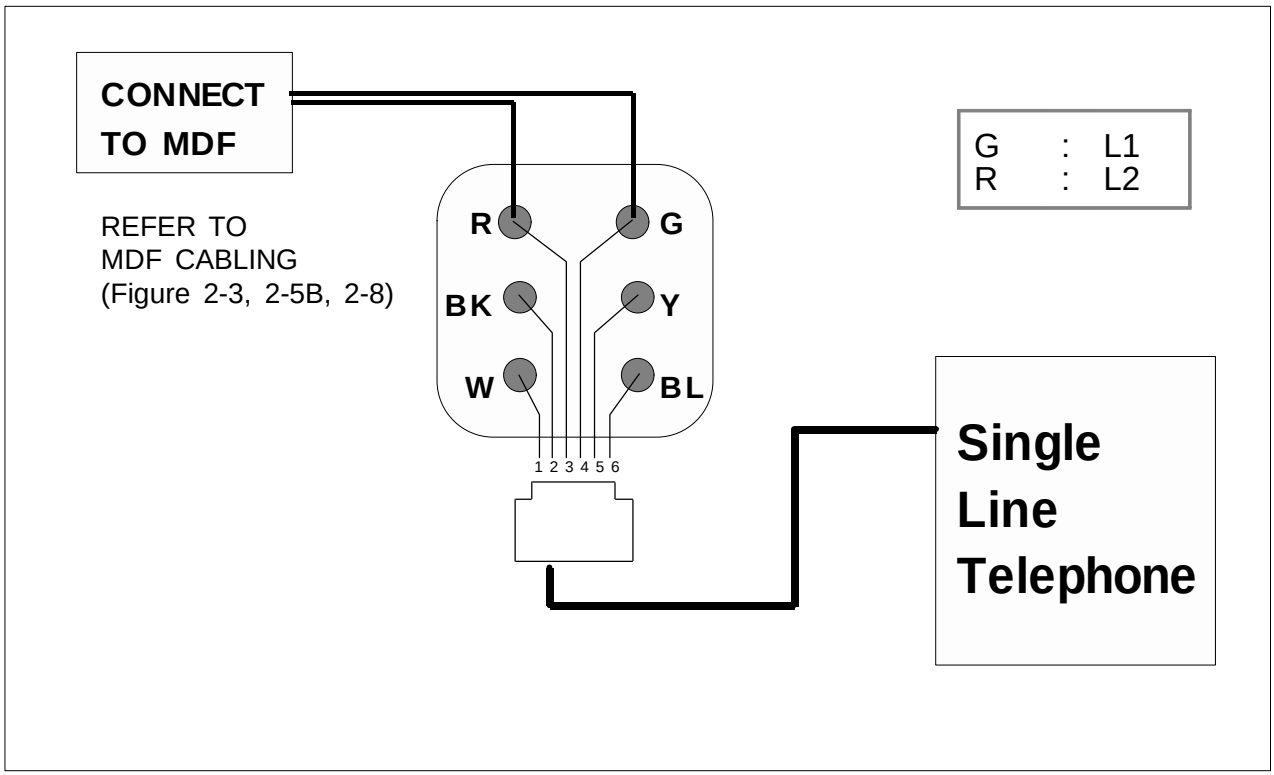


Figure 2-18 Connecting Single Line Telephone

6. Connecting Optional Equipment

6.1 External Music Source

The system is equipped with an internal melody IC chip to provide Music On Hold (MOH) through the keyset. However, when this is not desired, an external music source such as a radio or tape recorder can be connected to the system.

The external music source can be connected to the EXT.MUSIC jack on the KSU using a modular jack (Figure 2-19). After connecting the External Music Source, set the Music Source selection shunt pin to EXT (Figure 2-21).

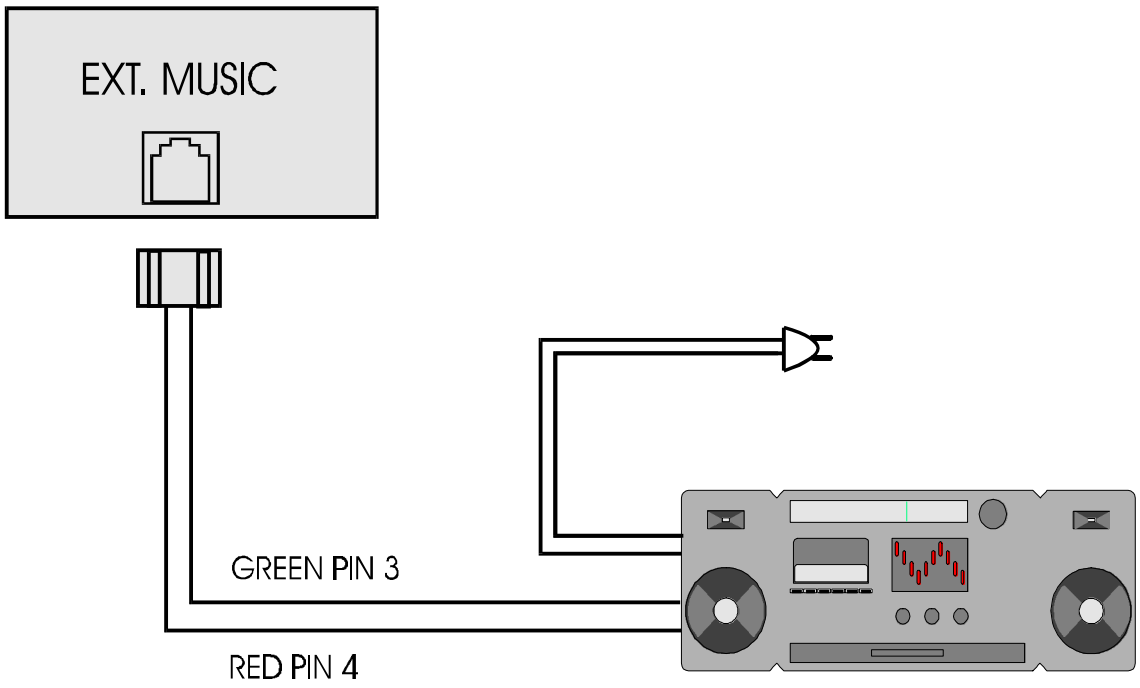


Figure 2-19 Connecting External Music Source

6.2 Door phone and Door Lock Release

System users can communicate with an optional door phone when the NX-DPH/PAGING card is installed. A maximum of two door phones may be installed per system. To connect the door phone, check the polarity and plug a two pair modular cable into the connector on the KSU marked DOOR1 or DOOR2 and connect the cable to the terminal of the door phone as shown in Figure 2-20.

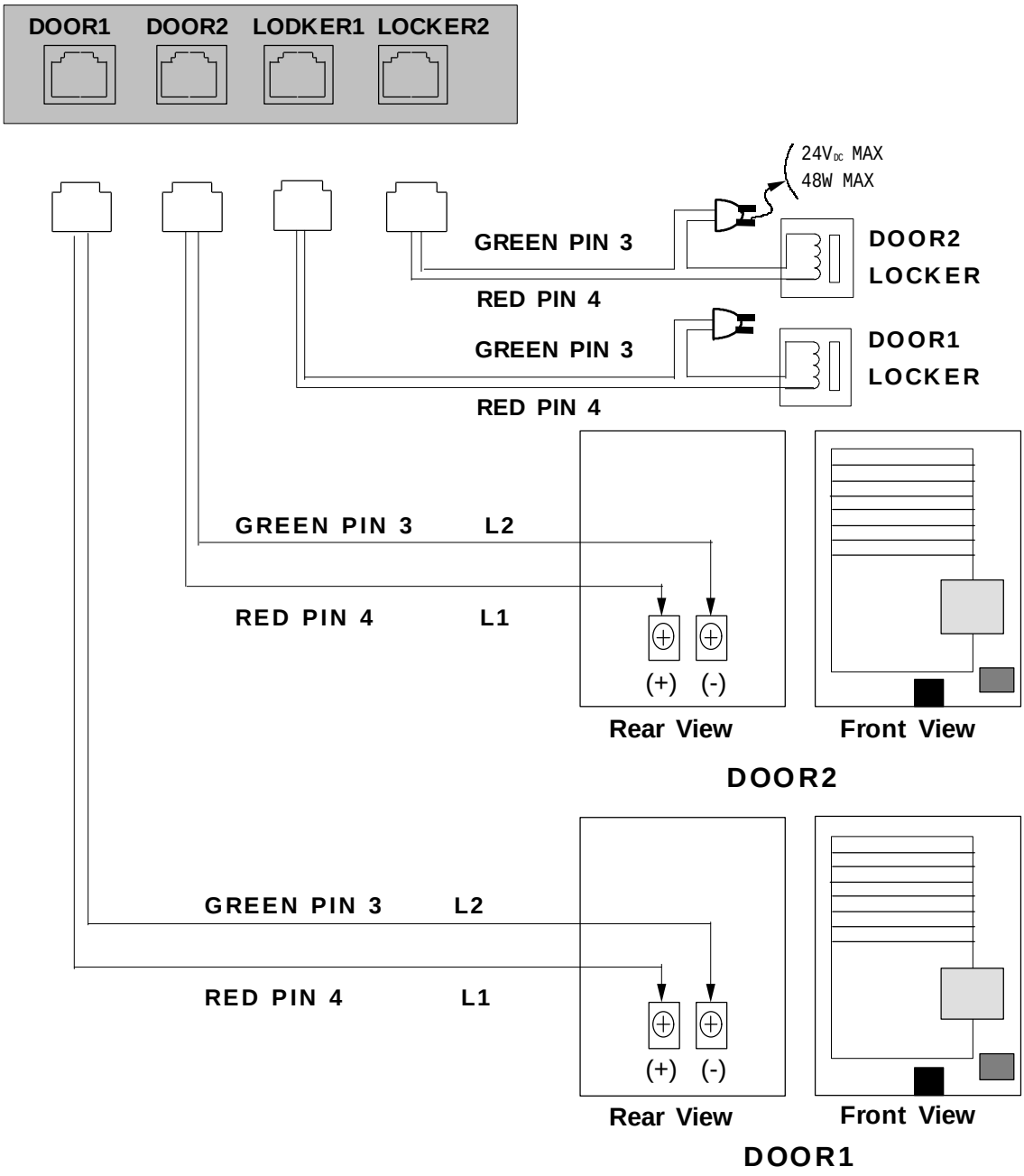


Figure 2-20 Connecting Door Phone / Door Lock Release

To connect the customer-provided electric door lock unit for control of the door lock release mechanism, plug a one pair modular cable into the connector on the KSU marked LOCKER1 or LOCKER2.

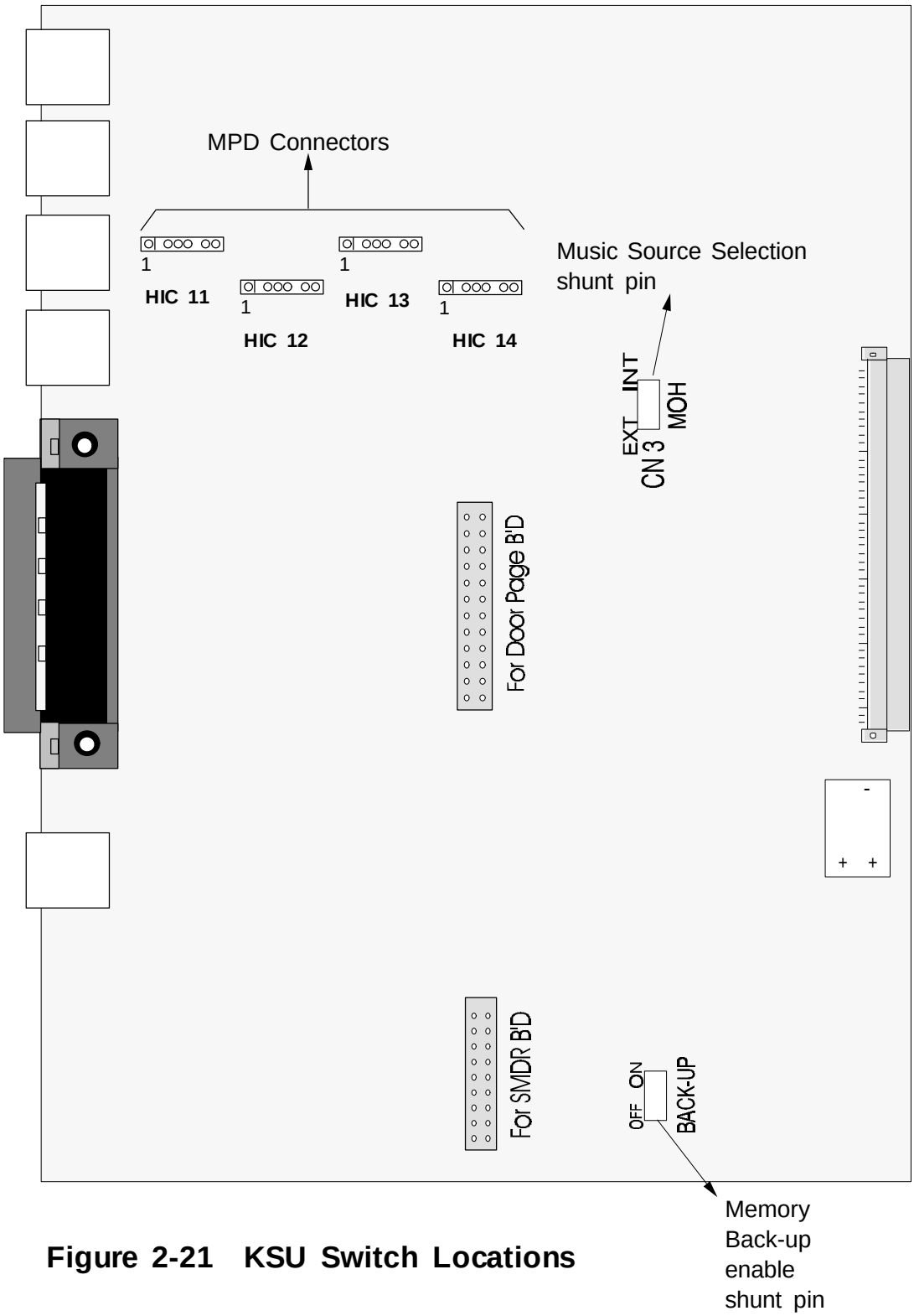


Figure 2-21 KSU Switch Locations

6.3 External Paging

Customer-provided paging equipment can be connected to the PAGING jack using a modular jack when the NX-DPH/PAGING card is installed (Figure 2-22).

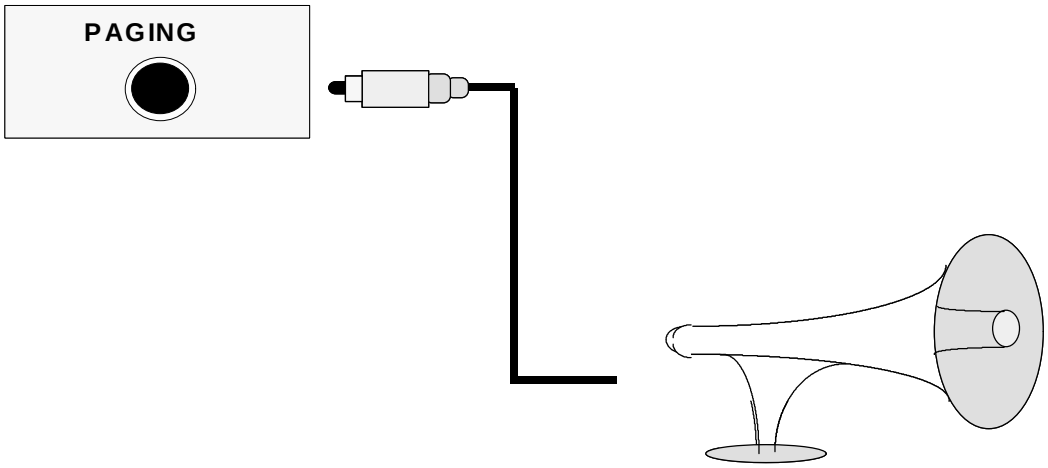


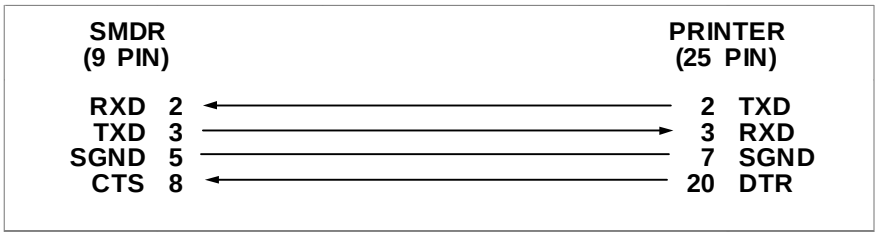
Figure 2-22 Connecting External Paging

6.4 SMDR / Remote Programming

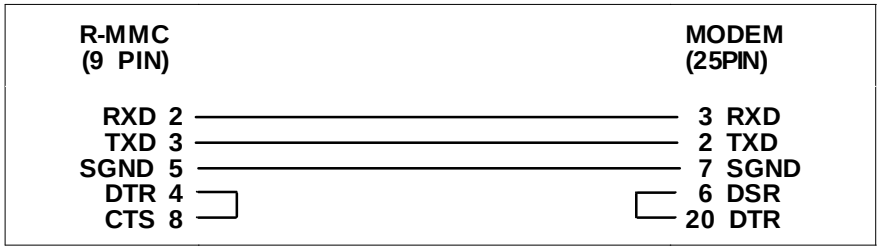
For Station Message Detailed Recording (SMDR) or remote programming, the NX-SMDR/ R-MMC card should be installed.

The NX-SMDR/R-MMC card provides two (2) serial I/O ports: R-MMC and SMDR. The port marked 'R-MMC' is used for remote programming and the port marked 'SMDR' is used for SMDR (Figure 2-23). Port parameters can be set using MMC 80 (see Programming section).

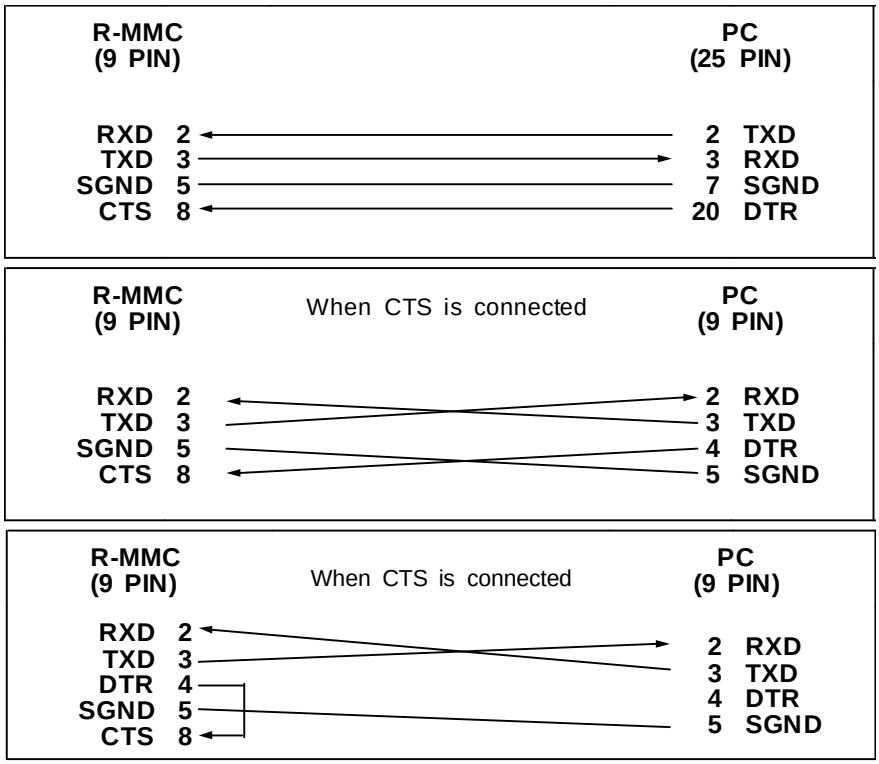
SMDR provides details of outside calls made through the system that can be sent to a customer-provided printer, data buffers or a CRT. Connect the cable for SMDR as shown below.



For remote programming, a customer-provided modem should be connected. Connect the cable for remote programming as shown below.



For on-site programming via a PC terminal, connect the cable as shown below.



NOTE : If the CTS pin is not connected, the system cannot check the printer/modem status (power ON/OFF, paper empty, etc).

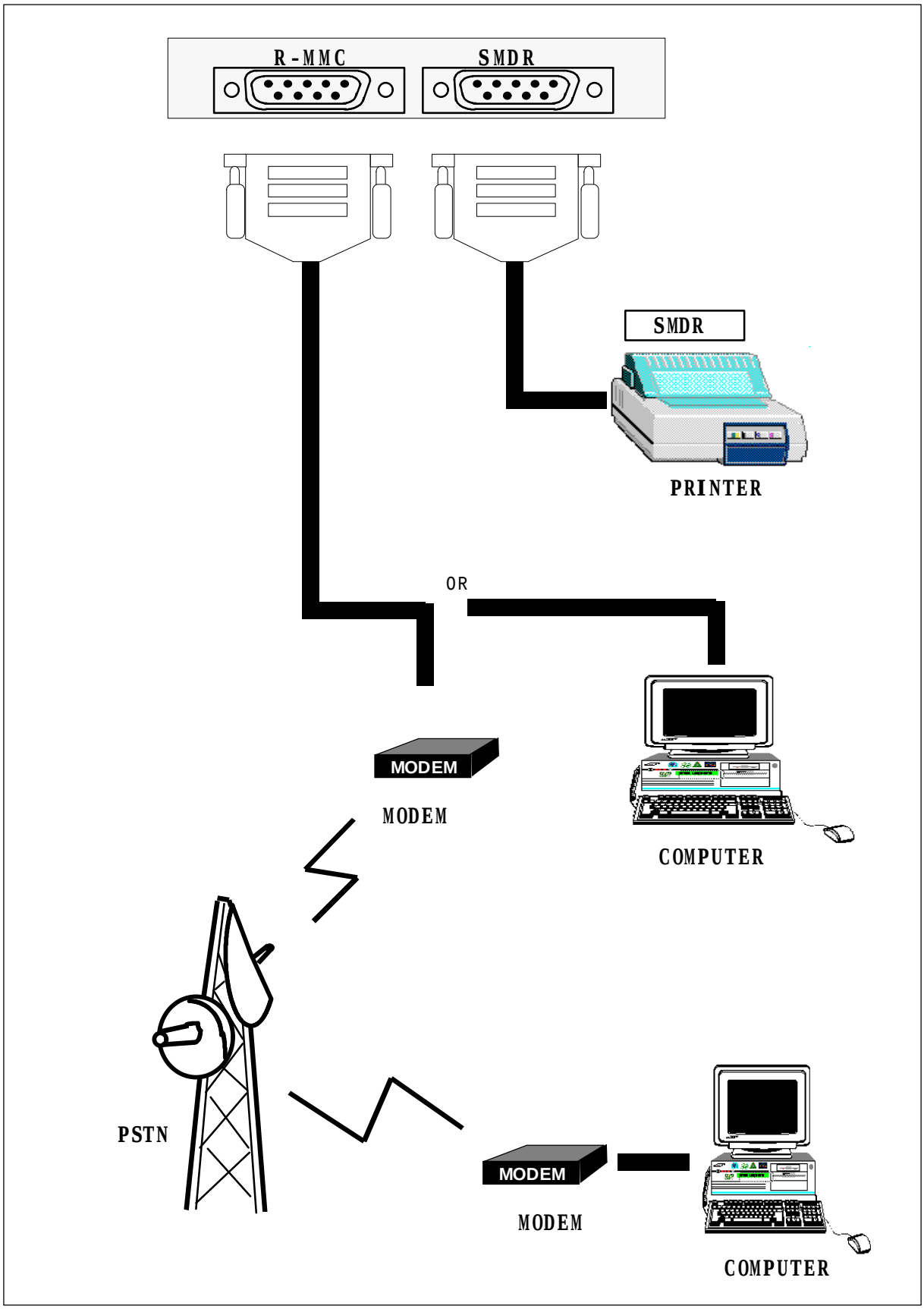


Figure 2-23 Connecting For SMDR / Remote Programming

6.5 Power Failure Transfer

When the system loses AC power, the first two loop start lines in the KSU are automatically switched to the related single line telephones.

The first and second trunk lines are respectively transferred to the 11th and 12th stations which are connected to the single line telephone.

6.6 External Battery

The system can continue full operation during AC power failure. This requires that a 24V battery supply be connected to the bottom of the KSU (Figure 2-24).
When AC power drops below 88V/176 VAC, the system switches over to batteries immediately. Calls in progress will not be interrupted.

To supply 24 volts, use two 12V batteries or four 6V batteries connected in series. Any Ni-Cd battery can be used if its rating is not more than 26AH and not less than 6AH. The system will not operate in power failure mode if battery voltage drops below 21.5 VDC.

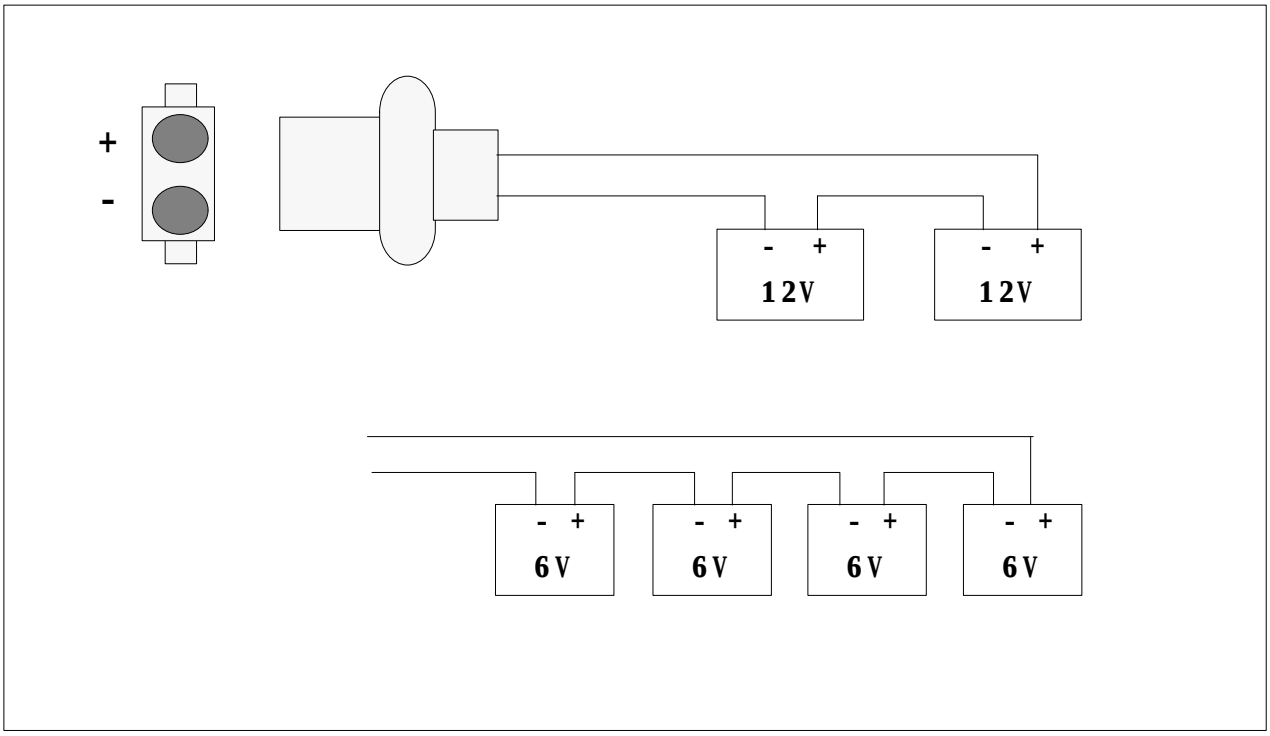


Figure 2-24 Connecting External Batteries

7. Before Power Up

During the initial installation, it is best to verify proper system operation before plugging in any amphenol-type cables to the MDF.

1. If you have already plugged the cables in, unplug them.

2. Verify that the AC voltage at the dedicated electric outlet is in a valid range.

3. Make sure the AC power switch is in the OFF position and the memory back-up switch is ON.

4. Plug the KSU power cord into the dedicated polarised AC outlet.

5. Turn the AC power switch to the ON position. Then verify the status of the 'POWER', 'MONITOR' and 'IDLE' LEDs on the cover of the KSU.

Steady lighting of the 'POWER' LED indicates the presence of power, and a blinking 'MONITOR' LED indicates that the main processor is functioning.

Steady lighting of the 'IDLE' LED indicates that the system is not in use.

If the 'POWER' LED fails to light, unplug the system, remove the power supply and check the AC fuse located on the bottom.

If the fuse is good but the 'POWER' LED does not light, you must correct the problem before continuing. To do this:

1. Turn off the power switch.

2. Unplug all expansion cards except the base board.

3. Turn the system on and check the 'POWER' LED again. If the problem is corrected, you have a defective card. Test and remove the faulty card before continuing.

   If the LED still does not light, unplug the KSU and change the power supply or base board. This should solve the problem. If it does not, contact your dealer for advice.

FEATURES

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FEATURES

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BACKGROUND MUSIC
BATTERY BACKUP (Memory Protection)
BATTERY BACKUP (System)
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- FORWARD ALL
- FORWARD BUSY
- FORWARD NO ANSWER
- EXTERNAL CALL FORWARD

CALL HOLD
CALL HUNT
CALL METERING
CALL PICKUP
CALL WAITING/CAMP-ON
CENTREX/PBX USE
CHAIN DIALLING
CLASS OF SERVICE
CONFERENCE
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DATA SECURITY
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DIRECT INWARD SYSTEM ACCESS (DISA)
DISA VOICE ANNOUNCEMENT
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DOOR PHONES OPERATION
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EXTERNAL MUSIC INTERFACE
EXTERNAL PAGE INTERFACE
FLASH KEY OPERATION
FLEXIBLE NUMBERING
FLEXIBLE RINGING
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INCOMING / OUTGOING SERVICE
INDIVIDUAL LINE CONTROL
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- CUSTOMER LEVEL
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POWER FAILURE TRANSFER
PRIME LINE SELECTION
PRIVATE LINES
PROGRAMMABLE LINE PRIVACY
PROGRAMMABLE TIMERS
RECALLS
REMOTE PROGRAMMING(Option)
RING OVER PAGE
SINGLE LINE CONNECTIONS
SPEED DIAL NUMBERS
- STATION SPEED DIAL
- SYSTEM SPEED DIAL

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STATION MESSAGE DETAIL RECORDING(SMDR)
STATION TO STATION CALLING RESTRICTION
SYSTEM DIRECTORY
SYSTEM HALT
TOLL RESTRICTION and OVERRIDE
- SYSTEM SPEED DIAL TOLL RESTRICTION OVERRIDE
- AUTHORIZATION CODE
- WALKING CLASS OF SERVICE
- URGENT CODE

TONE OR PULSE DIALLING
TRAFFIC REPORT PRINTOUT
TRANSFER
TRUNK DISCONNECT SIGNAL
TRUNK GROUPS
UNIVERSAL NIGHT ANSWER (UNA)

Account Code (Voluntary)

Station users may enter an account code (maximum seven (7) digits) before hanging up from a call. This account code will appear in relevant column of the SMDR printout for that call record. Keyset users may enter this code using an ACC button without interrupting a conversation. Single line set users must temporarily interrupt the call by hook-flashing (or pressing the FLASH key on a Samsung Single Line Telephone) and dialling the feature access code. (the default code is 47). If the system has an MPD card installed and uses the call metering feature, the COST will be printed in the cost column of the SMDR printout.

See: MMC 57 Call Cost
MMC 70 Dial Numbering Plan (default code for ACC: 47)
MMC 71 System Key Programming
MMC 72 Station Key Programming

All Call Voice Page

Users can page all keysets and the external paging zone at the same time. Keysets may be restricted from receiving pages in system programming.

See: MMC 22 Customer On/Off

Attention Tone

To get your attention, a brief tone precedes all page announcements or intercom voice calls.

Authorization Codes (Voluntary)

Authorisation codes are used to validate a station user and give permission to make a call. These 4-digit codes are voluntary. Authorisation codes will automatically adjust the dialling station's dialling class of service to the level assigned to the authorisation code. Certain phone numbers (such as emergency numbers) may be dialled even if the authorisation codes are not known. Authorisation table numbers may optionally print on the SMDR output.

See: MMC 63 Authorisation Code
MMC 81 SMDR Option

Automatic Hold

Station users can enable or disable automatic hold at their keysets. While engaged on an outside call, pressing another trunk key automatically puts the call on hold when this feature is enabled. Pressing the TRANSFER, CONFERENCE, PAGE or DSS key automatically puts calls on hold. This is not a user-selectable option.

See: MMC 12 Station On/Off (Default for AUTO HOLD: OFF)

Background Music

Keyset users can choose to hear music through their speakers by pressing the HOLD button while on-hook. There are two types of music sources: internal and external. The music source is selected using the shunt pin on the base board (see Figure 2-15 in the Installation section).

See: MMC 22 Customer On/Off (Default for BGM: ON)

Battery Backup (Memory Protection)

If power is lost to the system, all customer data contained in memory is backed up by a Ni/Cd battery for at least seven (7) days continuous loss of system power. When power is restored, the system will recharge the Ni/Cd battery.

Battery Backup (System)

If a 24VDC battery source is connected, the system is fully operational when AC power is interrupted. When AC power is restored, the system recharges the batteries. Calls in progress are not interrupted when the system switches over.

Call Forwarding

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

See: MMC 11 Call Forward
MMC 70 Dial Numbering Plan
MMC 71 System Key Programming
MMC 72 Station Key Programming

Forward All

This type of forwarding is not affected by the condition of the station. All calls are immediately redirected to the designated destination.

Forward Busy

Forwards all calls only when the station is busy. The station user can originate calls as usual.

Forward No Answer

Forwards calls that are not answered within a preprogrammed time. The station 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.

External Call Forward

A keyset user can be given an External Call Forward button to forward calls to an external phone number. Each outside line may be programmed to either follow or ignore station call forwarding. Note: The external number to be dialled must be programmed into the system speed dial table

See: MMC 16 Key Extender
MMC 42 Trunk ON/OFF

Call Hold

Both outside and internal calls can be put on hold at any station. Users may dial the access code or press the HOLD button to retrieve the held call. If you leave the call on hold longer than the hold recall time, it will recall your station.

See: MMC 50 System Timers (Default for RCAL HOLD: 045 sec)

Call Hunt

If this feature is enabled on a station, the intercom call on the station which is busy is transferred to the another station in the same station group.

See: MMC 22 Customer On/Off (Default for CALL HUNT: OFF)

Call Metering

You may make a charge for making outside calls using this feature. This feature is enabled by installing MPD Hybrid ICs on the base board and 4 TRK card. The MPD Hybrid IC detects the metering pulse provided by the Exchange and determines the call cost by the number of metering pulses and the pre-programmed unit cost. The number of metering pulses is displayed on keysets with LCDs. The caluclated call cost is printed in the COST column of the SMDR printout.

See: MMC 57 Call Cost

Call Pickup

With directed call pickup, users can answer calls ringing or held at any station by dialling a code plus that station's extension number. 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 a pickup group. Using the '*' button, users can pick up the call ringing in his/her own pickup group.

See: MMC 34 Assign Pickup Group
MMC 70 Dial Number Plan (Default code for Direct Pickup DPC: 10)
(Default code for Group Pickup GPC: 66)
(Default code for Universal Pickup UPC: 67)

Call Waiting / Camp-on

Busy stations are notified that a call is waiting (camped-on) when they receive a tone. The tone will be 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.

See: MMC 50 System Timers (default OFF HOOK RING INTERVAL: 015 sec)

Centrex / PBX Use

Centrex and PBX lines can be installed instead of C.O trunks. Feature codes and the hook flash command can be stored under one-touch buttons. Toll restriction programming ignores PBX or Centrex access codes so toll calls can be controlled when using these services.

See: MMC 62 PBX Access Code

Chain Dialling

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

See: MMC 16 Key Extender
MMC 17 Station Speed Dial
MMC 71 System Key Programming
MMC 62 Station Key Programming

Class Of Service

System programming allows stations to be assigned one of six outgoing call restriction level. Refer to TOLL RESTRICTION feature.

Conference

Any combination of up to five (5) parties (stations or outside lines) can be joined together in an add-on conference. 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. Parties may be eliminated or added after a conference has been established.

Database Printout

Customer data can be printed out. This printout can be directed to a PC and can be done on-site. The database may be printed in its entirety or by specific MMC; for instance, directory names or speed dial lists.

See: MMC 80 I/O Parameter

Data Security

Single line stations used with modems and facsimile machines can be programmed so that they will not receive any system-generated tones that would disrupt data transmissions.

See: MMC 39 Data Line

Direct In Lines

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

See: MMC 43 Assign Trunk Ring

Direct Inward System Access (DISA)

Users can call in on specific DISA lines at any time and receive system dial tone or the preprogrammed voice messages. If you want to make an internal call, dial the station number or station group number. If you want to make an outside call, you must dial the trunk access code. After a short beep tone, an outside caller has to dial his/her station number and station passcode. If the passcode is correct, the system provides the system dial tone again. The user can then dial the outside call number. Some loss of volume may be experienced when connecting two outside lines together. DISA lines can be used as both-way lines or incoming only.

See: MMC 46 Assign Disa Line
MMC 01 Change User Passcode

DISA Voice Announcement **(Available on the Optional DPH/Paging card).**

With this option, specified DISA lines may use Customer-programmed voice messages instead of the system tones. The user will be given a voice prompt, explaining how to proceed with the DISA call.

See: MMC 42 Trunk On/Off (Default Code for VOICE MSG RECORDING: 18)

Direct Trunk Selection

Each station can directly select a specific C.O. line simply by pressing a button. This can be used to either answer or originate a call.

Directory Names

Each station and C.O. line may be assigned an associated directory name.

See: MMC 14 Station Name
MMC 44 Trunk Name

Distinctive Ringing

Users will know the type of call received by the type of ring heard. Outside calls have a double ring repeated while internal calls have a single ring repeated.

Door Lock Release (Programmable)

After answering a call from the door phone, user can dial a code to activate a contact closure. This can be used to operate a customer-provided electric door release mechanism. The contact closure timer is programmable from 100-9900 milliseconds.

See: MMC 50 System Timers (Default for DOOR LOCK RELEASE: 100 - 9900 msec)

Door phone Operation

The system provides for connection of two door phones. Pressing the button on the door phone sounds a distinctive ring at the assigned stations.If not answered, the system will release the door phone and stop ringing after a pre-programmed duration. Stations may call the door phone directly and monitor the surrounding areas. Door phones can be programmed with a day ring destination and a night ring destination.

See: MMC 33 Assign Door Ring
MMC 50 System Timers (Default for DOOR RING OFF TIMER: 1 - 255 SEC)

Door phone Day/Night Ring

A different door phone ringing position can be programmed for day and for night.

See: MMC 33 Assign Door Ring

Emergency Call

The system provides a maximum of five urgent codes. These codes can be accessed by any class of service and are useful to allow access to emergency numbers.

See: MMC 64 Override Table

External Music Interface

Although the system provides internal music on hold chimes, a modular jack is also provided to connect a customer-provided music source for music on hold and background music to keysets.

External Page Interface

A paging voice pair with 600 ohm impedance is provided for connection to a customer-provided paging system. The contacts can be wired for either normally open or normally closed operation. They can be used to mute music during page announcements.

Flash Key Operation

While 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 flash times for C.O. and PBX lines.

See: MMC 53 Trunk Wide Timers (Default time for NEW CALL: 2000 msec)
(Default time for FLASH PBX: 600 msec)

Flexible Numbering

System programming allows stations to have 2- or 3-digit station numbers which may be changed by programming. These will affect the trunk numbers and other feature IDs.

See: MMC 70 Dial Numbering Plan

Flexible Ringing

Incoming outside calls can be assigned to ring a station or a station group. The system provides separate ringing locations for all trunks in both the DAY and the NIGHT modes.

See: MMC 43 Assign Trunk Ring

Hot/Warm Line

Stations can be programmed to call a pre-defined station, station group, outside line, trunk group or speed dial number whenever the station goes off-hook. A hot line delay time of 1-9 seconds can be programmed to allow sufficient time to make a different call.

See: MMC 25 Hot/Warm Line

In Group / Out Of Group

Individuals assigned to a station hunt group may temporarily remove their telephones from the group by pressing the IOG button. 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 can dial the access code.

See: MMC 70 Dial Numbering Plan (Default Code for In/Out of Group IOG: 53)
MMC 71 System Key Programming
MMC 72 Station Key Programming

Incoming Call Distribution

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

See: MMC 35 Station Group
MMC 43 Trunk Ring

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-service.

See: MMC 31 Ext/Trk Use

Individual Line Control

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

See: MMC 31 Ext/Trk Use

Live System Programming

The system can be programmed from any display keyset without interrupting normal system operation. There are three levels of programming: technician and customer access are controlled by different security passcode.

See: MMC 20 Open Programming
MMC 21 Change Passcode

Technician Level

Technician level has access to all programs and can allow the customer access to system programs as needed.

Customer Level

This level requires customer passcodes. It provides access to station programs and system programs allowed by the technician in MMC 90. The system allows the customer to have access to certain MMCs. The MMC ranges which customers can access can be changed by programming.

See: MMC 90 Customer Use MMC

Station Level

All keysets can access station programs 10-17 without using a passcode. Each user can only change data for his/her own keyset.

Meet Me Page and Answer

After a user makes an "All page" Call, the user may remain off-hook to allow the paged party to meet the user for a private conversation.

Examples:

To use MEET ME PAGE: PRESS FLASH (or Hook/Flash) + System code 56

To use MEET ME ANSWER: Press system code 56

Message Waiting Indication

When calling a station and receiving a busy signal or no answer condition, the caller can leave an indication that a message is waiting. The MESSAGE button will turn on red at the called keyset. A single line phone will receive a distinctive message waiting dial tone. Five message

waiting indications can be left at any station.

See: MMC 70 Dial Numbering Plan (Default Code for Message Set MSL: 41)
(Default Code for Message Answer MSA: 43)
(Default Code for Message Clear MSC: 42)
MMC 71 System Key Programming
MMC 72 Station Key Programming

Microphone On/Off Per Station

The microphone can be disabled at any keyset. When a microphone is disabled, the user cannot use the keyset's speakerphone, although on-hook dialling and group listening are still possible. This feature does not a apply to an NX-6B keyset.

See: MMC 22 Customer On/Off (Default: MIKE ON)

Night Service

There are two kinds of night services: manual and automatic.

Manual Night Service

By pressing the Night Service Button (NIT) , the system can enter the night service mode. In this mode, the NIT button is lit red. In day service mode, the NIT button turns off.

See: MMC 71 System Key Programming
MMC 72 Station Key Programming

Automatic Night Service

Automatic night service allows the system to automatically go in and out of night service according to the system clock. This feature can be overridden by a manual night service button.

See: MMC 56 Assign Auto Night Time

Off Premises Extension (OPX)

A single line (tip and ring) extension may be connected to telephone company-provided OPX circuits to remote locations(maximum 4 km).

Operator Group

Stations can be assigned to the operator group for answering incoming calls. Calls to this group can be set for distributed, sequential, conditional, or unconditional ringing. Operators can use the In/Out of Group feature to meet flexible operator requirements. Group 500 is reserved for the operator group and is called by dialling '0'.

See: MMC 35 Assign Station Group

Overflow

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

See: MMC 50 System Timers

Paging

The system allows for the use of four internal zones and one external zone. Stations can page any individual zone, all internal zones, an external zone, or all zones. Using system programmin g, each keyset may be allowed or denied the making or receiving of page announcements to/from any zone.

See: MMC 23 Page Zone (Internal Page Zone 1, 2, 3, or 4
All Internal Page: 0
External Page: 5
All Internal and External Page: *)

MMC 22 Customer On/Off (Default for PAGE USE: ON)
(Default for PAGE RECEIVE: ON)

MMC 50 System Timers (Default Timer for PAGE TIME OUT : 20 sec)

Pause Dial

When dialling an outside call, press the Pause (PSE) button to insert a few seconds, pre-programmed, pause. (The PSE button is programmed with the required value.)

See: MMC 71 System Key Programming
MMC 72 Station Key Programming

Port Status Check

Users can see the port status through the keyset LCD. There are sixteen (16) status types: IDLE, BUSY, CALLBACK, PROGRAM, etc.

See: MMC 92 Port Status

Power Failure Transfer

In the event of power loss to the system, the first two outside lines can be automatically connected to the last two single line stations . When power is restored to the system, the

lines and stations will return to normal operation. 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 dialling and/or answering any line.

See: MMC 31 Ext/Trk use

Programmable Line Privacy

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

See: MMC 42 Trunk On/Off (1A2 EMULATION)

Programmable Timers

There are a number of programmable system timers to allow each installation to be customised to best fit the user's application.

See: MMC 50 System Timers

Recalls

Calls put on hold, transferred or camped-on to any station will recall to the originating station if not answered within a programmable period of time. A recall that goes unanswered for the same period of time will recall to the system operator group. Hold and transfer recalls each have their own individual programmable timer.

See: MMC 50 System Timers

Remote Programming (option)

NX-828's remote programming allows the technician to access the system database from a remote location to make programming changes. A traffic report can be remotely requested for use as a troubleshooting aid. A customer-provided modem and PC can also be connected directly to the RS-232C DB9 connector on the optional SMDR/R-MMC card for on-site programming.

See: MMC 80 I/O Parameter

Ring Over Page

A system-generated ring tone can be programmed on a per-line basis to go out over a customer-provided external paging system when the system is in night mode.

See: MMC 42 Trunk On/Off (Default for RING OVER PAGE: OFF)

Single Line Connections

Single line ports allow for 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. Connecting single line telephones (SLT) to the system requires some programming according to the type of SLTs connected.

According to SLT type:

DTMF Type
DIAL PULSE Type

See: MMC 38 SLT Type

SLT Related Timers

HOOK OFF
SLT FLASH MIN
SLT FLASH MAX

See: MMC 50 System Timers

For Data Security

See: MMC 39 Data Line

Speed Dial Numbers

Station Speed Dial

Each station has 20 speed dial numbers (00-19). Each speed dial number may contain up to 30 digits.

See: MMC 17 Station Speed Dial

System Speed Dial

The system has 80 speed dial numbers (20-99). Each speed dial number may contain up to 30 digits. The system speed dial numbers can be used by any station.

See: MMC 67 Assign System Speed Dial

Station Hunt Groups

System programming allows for up to 20 station groups. One of four ring patterns is

available for each group: SEQUENTIAL, DISTRIBUTE, CONDITION or UNCONDITION. Each group may contain a maximum of eight (8) stations and a station may be contained in only one group at any one time. Group 500 is reserved for the operator group and is called by dialling '0'. Each station group has its own recall time for calls transferred to that group.

See: MMC 35 Assign Station Group
MMC 70 Dial Number Plan (Default Station Groups SGR: 500-519)
(Default Operator Group OPR: 0)

Station Message Detail Recording (SMDR)

The system provides records of calls made, received and transferred. Each call record provides details of the station number, outside line number, date, start time, duration of calls, digits dialled (maximum 18), an account code, (if entered), an Authourisation code (if required) and call Cost. If the MPD card is installed in the system, the calculated call cost is printed in the COST column. A Display keyset will show the number of Meter pulses received.

The SMDR format contains many options that allow it to be customised for a company's individual needs. Options to print include incoming calls and authorisation codes. See sample printout at the end of this section.

See: MMC 80 I/O Parameter
MMC 81 SMDR Options

Station To Station Calling Restriction

Stations can be prevented from calling other stations.

See: MMC 32 Intercom Use

System Directory

Each station and outside line can have a 12-character directory name. This name will appear on keyset displays to provide additional information about lines and stations.

See: MMC 14 Station Name
MMC 44 Trunk Name

System Halt

This is used only when all data processing needs to be stopped. This feature requires technician programming level and, therefore, the technician's passcode.

See: MMC 94 Halt Process

Toll Restriction

There are 250 allow and 250 deny entries of 11 digits each. Each of these entries can apply to dialling classes B, C, D and E. Class A stations have no dialling restrictions and class F stations cannot make outside calls.

See: MMC 30 Station Toll Class
MMC 60 Toll Deny Table / Apply
MMC 61 Toll Allow Table / Apply
MMC 65 Assign Wild Character

Toll Restriction Override

There are several methods of toll restriction override as described below.

System Speed Dial Toll Restriction Override

Program options allow for system speed dial numbers to follow or bypass a station's toll restriction class.

See: MMC 66 System Speed Dial Toll Restriction

Authorization Code

Authorisation codes are used to validate a station user and give permission to make a call. Each authorisation code has an associated toll class. When the code is entered, the station toll class is changed to that of the authorisation code.

See: MMC 63 Authorization Code

Walking Class of Service

You can change a restricted station's toll class to the same class as your station by entering the walking class of service (COS) ID, the station number and the station's passcode. The default station passcode 1234 cannot be used.

See: MMC 70 Dial Numbering Plan (Default Code for COS: 59)

Urgent Code

The system provides a maximum of five urgent codes. These codes can be accessed by any class of service and are useful for allowing access to emergency numbers.

See: MMC 64 Override Table

Tone Or Pulse Dialling

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

See: MMC 41 Trunk Dialling Type

Traffic Report Printout

The traffic report prints system-wide totals for incoming calls, outgoing calls and intercom calls. This report also shows the number of outside calls made and answered, as well as the number of intercom calls made and answered for each station. This report can be set for automatic printout at the end of each day or at the end of every week. The report can also be printed on demand. A customer-provided printer must be connected to the SMDR port or R-MMC port to print this report.

See: MMC 80 I/O Parameter
MMC 83 Call Traffic Report

Transfer

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

Trunk Disconnect Signal

Systems can recognise a trunk disconnect signal generated by central office when an outside party hangs up. The system receives this signal and the call is hung up automatically.

See: MMC 53 Trunk-Wide Timers (CO SUPV TIME)

Trunk Groups

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

See: MMC 45 Trunk Group

Universal Night Answer (UNA)

Stations may dial the Universal Night Answer (UNA) code to answer any outside lines programmed to ring over the paging system.

See: MMC 42 Trunk On/Off (Default for RING OVER PAGE: Off)

1.2 Station Features

ADD-ON MODULE (AOM)
APPOINTMENT REMINDER
AUTOMATIC HOLD
AUTOMATIC PRIVACY
BACKGROUND MUSIC
BUSY STATION CALLBACK
BUSY STATION INDICATION (BLF)
DIRECT STATION SELECTION (DSS)
DO NOT DISTURB (Programmable)
DOOR LOCK RELEASE
EXCLUSIVE HOLD
EXECUTIVE/SECRETARY HOT LINES
FORCED AUTO ANSWER
GROUP LISTENING
HEADSET OPERATION
HEARING AID COMPATIBLE
HOT KEYPAD
KEY TONE SELECTION
LINE QUEUING WITH CALLBACK
LINE SKIPPING
MESSAGE WAITING LIGHT / INDICATION
MUTE MICROPHONE / HANDSET
OFF-HOOK RINGING
ON-HOOK DIALLING
ONE TOUCH DIALLING KEYS
PROGRAMMABLE KEYS
PROTECTION FROM BARGE-IN
PULLOUT DIRECTORY TRAY
PULSE TO TONE SWITCHOVER
REDIAL
  Automatic Redial
  Last Number Redial
  Saved Number Redial
RING MODES
  Ring Mode
  Auto Answer Mode
  Voice Announce Mode
RINGING LINE PREFERENCE
SPEAKER PHONE
STATION LOCK
TRI-COLOURED LIGHTS
VACANT STATION MESSAGES
VOLUME SETTINGS
WALL-MOUNTABLE KEYSETS

Add-On Module

NX-828's unique add-on module (AOM) adds to the capability of a station. Its 24 programmable buttons can be used for feature keys, DSS/BLF keys or one-touch speed dial buttons. Note only one AOM can be assigned to a station.

See: MMC 37 Assign AOM
MMC 71 System Key Programming

Appointment Reminder

Stations can be used like an alarm clock. Program in a specific time and the keyset will give a distinctive ring to remind you of meetings or appointments. Alarms can be set for 'DAY' or ' DAILY'. Up to three alarms may be set at each keyset.

See: MMC 26 Alarm Reminder

Automatic Hold

Station users can enable or disable automatic hold at their individual keysets. While the user is engaged on an outside call, pressing another trunk key automatically puts the call

on hold when this feature is enabled. Pressing the TRANSFER, CONFERENCE, PAGE or DSS key always puts calls on hold. This type of automatic hold is not a user-selectable option.

See: MMC 12 Station On/Off (Default for AUTO HOLD: OFF)

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

The HOLD button turns BGM on or off.

See: MMC 22 Customer On/Off (Default for BGM: ON)

Busy Station Callback

When reaching a busy station, callers may request a callback by pressing one button or dialling a code (44). The system rings the caller back when that station becomes idle.

Busy Station Indication (BLF)

DSS/BLF keys may be assigned to any keyset or AOM. These buttons will be off when the station is idle, lit red when that station is in use and will flash when that station is in Do Not Disturb (DND) mode.

Direct Station Selection (DSS)

Soft keys can be programmed with extension numbers. Users press these keys to make or transfer calls to the assigned stations.

Do Not Disturb (Programmable)

The 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 mode will receive a distinct DND tone.

See: MMC 22 Customer On/Off (Default for DND: ON)

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.

See: MMC 50 System Timers (Default for DOOR RELEASE TIMER: 100 - 9900 msec)

Exclusive Hold

Pressing the HOLD button twice will hold a call exclusively at that station. No other station can pick up the call.

See: MMC 50 System Timers (Default for RECAL HOLD TIMER: 045 sec)

Executive / Secretary Hot Lines

An immediate hands-free communication link is established when the EXECUTIVE/SECRETARY button is pressed. When the EXECUTIVE is in DND mode, all calls are forwarded to the SECRETARY and only the SECRETARY can call the EXECUTIVE. This feature is only available between two keysets. Each SECRETARY can have up to two EXECUTIVEs. An EXECUTIVE station has only one SECRETARY.

See: MMC 36 Assign Boss/Secretary

Forced Auto Answer

The called station automatically answers on the speakerphone. Callers may request this feature by pressing one button or dialling a code (14).

See: MMC 72 Station Key Programming

Group Listening

A keyset assigned this feature button may turn on the speaker while using the handset. This allows a group of people to listen to the distant party over the speaker without turning on the microphone.

See: MMC 72 Station Key Programming

Headset Operation

Every keyset can be programmed to allow for the use of a headset. In headset mode, the hookswitch is disabled and the SPEAKER button is used to answer calls.

See: MMC 12 Station On/Off (Default for HEADSET USE: OFF)

Hearing Aid Compatible

All NX keysets are hearing aid compatible as required by part 68 of the FCC requirements.

Hot Keypad

If hot keypad is enabled, it is no longer necessary to lift the handset or press SPEAKER button before you begin dialling.

See: MMC 12 Station On/Off (Default for HOT KEYPAD: ON)

Key Tone Selection

This feature allows users to hear a slight tone when pressing the keypad on their keyset.

See: MMC 12 Station On/Off (Default for KEY TONE: ON)

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

Line Skipping

When a user is talking on an outside line and automatic hold is turned off, the user may directly press another line key without causing the previous call to go on hold.

Message Waiting Light / Indication

When a message indication is left at a keyset, the MESSAGE button will light red. Single line telephone users will receive a few seconds of interrupted 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

On NX keysets, pressing the MUTE key will cut off the microphone or the handset transmitter, depending on which is in use. NX-6B keyset users cannot use this feature.

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 repeated ring. The interval is controlled by a system-wide timer. Single line stations will receive a tone burst through the handset instead of a ring.

On-Hook Dialling

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

One-Touch Dialling Keys

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

See: MMC 72 Station Key Programming

Programmable Keys

NX keysets have programmable soft keys. Each soft key can be programmed for over 36 different uses to personalise each phone. Examples of soft keys include: individual outside line, individual station line, group of lines, group of stations and one-touch dialling. Using these soft keys eliminates dialling access codes. The following soft keys have extenders that identify what station, group or number that feature key applies to: speed dial, page, directed pickup, group pickup, door phone and vacant messages.

See: MMC 72 Station Key Programming

Pullout Directory Tray

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

Pulse To Tone Switchover

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

Redial

There are three types of external redial available to all station users, as described below.

Automatic Redial

When a user dials an outside number and receives a busy signal, the automatic redial feature is used to reserve the outside line and automatically redial the number for a programmable number of attempts.

See: MMC 50 System Timers
MMC 52 System-Wide Counters
MMC 72 Station Key Programming

Last Number Redial

The most recent number dialled on a C.O. line is saved and may be redialled by pressing the REDIAL button or dialling the LNR ID.

See: MMC 72 Station Key Programming

Saved Number Redial

Any number dialled on a C.O. line may be saved by pressing the pre-programmed SNR button or dialling the SNR feature code (17) for redial at a later time. It may be redialled by pressing the SNR button or dialling the SNR ID.

See: MMC 70 Dial Numbering Plan (Default Code for SNR: 17)
MMC 72 Station Key Programming

Ring Modes

Each keyset user can select one of three ways to receive intercom calls, as described below. The phone can automatically answer on the speakerphone, voice announce through the speaker or receive ringing.

Ring Mode
Calls are answered by pressing the SPEAKER button or by lifting the handset.

Auto Answer Mode
The keyset will automatically answer calls on the speakerphone.

Voice Announce Mode
Keyset users can hear the caller's voice, but the caller cannot hear the user's voice. For the caller to hear the user's voice, the user presses the SPEAKER button or lifts the handset.

See: MMC 10 Set Answer Mode

Ringing Line Preference

Lifting the handset or pressing the SPEAKER button will automatically answer a call ringing the keyset. Using this method, users will be 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.

See: MMC 12 Station On/Off (Default for RING PREFERENCE: ON)

Speaker Phone

Keysets (except NX-6B keysets) have a built-in speakerphone. If the microphone is enabled on the keyset, calls can be made and received without using the handset.

See: MMC 22 Customer On/Off (Default for MIKE: ON)

Station Lock

Station locking prohibits another user from using your station. The system provides two kinds of locking: when LOCKED1 is selected, dialling on your station is prohibited but answering calls is permitted; when LOCKED2 is selected, both dialling and answering calls are prohibited. In UNLOCK condition, you can dial and answer calls as normal.

See: MMC 00 Station Lock (Default for STATION LOCK: UNLOCKED)

Tri-Coloured Lights

Keysets have tri-coloured LEDs. Outside calls in use at a keyset light green at that station and red at all others. Recalls to these keys will have an amber light (red and green together).

Vacant Station Messages

Any keyset may select one of 20 messages to be displayed at a calling party's keyset. 10 messages are fixed and 10 can be customised by the system administrator.
(16 characters maximum per message). The 10 fixed messages are:

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	

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

See: MMC 27 Vacant Message

Volume Settings

Each keyset may separately adjust the volume of the ringer, speaker and handset receiver. NX keysets use VOLUME (+) and (-) to adjust volume levels.

Wall-Mountable Keysets

Every keyset and AOM comes equipped with a reversible base wedge.

1.3 Display Features

ACCOUNT CODE DISPLAY
CALL DURATION TIMER
CALL FOR GROUP IDENTIFICATION
CALL PROCESSING INFORMATION
CALLING PARTY NAME
CALLING PARTY NUMBER
CONFERENCE INFORMATION
DATE AND TIME DISPLAY (4 types)
DIALLED NUMBER
ENHANCED STATION PROGRAMMING
IDENTIFICATION OF RECALLS
IDENTIFICATION OF TRANSFERS
MESSAGE WAITING CALLER NUMBER
MULTI-LANGUAGE DISPLAY (3)
OUTSIDE LINE IDENTIFICATION
STOPWATCH TIMER
VACANT STATION MESSAGE DISPLAY

Account Code Display

Account codes are conveniently displayed for easy confirmation. If entered incorrectly, users may press the ACC key again and re-enter the account code.

Call Duration Timer

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

See: MMC 12 Station On/Off (DEFAULT FOR AUTO TIMER: ON)

Call For Group Identification

When a call is made to a station group, the display will show 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. In some conditions the user is prompted to take action and in other cases the user receives directory information.

Calling Party Name

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

See: MMC 14 Station Name

Calling Party Number

When receiving an intercom call, all display stations show the calling party's extension number.

Conference Information

When setting up a conference, each extension and outside line number is displayed at the controlling station when it is added. When a station is added to a conference, its display will show [CONFERENCE 203] 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. Keysets can have a 12 - or 24-hour clock in either an EASTERN or WESTERN display format.

See: MMC 15 Date Display

Dialled Number

When making outside calls, the digits dialled are displayed as the user dials them. If the display indicates an incorrect number has been dialled, 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. Hold recalls show [HOLD RECALL 203] and transfer recalls show e.g. [RECALL FROM 204].

Identification Of Transfers

The display identifies who has transferred a call to the user (e.g. [TRSF. FROM 206]) and also shows when a call is camped-on to the user's station.

Message Waiting Caller Number

When the message indication is on, pressing the MESSAGE button will display the station number of the person who has messages for the user. Display keysets scroll up and down to show message indications.

Multi-Language Display (3)

One of three languages can be displayed on an LCD, as selected by the user. The languages available are listed below with their entry numbers.

Entry No.	Language
1	English
2	Spanish
3	Portuguese

NOTE : When users are in MMC mode, English is displayed on the LCD.

See: MMC 93 Selection Languages

Outside Line Identification

Each line can be identified with a name or ID. Incoming calls ringing at your station will display this ID before the call is answered. This is helpful when lines need to be answered with different greetings.

See: MMC 44 Trunk Name

Stopwatch Timer

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

Vacant Station Message Display

Vacant station messages set by other stations can be viewed at the user's station when he/she calls them.

See: MMC 27 Vacant Message

2. Feature ID Table

FEATURE	FEATURE ID
Operator Group	0
Hold Pickup Pickup Page Hold Direct Pickup	10 + Station Number/ Trunk Number
Hold	H/F + 11
Call Secretary	12
Call Boss	12 + 1 / 2
Open Doorphone	H/F + 1
Call Doorphone	13 + 1 / 2
Direct Open Doorphone	13 + 3 / 4
Forced Auto Answer	H/F + 14
Programming Personal Speed Dial	15 + Personal Speed Dial Number(00~19) + Telephone Number + H/F
Speed Dial	16 + Speed Dial Number (00 ~ 99)
Saved Number Redial	17
Last Number Redial	19
Leaving a Message	H/F +41,41 + Station/Station Group Number
Cancelling a Message	42 + Station/Station Group Number
Returning a Message	43
Callback	H/F + 44
Camp-On	H/F + 45
Conference	H/F + 46
Account Code	H/F + 47
Vacant Message Setting	48 + message number(01~20)
Vacant Message Cancelling	48 + 00
C.O. Flash (New Call)	H/F + 49
Group In/Out	53 + 1 / 0

FEATURE	FEATURE ID
Station Passcode Changing	54 + old passcode + new passcode
Paging All	55 + *
Paging all internal Zone	55 + 0
Paging internal zone(1~4)	55 + 1 / 2 / 3 / 4
Paging External Zone	55 + 5
Meet Me Page	H/F + 56
Meet Me Answer	56
Alarm Setting	58 + HH + MM
Alarm Cancelling	58 + 3
Walking Class of Service	59 + station number + station passcode
Cancelling Call Forward	60
Call Forward All Setting	61 + 1 + station NO./ station group NO.
Call Forward All Cancelling	61 + 0
Call Forward Busy Setting	62 + 1 + station NO./ station group NO.
Call Forward Busy Cancelling	62 + 0
Call Forward No Answer Setting	63 + 1 + station NO./ station group NO.
Call Forward No Answer Cancelling	63 + 0
DND	64 + 1 / 0
Toll Override	65 + Authorization Code
My Number	#
Group Pickup	66 + pickup group(0~9)
UNA Pickup	67
Answer Mode Setting	68 + 1 / 2 / 3
Headset	69 + 1 / 0
Pickup Group	*
Pulse to Tone Changeover	Dialing + #

Sample Printout of SMDR

For more detailed information on SMDR, refer to STATION MESSAGE DETAIL RECORDING earlier in this section.

```
            SMDR REPORT FOR [               ] 01/08/96  15:19
================================================================================
    EXT   TRK  MM:DD STT.TIME  DURATION  NUMBER DIALED       ACC.CODE     AUTH
--------------------------------------------------------------------------------

    201   703  01:08 15:19:11  00:00:22  03465573027
    203   702  01:08 15:19:24  00:00:17  0343923007
    203   703  01:08 15:20:43  00:00:42  INCOMING
    201   701  01:08 15:24:23  00:00:07  4602845
    203   703  01:08 15:24:32  00:00:04  4604367
    204   702  01:08 15:24:35  00:00:04  026770202
```

PROGRAMMING

TABLE OF CONTENTS

PROGRAMMING

1. Introduction To Programming

1.1 Programming Overview

The system arrives from the factory with default data. Connect it to trunks, stations and power, turn the system on and it is fully operational. The only thing left to do is customise the data to fit the customer's needs. This is called programming the system.

MMC stands for Man Machine Code and each program is assigned a different 2-digit code. These MMC are used to view, create or change customer data. Programming is simply deciding what needs to be done and knowing which MMC is used to do it.

System programming may be done from any NX-24E , NX-24B or NX-6B keyset (see 1.3.1), add-on module (AOM) or any keyset with an LCD (see 1.3.2). The first thing you must do is open system programming. As a security measure, a passcode is required in order to do this.

1.2 Programming Levels

There are three levels of programming: System, Customer and Station. System and Customer levels are under passcode protection; station programming does not require a passcode.

To prevent conflicting data from being entered, only one person at a time can enter programming with the technician or customer passcode. While programming is in progress, normal system operation is not affected.

SYSTEM LEVEL

This level is entered via MMC 20 and requires the technician-level passcode. It allows access to all system programs, station programs and maintenance programs.

CUSTOMER LEVEL

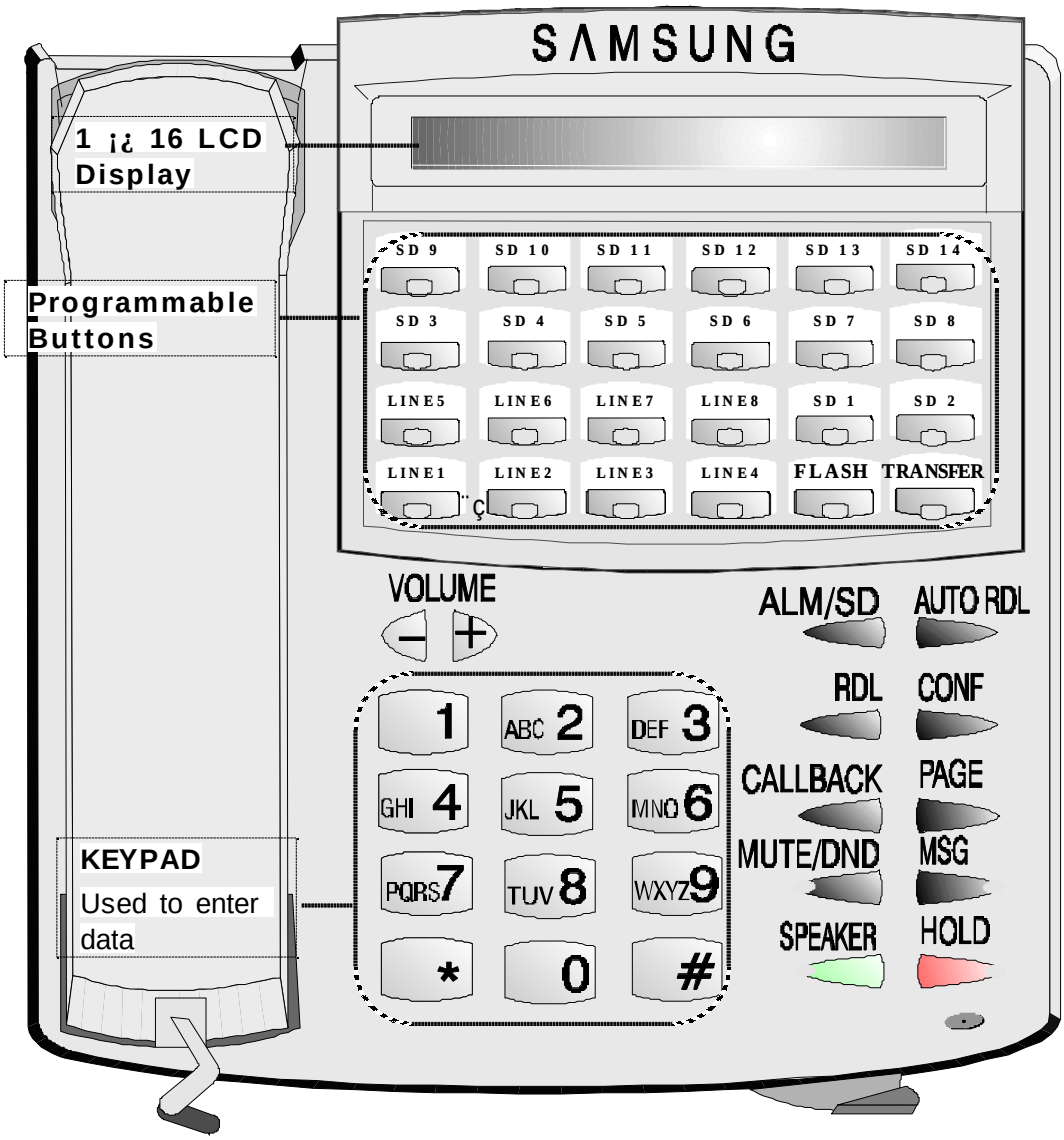
This level is entered via MMC 20 and requires the customer-level passcode. It provides access to station programs and system programs allowed by the technician in MMC 90. When using the customer passcode to access station programs, data for all stations can be viewed or changed.

STATION LEVEL

All keysets can access station programs 10-17 without using a passcode. Each user can only change data for his/her own keyset.

1.3 Program Keys

1.3.1 NX-keyset with LCD



LINE1, LINE2	:Scroll through stations or trunks.
MUTE/DND or MSG	:Normally used to select data.
AUTO RDL	:Enter programming mode. Also used to save changes and exit the program.
SPEAKER	:Save changes and advance to the next program.
HOLD	:Normally used to clear previous data.

1.3.2 Other keysets with LCD

If the user has another type of keyset with an LCD, such as the 816 keyset, the keys used for programming are a little different from the NX- keyset. The following table describes these different keys.

NX-keyset	816 keyset
AUTO RDL	AUTO RDL
ALM/SD	ALM/SD
RDL	RD
CONF	CONF
CALLBACK	CALLBACK
PAGE	PAGE
MUTE/DND	MUTE/DND
MSG	MSG
SPEAKER	SPK
HOLD	HOLD
LINE1/LINE2	TIMER/AUTO ANS

2. Programming Procedures

2.1 Program List

00: STATION LOCK
01: CHANGE USER PASSCODE
10: SET ANSWER MODE
11: CALL FORWARD
12: STATION ON/OFF
13: SET RING FREQUENCY
14: STATION NAME
15: DATE DISPLAY
16: KEY EXTENDER
17: STATION SPEED DIAL

20: OPEN PROGRAMMING
21: CHANGE PASSCODE
22: CUSTOMER ON/OFF
23: PAGE ZONE
24: ASSIGN BARGE-IN
25: HOT/WARM LINE
26: ALARM REMINDER
27: VACANT MESSAGE
28: CALL DISC

30: STATION TOLL CLASS
31: EXT/TRK USE
32: INTERCOM USE
33: ASSIGN DOOR RING
34: ASSIGN PICKUP GROUP
35: ASSIGN STATION GROUP
36: ASSIGN BOSS/SECRETARY
37: ASSIGN ADD-ON MODULE
38: SLT DIALING TYPE
39: DATA LINE

40: C.O./PBX LINE
41: TRUNK DIALING TYPE
42: TRUNK ON/OFF
43: ASSIGN TRUNK RING
44: TRUNK NAME
45: TRUNK GROUP
46: ASSIGN DISA LINE
47: ASSIGN MPD
50: SYSTEM TIMERS
51: TONE/RING CADENCE
52: SYSTEM WIDE COUNTER
53: TRUNK WIDE TIMER
54: MAKE/BREAK RATIO
55: CURRENT DATE AND TIME
56: ASSIGN AUTO NIGHT TIME
57: CALL COST

60: TOLL DENY TABLE
61: TOLL ALLOW TABLE
62: PBX ACCESS CODE
63: AUTHORIZATION CODE
64: OVERRIDE CODE
65: ASSIGN WILD CHARACTER
66: SYSTEM SPD DIAL TOLL RESTRICTION
67: ASSIGN SYSTEM SPEED DIAL
70: DIAL NUMBERING PLAN
71: SYSTEM KEY PROGRAMMING
72: STATION KEY PROGRAMMING
73: KEY TEST

80: IO PARAMETER
81: SMDR OPTION
83: CALL TRAFFIC REPORT

90: CUSTOMER USE MMC
91: SYSTEM VERSION
92: PORT STATUS
93: SELECTION LANGUAGE
94: HALT PROCESS
95: SYSTEM RESTART

2.2 Program Procedures (MMCs)

The following instructions for each MMC assume that you have already opened programming. To open System (Customer) Programming, the procedure is:

1. Press AUTO RDL then 20
2. Enter customer passcode (default = 1234)
3. Enter 1 to Enable

When you have finished programming in MMCs 00-95 and have other programming to do, press SPEAKER to exit the MMC but remain in programming mode and use one of the following methods:

- dial another MMC code directly and continue programming
  or
- press LINE1 and LINE2 keys to scroll through all MMC codes. When the desired MMC code is displayed, press SPEAKER and continue programming.

Pressing AUTO RDL will always save changes and exit programming mode.

MMC 00 STATION LOCK

Description:

Used to lock or unlock stations; e.g. if you want to prohibit another user from using your station.

UNLOCK	Normal status
LOCKED1	Prohibits another user from making outside calls.
LOCKED2	Prohibits another user from dialling or receiving any calls.

Action	***Display***
1. Press **AUTO RDL** and dial **00**	201: UNLOCKED
2. Using **LINE1** or **LINE2**, select the station you want(e.g. 202) If you want to select all stations, press LINE1	202: UNLOCKED
3. Press **MUTE/DND** or **MSG** to make selection OR Using KEYPAD, dial **0 for UNLOCKED** **1 for LOCKED1** **2 for LOCKED2** (e.g.1)	202: LOCKED1
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

UNLOCKED

RELATED MMC

MMC 01 CHANGE USER PASSCODE

MMC 01 CHANGE USER PASSCODE

Description:
Used to reset any keyset's passcode to its default value '1234' (for example, if the user has forgotten his/her passcode). This MMC cannot display station passcodes. Keyset users can set or change their individual passcodes. The passcode is used to lock or unlock the keyset and to access the walking class of service and DISA calls.

NOTE : The following features will not work with the Default Password. (Station lock, DISA calls, and walking class of service).

Action	***Display***
1. Press **AUTO RDL** and dial **01**	201: DEFAULT?
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202) If you want to select all stations, press LINE1	202: DEFAULT?
3. Press **HOLD** to reset selected station's passcode to default data (1234)	202: DEFAULT!
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

1234

RELATED MMC

MMC 00 STATION LOCK
MMC 46 ASSIGN DISA LINE

MMC 10 SET ANSWER MODE

Description:

Used to change the answer mode of stations. Each station can have its answer mode set to one of the following options.

1 RING	Keyset will ring. Calls are answered by pressing SPEAKER or by lifting the handset.
2 AUTO ANSWER	After giving a short attention tone, the keyset will automatically answer calls on the speakerphone. When a C.O. line is transferred to a keyset in Auto Answer mode, the keyset will ring until SPEAKER is pressed or the handset is lifted.
3 VOICE ANNOUNCE	The keyset will not ring. After a short attention tone, the callers voice can be heard from the Loudspeaker. However the SPEAKER button or handset must be used to answer calls.

Action	***Display***
1. Press **AUTO RDL** and dial **10**	201: RING
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202) If you want to select all stations, press LINE1	202: RING
3. Press **MUTE/DND** or **MSG** to make selection OR Using keypad, dial **1 for RING** **2 for AUTO ANSWER** or **3 for VOICE ANNOUNCE** (e.g. 2)	202: AUTO ANSWER
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

RING

RELATED MMC

NONE

MMC 11 CALL FORWARD

Description:

Used to program the call forward destination for other station users and set the time for FORWARD NO ANSWER. Each station can forward calls under the following conditions:

FORWARD ALL	All calls are forward to destination station
FORWARD BUSY	If the station is busy, calls are forward to destination.
FORWARD NO ANSWER	If the station doesn't answer in 'no answer' time, calls are forward to destination.
NO ANSWER TIME	Used to set no answer time. This time also used for External Call Forward.

Action	***Display***
1. Press **AUTO RDL** and dial **11**	201: F ALL:
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202)	202: F ALL:
3. Press **RDL** or **CONF** to select the forward type described above(e.g. FORWARD NO ANSWER)	202: F NOA:
4. Enter the destination station (e.g. 203)	202: F NOA:203
If you want to clear the data, press HOLD If your selection is NO ANSWER TIME, enter3-digit time in seconds (default = 015sec)	202: TIME: 015S
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA : FORWARD TYPE: NONE
NO ANSWER TIME: 015 SEC

RELATED MMC : NONE

MMC 12 STATION ON & OFF

Description:
This MMC allows the keyset user to set the following features.

AUTO HOLD	Automatically places an existing C.O. call on hold if a trunk key(C.O. button)is pressed during that call.
AUTO TIMER	Automatically starts stopwatch timer during a C.O. call.
HEADSET USE	When ON, this feature disables the hook switch allowing a headset user to answer all calls by pressing the SPEAKER button.
HOT KEYPAD	When ON, this feature allows the user to dial directory numbers without having to first lift the handset or press the SPEAKER button.
KEY TONE	When ON, this feature allows the users to hear a slight tone when pressing the keypad on their set.
RING PREFERENCE	When OFF, requires the user to press the fast flashing button to answer a ringing call after lifting the handset

Action	***Display***
1. Press **AUTO RDL** and dial **12**	201: A HOLD:OFF
2. Using **LINE1** or **LINE2,** Select the station you want(e.g. 202) If you want to select all stations, press LINE1	202: A HOLD:OFF
3. Press **RDL** or **CONF** to select the keyset features described above (e.g. HEADSET USE)	202: HEDSET:OFF
4. Pressing **MUTE/DND** or **MSG** to make selection OR Using KEYPAD, dial **0 for OFF** or **1 for ON** (e.g. 1)	202: HEDSET:ON
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

AUTO HOLD	: OFF
AUTO TIMER	: ON
HEADSET	: OFF
HOT KEYPAD	: ON
KEY TONE	: ON
RING PREFERENCE	: ON

RELATED MMC

NONE

MMC 13 SET RING FREQUENCY

Description:
Used to select the ring frequency at each keyset. Four types of ring frequency are available. A short tone burst of the selection will be heard when the dial keypad is pressed.

Action	***Display***
1. Press **AUTO RDL** and dial **13** Display shows current frequency	201: FREQ. 1
2. Using **RDL** or **CONF,** select the station you want (e.g. 202) If you want to select all stations, press RDL	202: FREQ. 1
3. Pressing **MUTE/DND** or **MSG** to makes election. A short burst tone of selection will be heard OR Using keypad, dial **1 for FREQUENCY 1** **2 for FREQUENCY 2** **3 for FREQUENCY 3** **4 for FREQUENCY 4** (e.g. 2)	202: FREQ. 2
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

FREQUENCY 1

RELATED MMC

NONE

MMC 14 STATION NAME

Description:
Used to enter a 12-character name to identify an individual station. Names are written using the keypad. Each press of a key selects a character. Pressing another dial pad key will move the cursor to the next position.

For example if the station name is "SAM SMITH", press the number "7" four times to get the letter "S", and so on to enter the whole name. The characters programmed for each keypad are listed below.

dial / count	1	2	3	4	5	6	7	8	9	0	*	#
1		A	D	G	J	M	P	T	W	:	?	
2	1	B	E	H	K	N	Q	U	X	.	&	[
3		C	F	I	L	O	R	V	Y	!	$	]
4		2	3	4	5	6	S	8	Z	0	*	#
5							7		9			

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

Action	***Display***
1. Press **AUTO RDL** and dial **14**	201:NX828
2. Using **LINE1** or **LINE2,** select the station you want (e.g. 202)	202:
3. Using the table above, enter the station name Use **CONF** to move cursor right (up to 12 digits)	202:SAM SMITH
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NX 828

RELATED MMC

NONE

MMC 15 DATE DISPLAY

Description:
Used to change the date display mode of each station. Date display modes are:

1	**24**	**WESTERN**	WED 21 JUN 17:37
2	**12**	**WESTERN**	WED 21 JUN 05:37
3	**24**	**EASTERN**	06/21 WED 17:37
4	**12**	**EASTERN**	06/21 WED 05:37

SKP-816 model keysets display western mode only.

Action	***Display***
1. Press **AUTO RDL** and dial **15**	201: 12 WESTERN
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202) If you want to select all stations, press **LINE1**	202: 12 WESTERN
3. Pressing **MUTE/DND** or **MSG** to make selection OR Using KEYPAD, dial **1 for 24 WESTERN** **2 for 12 WESTERN**	202: 24 EASTERN
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

12 WESTERN

RELATED MMC

MMC 55 CURRENT DATE AND TIME

MMC 16 KEY EXTENDER

Description:
Used to view the programmable keys assigned to a keyset station. In addition, it allows the system administrator to assign key extenders to some keys that will make a general access feature key more specific. The feature keys that can have extenders are listed below.

FEATURE KEY	EXTENDER
FWE	External Call Forward(00~99)
SPD	Dial(00~99)
VAC	Vacant messages(01~20)
PAG	Page(0~5,*)
DOR	Door & Door Lock control (1~4)
EXC	Boss and Secretary(1~2)
DPC	Direct Pickup(station/trunk-line number)
GPC	Group Pickup(0~9)

Action	***Display***
1. Press **AUTO RDL** and dial **16**	201 01:701:
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202)	202 01:701
3. Press **RDL** or **CONF** to select the button (e.g. 22) OR Press the button you want to program extender (if the button is programmed).	202 22:PAG1
4. Select the extender according to the table above. Previous extenders will be overwritten If you want to clear the previous extender, press **HOLD**	202: 22:PAG2
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

EACH KEY EXTENDER IS EQUAL TO STATION KEY PROGRAMMING (MMC 72) DATA

RELATED MMC

MMC 71 SYSTEM KEY PROGRAMMING
MMC 72 STATION KEY PROGRAMMING

MMC 17 STATION SPEED DIAL

Description:
Used to program the personal dial locations assigned to a station. Each station may have up to 20 locations numbered 00-19. Each dial number consists of a trunk or trunk group access code followed by a separator and up to 30 digits to be dialled. If you dial a valid trunk or trunk group access number, it will automatically insert the separator (:).

Action	***Display***
1. Press **AUTO RDL** and dial **17**	201: STN SPD:
2. Using **LINE1** or **LINE2,** select the station you want (e.g. 202)	202: STN SPD:
3. Press **RDL** or **CONF** to select the entry. OR Dial the entry number(e.g.17) If the data is longer than 13 digits, press **ALM/SD** to verify the data. Display shows the entry moving left one digit	17:9:4602831
4. Enter station Number or telephone number or trunk access code(e.g.9) followed by the number to be dialed(e.g. 1234567) OR Press **HOLD** to clear an entry If you want to make a digit invisible, press **MUTE** then digit then **MUTE** again (e.g. 9 + 123[**MUTE**]4 [**MUTE**]567). The digit (4 in this example) will be displayed '¢Ë'.	17:9:1234567 17:9:123¢Ë567
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

NONE

MMC 20 OPEN PROGRAMMING

Description:
Used to open (enable) or close (disable) customer- or technician-level programming. If programming is not opened and an attempt is made to access a system MMC, the error message [ACCESS DENIED] will be displayed. A 4-digit customer passcode is required to access customer-level programming allowed in MMC 90 (Customer Use MMC). A 4-digit technician's passcode is required to open all MMCs.

Action	***Display***
1. Press **AUTO RDL** and dial **20**	PASSCODE:
2. Enter passcode Default passcodes are 1234 for customer-level Programming and 4321 for technician-level programming	PASSCODE:****
3. Press **MUTE/DND** or **MSG** to select DISABLE or ENABLE OR Dial **0 for DISABLE** or **1 for ENABLE** (e.g. 1)	ENABLE
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

DISABLE

RELATED MMC

CUSTOMER PROGRAMMING : Refer to MMC 90

TECHNICIAN LEVEL PROGRAMMING : ALL MMCs

MMC 21 CHANGE PASSCODE

Description:
Used to change the passcode allowing access to MMC 20 (Open Programming) from its current value.

NOTE:
¡¤ The passcode is four digits long. Each digit can be 0-9. The current (old) passcode is required for this MMC.
¡¤ Allows the technician to reset the customer passcode to default value '1234' by pressing HOLD button.

Action	***Display***
1. Press **AUTO RDL** and dial **21**	NEW CODE:
2. Enter new passcode via keypad (max four digits) To change customer passcode, first enable customer Programming To change technician passcode, first enable technician Programming	NEW CODE:****
Display shows	REENTER:
3. Reenter new passcode via KEYPAD	REENTER:****
If re-entered passcode is correct, display will show 'SUCCESS'	SUCCESS
OR If it is incorrect, display will show 'ERROR' is	ERROR
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

CUSTOMER PASSCODE: 1234
TECHNICIAN PASSCODE: 4321

RELATED MMC

MMC 20 OPEN PROGRAMMING

MMC 22 CUSTOMER ON/OFF

Description:
Used to allow the system administrator to set the following keyset features:

BGM	When ON, allows the user to hear background music.
DND	When ON, allows the user to set the Do Not Disturb feature.
DOOR	When ON, allows the user to open the door.
HUNT	When ON, the intercom call will be forwarded to the next station of the station group to which the station belongs.
MIKE	When ON, the station can activate the speakerphone call.
PAGE USE	When ON, the station can page.
PAGE RECEIVE	When ON, the station can receive paging announcements.
SMDR	When OFF, the information related to the station will not be printed on the SMDR report.

Action	***Display***
1. Press **AUTO RDL** and dial **22**	201: BGM: ON
2. Using **LINE1** or **LINE2,** select the station you want (e.g. 202) If you want to select all stations, press **LINE1**	202: BGM: ON
3. Press **RDL** or **CONF** to select the keyset feature (described above, e.g. DND)	202: DND: ON
4. Press **MUTE/DND** or **MSG** to select data OR Using the KEYPAD, dial **0 for OFF** or **1 for ON**	202: DND: OFF
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

BGM	: ON
DND	: ON
DOOR	: ON
HUNT	: OFF
MIKE	: ON
PAGE USE	: ON
PAGE RECEIVE	: ON
SMDR	: ON

RELATED MMC

HUNT : MMC 35 ASSIGN STATION GROUP

PAGE USE, PAGE RECEIVE : MMC 23 PAGE ZONE

SMDR : MMC 81 SMDR OPTION

MMC 23 PAGE ZONE

Description:
Used to assign a keyset to any of the four internal paging zones and no zone.

NOTE : Number 5 makes all external paging, number 0 makes all internal paging and * makes all internal and external paging.

Action	***Display***
1. Press **AUTO RDL** and dial **23**	201: NO ZONE
2. Using **LINE1** or **LINE2**, select the station you want(e.g. 202) If you want to select all stations, press **LINE1**	202: NO ZONE
3. Pressing **MUTE/DND** or **MSG** to make selection OR Using KEYPAD, dial **0 for NO ZONE** **1 for ZONE 1** **2 for ZONE 2** **3 for ZONE 3** or **4 for ZONE 4** (e.g. ZONE 1)	202: ZONE1
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NO ZONE

RELATED MMC

MMC 22 CUSTOMER ON/OFF (PAGE USE / PAGE RECEIVE)

MMC 24 ASSIGN BARGE-IN

This MMC is used to set the type of barge-in permitted at a particular station. After the barge-in type is set, the barge-in class can be set. The barge-in class allows or disallows the user to barge-in on another station.

OPTION	BARGE-IN TYPE	DESCRIPTION
0	NO BARGE-IN	Barge-in feature is unavailable regardless of a station's barge-in status.
1	WITH TONE	Barge-in will produce an intrusion tone and display at the barged-in on station.
2	WITHOUT TONE	Barge-in is allowed. There is no barge-in tone and no display at the barged-in station, and the barge-in station will be muted.

OPTION	BARGE-IN CLASS	DESCRIPTION
00	NN	You cannot barge-in. / Nobody can barge-in on you.
01	NY	You cannot barge-in. / Others can barge-in on you.
10	YN	You can barge-in. / Nobody can barge-in on you.
11	YY	You can barge-in. / Others can barge-in on you.

PROCEDURE	***DISPLAY***
1. Press **AUTO RDL** and dial **24**	NO BARGE IN
2. Pressing **MUTE/DND** or **MSG** to select barge-in type OR Using KEYPAD, dial **0 for NO BARGE IN** **1 for WITH TONE** or **2 for WITHOUT TONE**	WITH TONE
3. Using **LINE1** or **LINE2**, select a station (e.g. 202) *To select all stations, press* **LINE1** *first*	202: NN

4. Using KEYPAD, dial
   00 for NN
   01 for NY
   10 for YN
   or **11 for YY**
   You can select barge-in closs (NN, NY, YN, YY)

202: YN

5. Press **AUTO RDL** to save and exit

DEFAULT DATA

BARGE-IN TYPE : NO BARGE IN
BARGE-IN CLASS : NN

RELATED MMC

NONE

MMC 25 HOT/WARM LINE

Description:
Used to assign a hot line/warm line destination for each station. The destination may be one of the following:

Station Number
Station Group Number
Trunk Number
Trunk Group Number
16 plus Speed Dial Number(00~99) (16 is SPD ID number described in MMC 70)

The Warm Line Delay Time also can be assigned by this MMC.

Action	***Display***
1. Press **AUTO RDL** and dial **25**	201: : 0SEC
2. Using KEYPAD, select the destination(e.g. 233)	201: 233: 0SEC
3. Enter the Warm Line Delay Time (0 - 9 sec) (e.g. 5)	201: 233: 5SEC
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

DESTINATION : NONE
WARM LINE DELAY TIME: 0 SEC

RELATED MMC

NONE

MMC 26 ALARM REMINDER

Description:
Used to allow the system administrator or technician to set or change the alarm clock/appointment reminder feature for any station. Three alarms may be set for each station and each alarm may be defined as a DAY alarm or as a DAILY alarm. The DAY alarm is automatically cancelled after it rings, while the DAILY alarm rings every day at the same time.

Action	***Display***
1. Press **AUTO RDL** and dial **26**	201 A1:HHMM:DAY
Using **LINE1** or **LINE2**, select the station you want(e.g. 202)	202 A1:HHMM:DAY
2. Press **RDL** or **CONF** to select the alarm number (1~3)(e.g. 2)	202 A2:HHMM:DAY
3. Dial the alarm time. The time is entered in 24-hour format (e.g. 2030 is 8:30 p.m.) To clear alarm data, press **HOLD**	202 A2:2030:DAY
4. Press **MUTE/DND** or **MSG** to select alarm mode (e.g. DAILY)	202 A2:2030:DALY
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

ALARM1 : HHMM DAY
ALARM2 : HHMM DAY
ALARM3 : HHMM DAY

RELATED MMC

MMC 55 CURRENT DATE AND TIME

MMC 27 VACANT MESSAGE

Description:
The system provides up to 20 vacant messages that can be selected by any display keyset user. Of these, 10 messages (01-10) are pre-programmed and the other 10 messages (11-20) can be customised using this MMC. Once activated, the selected message will appear in the display of the calling station.

NO.	MESSAGE
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

Action	***Display***
1. Press **AUTO RDL** and dial **27**	MSG11:
2. Using **LINE1** or **LINE2**, select the desired message number (11-20) (e.g. 12)	MSG12:
3. Enter the vacant message (refer to MMC 14 for details of letter entry proceedure)	BUSINESS TRIP
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

NONE

MMC 28 CALL DISC

Description:
Used to assign the incoming and outgoing status of a selected station. There are four different options.

0	No Discrimination
1	Out Only
2	In Only
3	Both

Action	***Display***
1. Press **AUTO RDL** and dial **28**	201: NO DISC
2. Using **LINE1** or **LINE2,** select the station you want (e.g. 202) If you want to select all stations, press **LINE1**	201: NO DISC
3. Press **MUTE/DND** or **MSG** key to select discrimination type as above	202: BOTH
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NO DISC

RELATED MMC

MMC 42 TRUNK ON/OFF
MMC 50 SYSTEM TMERS
MMC 46 ASSIGN DISA LINE

MMC 30 STATION TOLL CLASS

Description:

Used to assign a day and night class of service to each station. There are six different classes of service.

DIAL DIGIT	TOLL CLASS	DESCRIPTIONS
1	A	No restriction
2	B	Follow allow/deny table for each class
3	C	Follow allow/deny table for each class
4	D	Follow allow/deny table for each class
5	E	Follow allow/deny table for each class
6	F	Intercom call only

Action	***Display***
1. Press **AUTO RDL** and dial **30**	201: AA
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202) If you want to select all stations, press **LINE1**	202: AA
3. Dial number 1-6 for day class and then for night class (for class A-F as above) (e.g. dial 2 and 3 for B and C)	202: BC
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

DAY CLASS : A
NIGHT CLASS : A

RELATED MMC

MMC 60 TOLL DENY TABLE
MMC 61 TOLL ALLOW TABLE

MMC 31 EXT/TRK USE

Description:

Used to allow trunks on a per-station basis the ability to answer incoming calls, to dial out or to do both. These abilities are displayed as Y or N for each action (e.g. NY means disallow dialling out but allow answering of incoming calls).

DIAL DIGIT	TRK USE	DESCRIPTION
00	NN	You cannot either dial and answer
01	NY	You cannot dial but can answer
10	YN	You can dial but cannot answer
11	YY	You can both dial and answer

Action	***Display***
1. Press **AUTO RDL** and dial **31**	201: USE 701 :YY
2. Using **LINE1** or **LINE2**, Select the station you want (e.g. 202) If you want to select all stations, press LINE1	202: USE 701 :YY
3. Select the trunk number by pressing **RDL** or **CONF** (e.g. 702) If you want to select all trunks, press **RDL**	202: USE 702 :YY
4. Using keypad, dial **0 (N) to deny action** or **1 (Y) to allow action** (Two digits must be dialled: first digit for dialling out and second for answering incoming calls, e.g. 01)	202: USE 702 :NY
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

ALL TRUNK: YY

RELATED MMC

NONE

MMC 32 INTERCOM USE

Description:
Used to allow/disallow station intercom calls.

Action	***Display***
1. Press **AUTO RDL** and dial **32**	201: CALL 202:Y
2. Using **LINE1** or **LINE2**, select the station you want (e.g. 202) If you want to select all stations, press **LINE1**	202: CALL 201:Y
3. Press **RDL** or **CONF** to select call station (e.g. ALL) If you want to select all stations, press **RDL**	202: CALL ALL:?
4. Pressing **MUTE/DND** or **MSG** to select allow/ disallow option(e.g. disallow all intercom calls) OR Using KEYPAD, dial **0(N) for disallow intercom calls** **1(Y) for allow intercom calls** If you select N, intercom calls are not possible but calling the operator is possible	202: CALL ALL:N
5. Press **AUTO RDL** to save and exit.	

DEFAULT DATA

CALL ALL : Y

RELATED MMC

NONE

MMC 33 ASSIGN DOOR RING

Description:
Used to designate which devices (station or station group) will ring when a door box button is pressed.

Action	***Display***
1. Press **AUTO RDL** and dial **33** Display shows designated stations or station groups for DOOR1(day and night)	DOR1 D:500 N:500
2. Press **LINE1** or **LINE2** to select DOOR 1 or DOOR 2 (e.g. DOOR 2)	DOR2 D:500 N:500
3. Enter new DAY/NIGHT selection via keypad (e.g. 501 for day, and 201 for night)	DOR2 D:501 N:201
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

DOOR1 : DAY:500 NIGHT:500
DOOR2 : DAY:500 NIGHT:500

RELATED MMC

MMC 35 ASSIGN STATION GROUP

MMC 34 ASSIGN PICKUP GROUP

Description:
Used to allow the assignment of stations into call pickup groups. There is a maximum of 10 pickup groups (0-9). An unlimited number of members can belong to each group. Stations can be in only one pickup group at any given time.

Action	**Display**
1. Press **AUTO RDL** and dial **34** Display shows the first member of pickup group 0	[GPC0] 01:220
2. Using **LINE1** or **LINE2,** select the pickup group number (e.g. GPC1)	[GPC1] 01:
3. Dial station number (e.g. 203) If dialled number is a member of another pickup group, the station number will be removed from the previous group automatically The Dialled number overwrites any previous number Press **HOLD** to clear previous entries	[GPC1] 01:203
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

[GPC0] : All stations
[GPC1]¡-[GPC9] : NONE

RELATED MMC

NONE

MMC 35 ASSIGN STATION GROUP

Description:
Used to assign members of a station group. There are several options that can be selected for ringing, overflow, group transfer and overflow destination, group types. There is a maximum of twenty (20) station groups.

OPTIONS	DISPLAY	RANGE
Ring mode	RING	
Overflow time	OVER	000 ~ 250 sec
Group transfer time	TRSF	000 ~ 250 sec
Overflow port	NEXT	
Group types	TYPE	

RING MODES	DESCRIPTION
1 SEQUENTIAL	The first idle station listed in the group will ring. If the first is busy, the next idle station will ring.
2 DISTRIBUTE	The first call will ring the first station listed in the group. The next call will ring the next station listed in the group.
3 CONDITION	All the non busy stations listed in the group will ring.
4 UNCONDITION	All the stations listed in the group will ring. Busy stations will receive off-hook ring.

GROUP TYPES	
1	NORMAL GROUP
2	VMAA GROUP

Action	*Display*
1. Press **AUTO RDL** and dial **35** Display shows ring mode of group 500 (operator group)	500: RING :DIST
2. Using **LINE1** or **LINE2**, select the station group number(500 ~ 519).	501: RING: DIST

3. Pressing **RDL** or **CONF**, select the options(RING, OVER,TRSF,NEXT,TYPE or MEMBER)
   Go to 4a - 4f depending on selection

500: OVER: 030S

4a. To select RING mode, press **MUTE/DND** or **MSG**
   OR
   Dial
   1 for SEQUENTIAL
   2 for DISTRIBUTE

500: RING: UNCO

4b. To change the OVERFLOW TIME, dial 3 digits

500: OVER: 030S

4c To change the GROUP TRSF TIME, dial 3 digits

500: TRSF: 045S

4d To assign the overflow port (NEXT), enter the station or station group number (e.g. 501)

500: NEXT: 501

4e Press **MUTE/DND** or **MSG** to select the station group TYPE (e.g. NORMAL)
   OR
   Using keypad, dial
   1 for NORMAL GROUP
   2 for VMAA GROUP

500: TYPE:NORMAL

4f To assign MEMBER of a station group, enter the station number (e.g. 201)

500: MEM1:201

5. Press **AUTO RDL** to save and exit

DEFAULT DATA

RING	: DIST
OVERFLOW	: 030 SEC
TRANSFER TIME	: 045 SEC
TYPE	: NORMAL GROUP
MEMBER	: 500 GROUP : 201
	OTHER GROUP : NONE

RELATED MMC

MMC 22 CUSTOMER ON/OFF

MMC 36 ASSIGN BOSS/SCRETARY

Description:
Used to assign BOSS keysets to SECRETARY keysets. One SECRETARY station may have up to two (2) BOSS stations.

Action	***Display***
1. Press **AUTO RDL** and dial **36**	S201 1: 2:
2. Using **LINE1** or **LINE2**, select the SECRETARY station you want(e.g. 202) Display shows the BOSS stations	S202 1: 2:
3. Enter the BOSS stations (e.g. BOSS1: 220, BOSS2: 230)	S202 1:220 2:230
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

BOSS1:NONE BOSS2:NONE

RELATED MMC

NONE

MMC 37 ASSIGN ADD-ON MODULE

Description:
Used to designate to which station an add-on module (AOM) is assigned.

Action	***Display***
1. Press **AUTO RDL** and dial **37** Display shows the first AOM port	205: MASTER:
If there is no AOM port, display shows	AOM NOT EXIST
2. Press **LINE1** or **LINE2,** select the AOM port (e.g. 206)	206: MASTER:
If you want to clear the previous entry, press **HOLD**	
3. Enter master station number (e.g. 204)	206: MASTER:204
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

NONE

MMC 38 SLT DIALLING TYPE

Description:
Used to define the type of phone connected to each SLT port for dialling purposes. Keysets are not affected by this MMC. There are two dialling types.

DIALLING TYPES

1	DTMF	Dual Tone Multi Frequency type
2	PULSE	Dial Pulse type

Action	***Display***
1. Press **AUTO RDL** and dial **38** Display shows the SLT port(e.g. 217)	217: DTMF
If there is no SLT port, display shows	SLT NOT EXIST
2. Using **LINE1** or **LINE2**, select the SLT port number (e.g. 218)	218: DTMF
3. Press **MUTE/DND** or **MSG** to select the SLT type. OR Using KEYPAD, dial **1 for DTMF** or **2 for PULSE**	218: PULSE
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

DTMF

RELATED MMC

NONE

MMC 39 DATA LINE

Description:
Used to assign SLT ports that will be used for data transmission.

VOICE The station will be used for voice communication. All intrusion and warning tones will be heard during conversation.
DATA The station will be used for data communication. No intrusion and warning tones will interfere with data transmission

Action	***Display***
1. Press **AUTO RDL** and dial **39** Display shows (e.g. 209 is SLT port)	209: VOICE
2. Using **LINE1** or **LINE2**, select the SLT port number (e.g. 210) If you want to select all SLT ports, press **LINE1**	210: VOICE
3. Press **MUTE/DND** or **MSG** to select VOICE or DATA (the port connected to a peripheral device, such as Fax, is set to DATA line) OR Dial **1 for VOICE** or **2 for DATA** (e.g. 2)	210: DATA
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

VOICE LINE

RELATED MMC

NONE

MMC 40 C.O. PBX LINE

Description:
Used to select the mode of the C.O. line. If PBX mode is chosen, the PBX access code can be recognised, allowing more complete toll restriction. This mode is assigned on a per-trunk basis.

Action	***Display***
1. Press **AUTO RDL** and dial **40**	701: C.O
2. Using **LINE1** or **LINE2,** select the trunk number you want(e.g. 702) If you want select all trunk lines, press **LINE1**	702: C.O
3. Press **MUTE/DND** or **MSG** to set the trunk C.O. or PBX line OR Using KEYPAD, dial **1 for C.O line** or **2 for PBX line**(e.g. PBX line)	702: PBX
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

C.O LINE

RELATED MMC

NONE

MMC 41 TRUNK DIALLING TYPE

Description:
Used to determine the dialling type of each C.O. line. There are two options: Dual Tone Multi Frequency (DTMF) and Dial Pulse (PULSE).

Action	***Display***
1. Press **AUTO RDL** and dial **41**	701: DTMF
2. Using **LINE1** or **LINE2**, select the trunk number you want (e.g. 702) If you want to select all trunks, press **LINE1**	702: DTMF
3. Press **MUTE/DND** or **MSG** to select the trunk dial type OR Using KEYPAD, dial **1 for DTMF** or **2 for PULSE** (e.g. PULSE)	702: PULSE
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

DTMF

RELATED MMC

MMC 53 TRUNK-WIDE TIMERS

MMC 54 MAKE/BREAK RATIO

MMC 42 TRUNK ON/OFF

Description:

Used to assign several options on a per-trunk basis:

OPTIONS	DESCRIPTION
1A2 EMULATION	Trunk override call
TRUNK FORWARD	Allows trunk to be forwarded (Refer to APPENDIX D)
RING OVER PAGE	Allows ring over external page
TOLL CHECK FREE	C.O. lines to follow or bypass toll restriction
VOICE MSG	Voice announcement of DISA line
TRK DISC	Enable Trunk disconnection

Action	***Dispaly***
1. Press **AUTO RDL** and dial **42**	701:1A2 EMUL:OFF
2. Using **LINE1** or **LINE2**, select trunk number you want (e.g. 702)	702:1A2 EMUL: OFF
3. Using **RDL** or **CONF**, select the option you want (as described above, e.g. RING OVER PAGE)	702:PAGE RING:OFF
4. Press **MUTE/DND** or **MSG** to select ON or OFF. OR Using KEYPAD, dial **0 for OFF** or **1 for ON**	702:PAGE RING:ON
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

1A2 EMULATION	: OFF
TRUNK FORWARD	: OFF
RING OVER PAGE	: OFF
TOLL CHECK FREE	: OFF
VOICE MSG	: OFF
TRK DISC	: OFF

RELATED MMC

TRUNK FORWARD	: MMC 11 CALL FORWARD
VOICE MSG	: MMC 46 ASSIGN DISA LINE
TRK DISC	: MMC 28 CALL DISC
	MMC 50 STSYEM TIMERS

MMC 43 ASSIGN TRUNK RING

Description:
Used to enable ringing to a specific station or to a group of stations when incoming calls are received. This MMC controls both day and night locations.

Action	***Display***
1. Press **AUTO RDL** and dial **43**	701 D:500 N:500
2. Using **LINE1** or **LINE2**, select the trunk you want (e.g. 702) If you want to select all trunks, press **LINE1**	702 D:500 N:500
3. Dial the station or station group number that will be ringing (e.g. 500 for Day, 201 for Night)	702 D:500 N:201
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

ALL TRUNKS DAY:500 NIGHT:500

RELATED MMC

MMC 35 ASSIGN STATION GROUP
MMC 56 ASSIGN AUTO NIGHT TIME

MMC 44 TRUNK NAME

Description:
Used to allow a 12-character name to identify an individual trunk. Names are written using the keypad. Each press of a key will select a character. For example, to select 'A' press key number 2 once (twice for 'B' and so on). Press the desired key to move the cursor to the next position.

dial / count	1	2	3	4	5	6	7	8	9	0	*	#
1		A	D	G	J	M	P	T	W	:	?	
2	1	B	E	H	K	N	Q	U	X	.	&	[
3		C	F	I	L	O	R	V	Y	!	$	]
4		2	3	4	5	6	S	8	Z	0	*	#
5							7		9			

NOTE : When the character you want appears on the same dial pad key as the previous character, press CONF to move the cursor to the right. A space can be entered using these keys.

Action	***Display***
1. Press **AUTO RDL** and dial **44**	701:NX828
2. Press **LINE1** or **LINE2** to select the trunk you want (e.g. 702)	702:
3. Enter the trunk name using above table (e.g. SEOUL LINE)	702: SEOUL LINE
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NX-828

RELATED MMC

NONE

MMC 45 TRUNK GROUP

Description:

Used to set free trunk selection type and to allow assignment to a specific trunk group or to several trunk groups. There are eleven (11) trunk groups, 9 and 80-89, and three modes of selecting free trunk line in the group.

MODE	DESCRIPTION
DISTRIBUTE	Searches the trunk group in circular order. Each time the group is accessed, the next available trunk in the group is selected.
HIGH TO LOW	Searches the trunk group from last trunk to the first trunk in the group. If the trunk is busy, the previous available trunk in the group is selected.
LOW TO HIGH	Searches the trunk group. If the first trunk in the group is busy, the next one is selected

Action	***Dispaly***
1. Press **AUTO RDL** and dial **45** Display shows the free trunk selection mode	MODE: DISTRIBUTE
2. Press **MUTE/DND** or **MSG** to select the free trunk selection mode OR Using KEYPAD, dial **1 for DISTRIBUTE** **2 for High to Low** or **3 for Low to High.** (e.g. 2)	MODE: HIGH TO LOW
3. Using **LINE1** or **LINE2,** to select the trunk group (e.g. GRP80)	GRP80 01:
4. Press **RDL** or **CONF** to scroll the members of the group (e.g. 02)	GRP80 02:
5. Enter a valid trunk number (e.g. 709)	GRP80 02:709
6. Press **AUTO RDL** to save and exit	

DEFAULT DATA

GROUP 9 : ALL TRUNK LINES
GROUP 80~89 : NONE

RELATED MMC

NONE

MMC 46 ASSIGN DISA LINE

Description:

This MMC is used to allow the system the ability to have Direct Inward System Access (DISA). There are four 4 DISA. If a trunk is set to DISA, the voice announcement feature may be used when the VOICE MSG option is enabled in MMC 42 TRUNK ON/OFF.

OPTIONS		DESCRIPTION
0	NO DISA LINE	No DISA service
1	DISA IN NIGHT MODE	In night mode, DISA is available
2	DISA IN DAY MODE	In day mode, DISA is available
3	DISA BOTH NIGHT AND DAY	In day and night mode, DISA is available

Action ***Display***

1. Press **AUTO RDL** and dial **46**
   Display shows
   → 701: NO DISA

2. Using **LINE** or **LINE2** select the trunk you want (e.g. 702)
   → 702: NO DISA

   If you want select all trunks, press LINE1

3. Press **MUTE/DND** or **MSG** to select
   OR
   Using KEYPAD, dial
   0 for NO DISA LINE
   1 for DISA IN NIGHT MODE
   2 for DISA IN DAY MODE
   3 for DISA BOTH NIGHT AND DAY
   (e.g. 1)
   → 702: NIGHT DISA

4. Press **AUTO RDL** to save and exit

DEFAULT DATA

NO DISA

RELATED MMC

MMC 28 CALL DISK
MMC 42 TRUNK ON/OFF
MMC 50 SYSTEM TIMERS

MMC 47 ASSIGN MPD

Description:

Used to allow the trunk to check the Metering Pulse. If you set the MPD option to 'ON' the system must have an MPD card.

OPTIONS		DESCRIPTION
0	NO MPD	No service
1	MPD ON	MPD is available

Action	***Display***
1. Press **AUTO RDL** and dial **47**	701: NO MPD
2. Press **LINE1** or **LINE2**, to select the trunk you want(e.g. 702) If you want to select all trunks, press **LINE1**	702: NO MPD
3. Press **MUTE/DND** or **MSG** to make selection OR Using KEYPAD, dial **0 for NO MPD** or **1 for MPD ON** (e.g. 1)	702: MPD ON
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NO MPD

RELATED MMC

MMC 57 CALL COST

MMC 50 SYSTEM TIMERS

Description:

Used to adjust individual timers as necessary. All available timers are described in the Table of Timers and Values, below.

NOTE: Display shows second as S, millisecond as MS, and minute as MI.

Action	***Display***
1. Press **AUTO RDL** and dial **50**	ALM R INT :025SEC
2. Press **LINE1** or **LINE2** to select timer (e.g. ALM R DUR)	ALM R DUR: 010SEC
3. Enter new value using KEYPAD(e.g. 005)	ALM R DUR: 005SEC
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

See TABLE OF TIMERS AND VALUES

RELATED MMC

NONE

TABLE OF TIMERS AND VALUES

DISPLAY	DESCRIPTION	DEFAULT	RANGE
ALM R INT (Alarm ring interval)	Controls the time between ring attempts at a station when alarm reminder is set.	025S	1-250S
ALM R DUR (Alarm ring duration)	Controls the length of ring cycle duration when alarm reminder is set at a station.	010S	1-250S
ARDL INT (Auto Redial interval)	Controls the time between attempts after Auto Redial is set on a station.	045S	1-250S
ARDL RELS (Auto Redial release time)	Controls the duration of a Ring No Answer condition on an auto redial number dialled before auto redial is automatically cancelled.	045S	1-250MI
CBACK NOA (Callback no answer time)	Controls the time before the callback is automatically cancelled when a callback detects Ring No Answer.	030S	100-2500MS
CO CO DIS (CO to CO disconnect time)	Monitors the duration of an unsupervised conference, external call; forward or DISA call upon expiring, both trunks are disconnected.	010MI	1-250S
DISA FDG	First digit want time in DISA call	025S	1-250S
DISA IDG	Inter digit duration in DISA call	025S	1-250S
DISA RING	Controls the duration of ringing at the DISA called station before automatically transferred to the operator group.	030s	1-250S
DOOR RELS (Door release time)	Controls the duration of time before the door lock relay is activated.	1500MS	100-2500MS
DOR R OFF (Door Ring OFF duration)	Controls the duration of ringing at the door ring destination before automatically cancelling.	030S	1-250S

MMC 50

DISPLAY	DESCRIPTION	DEFAULT	RANGE
FIRST DGT (First Digit wait time)	Controls how long the system will wait for dialling to begin before dropping the dial tone and returning the user to error tone.	025S	1-250S
HOOK OFF (Hook OFF time)	Controls the time before dial tone is sent to a single line station.	0200MS	100-2500MS
INTER DGT (Inter Digit duration)	Controls the grace period between dialling valid digits and dropping the call and returning the user to error tone.	025S	1-250S
MMC OUT (MMC session time)	Controls the grace period between programming actions while in programming session, and automatically returns system to secure programming status.	030S	10-250S
OFF R INT (Off hook Ring Interval)	Controls the time between ring bursts to a user who has a camped-on call.	015S	1-250S
PAGE MAX (Page duration)	Controls the duration of a page announcement.	020S	1-250S
RCAL DISC (Recall Disconnect time)	This is the time an attendant recall will ring before being disconnected.	002MI	1-250MI
RCAL RING (Recall Ring length)	This is the length of time a transfer recall will ring at a station before recalling the operator.	015S	0-250S
RCAL WAIT (Recall Waiting time)	If a transferred call is recalled at the transferring station and the station is busy, this timer will expire and transfer the call to the operator. This only applies to trunk calls.	015S	0-250S
RCAL HOLD (Recall Hold time)	Determines the time calls can be left on hold before recalling back to the holding station.	045S	0-250S
RCAL TRSF (Recall Transfer time)	Determines the time that transferred calls ring before recalling.	045S	0-250S
SLT F MIN (minimum SLT flash time)	Monitors the duration of a hookswitch flash to ensure that the flash is valid and not a line noise or an accidental hookswitch bounce. It is the minimum time for a single line station.	0100MS	10-2500MS
SLT F MAX (maximum SLT flash time)	Maximum time of hookswitch flash of single line station.	0400MS	10-2500MS
SMDR PULS (SMDR start time for rotary dialing)	this grace period timer starts SMDR recording for pulse (rotary) dialing and controls the LCD duration timer on the keysets.	030S	1~250S
SMDR DTMF (SMDR start time for touchtone dialing)	this grace period timers starts SMDR recording for DTMF (Touch Tone) dialing and controls the LCD duration timer on the keysets.	015S	1~250S
TRK DISC	controls the duration of an outside call	030MIN	1~250S

MMC 51 TONE/RING CADENCE

Description:
Provides the ability to customise the tone cadence on a system-wide basis. There are eight (8) tone cadences available. **Please call Technical Support before changing any cadences as some systems may require default settings.**

Action	***Display***
1. Press **AUTO RDL** and dial **51**	DT: CONTINUOUS
2. Press **LINE1** or **LINE2** to select the tone you want	RBT: 100200100200
Press **MUTE/DND** or **MSG** to select dial tone control (continuous tone or interrupt tone) (e.g. interrupt tone)	DT: 100025100025
Default data of interrupt tone is 1000 0250 1000 0250 msec	
3. Dial new interrupt time value, ON/OFF/ON/OFF in intervals of 50 msec. Each value is 3 digits and Represents a unit of 10 msec: e.g. 100/030/100/03 0 is 1000 msec (100x10) for ON and 300 msec (0 30x10) for OFF	RBT: 100030100030
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

TONE NAME	**DISPLAY**	**DATA**
DIAL TONE	(DT)	CONTINUOUS TONE CHECK
RING BACK TONE	(RBT)	1000 2000 1000 2000 MSEC
BUSY TONE	(BST)	0500 0500 0500 0500 MSEC
TRSF TONE	(TT)	0200 0200 0200 0200 MSEC
ERROR TONE	(ERT)	0500 0250 0500 0250 MSEC
CO LINE RING	(COR)	1000 3000 1000 3000 MSEC
STATION RING	(STR)	0400 0200 0400 3000 MSEC

RELATED MMC

NONE

MMC 52 SYSTEM-WIDE COUNTER

Description:

Used to set the values of the system counters described below.

ALM COUNTER (ALARM REMINDER COUNTER)	The number of times that an alarm reminder will ring a station before cancelling (range: 1-99).
ARDL COUNTER (AUTO REDIAL COUNTER)	The number of times the system will redial an outside number after the auto redial feature has been activated.

Action	***Display***
1. Press **AUTO RDL** and dial **52**	ALM COUNTER: 03
2. Press **LINE1 or LINE2** to select the counter you want (e.g. ARDL)	ARDL COUNTER: 10
3. Dial new data (two digit e.g. 05)	ARDL COUNTER: 05
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

ALM COUNTER	: 3
ARDL COUNTER	: 10

RELATED MMC

NONE

MMC 53 TRUNK-WIDE TIMERS

Description:

Allows trunk timer values to be changed for all trunks. **It is not advisable to change these values, with the exception of trunk flash time, without assistance from Technical Support.**

Ten (10) options are available and are listed below.

DISPLAY	DESCRIPTION	RANGE
CLEARING (clearing time)	The interval after disconnecting the call and reusing the trunk line.	0~25sec
CO SUPV (CO supervision time)	The interval of checking the C.O.	000~9000 msec
F DGT DLY (first digit delay time)	After seizing the trunk line, system sends the first digit.	100~2500 msec
FLASH PBX (PBX flash time)	The duration of a flash when connected to a C.O.	100~2500 msec
MFS ON TM (MF sender on time)	The duration of DTMF Sender ON status when sending DTMF signal	100~2500 msec
MF OFF TM (MF sender off time)	The duration of DTMF Sender OFF when sending DTMF signal.	100~2500 msec
MPD DETCT (MPD detect time)	The minimum duration of MPD signal when the signal is incoming.	40~500 msec
NEW CALL (New Call time)	The duration of a flash sent to the central office to disconnect the line.	100~2500 msec
NO RING (no ring time)	After the incoming outside call is detected, if the outside call is disconnected without call processing, the system checks none of ring signal on the C.O line and release the C.O line.	1-25sec
PAUSE TM (pause time)	This is a pause duration timer. A pause is an instruction for the system to wait.	1~25sec
RNG DETCT (ring detect time)	This timer must be set shorter than the on cycle for C.O. ring. It is intended to prevent noise on the C.O. line from triggering a false ring.	100~2500 msec

NOTE : Display shows second millisecond as MS, and minute as MI.

Action	***Display***
1. Press **AUTO RDL** and dial **53**	CLEARING: 00S
2. Press **LINE1 or LINE2** to select the timer you want (e.g. CO SUPV)	CO SUPV: 0000MS

3. Dial new time (e.g. 0500)

CO SUPV: 0500MS

4. Press **AUTO RDL** to save and exit

DEFAULT DATA

CLEARING	: 00 SEC
CO SUPV	: 0000 MSEC
F DGT DLY	: 1000 MS
FLASH PBX	: 0600 MSEC
MFS ON TM	: 0100 MSEC
MF OFF TM	: 0100 MSEC
MPD DETCT	: 40 MSEC
NEW CALL	: 2000 MSEC
NO RING	: 05 SEC
PAUSE TM	: 03 SEC
RNG DETCT	: 0200 MSEC

RELATED MMC

NONE

MMC 54 MAKE/BREAK RATIO

Description:
Allows the ability to change the duration of the make/break time. This will only affect rotary dial trunks.

Action	***Display***
1. Press **AUTO RDL** and dial **54**	MAKE:33 BREAK:66
2. Enter the MAKE/BREAK ratio via the KEYPAD (e.g. MAKE:40 BREAK:60)	MAKE:40 BREAK:60
3. Press **AUTO RDL** to save and exit	

DEFAULT DATA

MAKE : 33
BREAK : 67

RELATED MMC

MMC 41 TRUNK DIALING TYPE

MMC 55 CURRENT DATE AND TIME

Description:

Allows the system date and time to be set. This will set the system-wide clock.

YY	Year	00~99 (e.g. 1995¡æ95)
MM	Month	01~12
DD	Date	01~31
W	Weekday	0~6 (0:SUN 1:MON 2:TUE 3:WED 4:THU 5:FRI 6:SAT)
HH	Hour	00~23
MM	Minute	00~59

Action	***Display***
1. Press **AUTO RDL** and dial **55**	YY MM DD W HH:MM
2. Enter current date and time using above table (e.g. 5th July 1998, Wednesday, 11:35)	95 07 05 3 11:35
3. Press **AUTO RDL** to save and exit	

DEFAULT DATA

SAT 01 JAN 12:00

RELATED MMC

MMC 15 DATE DISPLAY

MMC 56 ASSIGN AUTO NIGHT TIME

Description:
Used to enter the system into night mode automatically. A NIGHT key is not needed as the system will switch automatically, but it is helpful to have a dedicated button so the status can be manually changed. In the display, D is the time the system will switch from night to day service and N is the time the system will switch from day to night service.

There are three types of automatic night time table: WEEK, SATURDAY and SUNDAY. Each of them is composed of two time tables. If the user wants to switch automatically twice a day, it is useful to complete the two time tables in each of the automatic night time tables.

Table type	Description
WEEK	Used for Monday through Friday
SATURDAY	Used for Saturday
SUNDAY	Used for Sunday

Action	***Display***
1. Press **AUTO RDL** and dial **56**	WEK1 D0000 N0000
2. Press **LINE1** or **LINE2** to select the auto night time table: There are six tables available (WEEK1, WEEK2, SAT1, SAT2, SUN1, SUN2) If you want to switch to the night mode twice a day, you must enter the time of two related tables (e.g. WEEK1 and WEEK2) If you do not, the system will switch to the night mode once a day	WEK2 D0000 N0000
3. Enter the day start time and the night start time (e.g. 7:00 a.m. and 5:30 p.m.) Eight digits must be entered (if there are less than eight digits, data will not be changed)	WEK1 D0700 N1730

3a. If you want to switch twice a day, you must enter two related tables simultaneously (e.g. WEEK1 and WEEK2)

WEEK1 D:0700 N:1200

AND

WEEK2 D:1300 N:1700

4. Press **AUTO RDL** to save and exit

DEFAULT DATA

DAY : 0000
NIGHT : 0000

RELATED MMC

MMC 55 CURRENT DATE AND TIME

MMC 57 CALL COST

Description:

Used to program the unit cost of the metering pulse generated by Central Office. If the MPD card is installed in the system, it will detect the metering pulse provided by the Central Exchanger and determine the call cost by the number of metering pulses and the unit cost programmed by this MMC. The unit cost is four (4) digits, measured in the lowest denomination of currency (e.g. pence in the UK).

Action	***Display***
1. Press **AUTO RDL** and dial **57**	CALL COST: 0000
2. Enter 4-digit call cost. (If you don't enter four digits, the data will not be changed)	CALL COST: 0320
3. Press **AUTO RDL** to save and exit	

DEFAULT DATA

CALL COST : 0000
(Range of UNIT COST is 0001-9999)

RELATED MMC

MMC 47 ASSIGN MPD

MMC 60 TOLL DENY TABLE/APPLY

Description:
Allows you to define what leading digit(s) in a dialling plan are to be restricted and which class(es) should be applied in this toll deny table. Each entry can be defined by up to 11 digits.

Acton	***Display***
1. Press **AUTO RDL** and dial **60**	TOLL DENY : NEW
2. Press **MUTE/DND** or **MSG** to select the search class (search class = NEW, ALL, B, C, D, E)	05464602834:1111
3. Pressing **LINE1** or **LINE2** to find the desired entry or Empty entry	:BCDE
4. Enter the dial number to be restricted and press **CALLBACK** or **RDL** to assign the toll restriction apply class Then dial four (4) digits: **0 for NO** **1 for YES**	0546 :0011
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

MMC 30 STATION TOLL CLASS
MMC 61 TOLL ALLOW TABLE/APPLY

MMC 61 TOLL ALLOW TABLE/APPLY

Description:
Allows you to define what leading digit(s) in a dialling plan are to be allowed and which class(es) should be applied in this toll allow table. Each entry can be defined by up to 11 digits.

Action	***Display***
1. Press **AUTO RDL** and dial **61**	TOLL ALLOW: NEW
2. Pressing **MUTE/DND**, select the search class (search class =NEW, ALL, B,C,D,E)	05464602834:1111
3. Press **LINE1** or **LINE2** to find the desired entry or Empty entry	:BCDE
4. Enter the dial number to be allowed and press **CALLBACK** or **RDL** to assign the toll class Then dial four (4) digits **0 for NO** **1 for YES**	0546 :0011
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

MMC 30 STATION TOLL CLASS
MMC 60 TOLL DENY TABLE

MMC 62 PBX ACCESS CODE

Description:

Used to identify PBX access codes so that toll restriction will work. When a PBX line is accessed, the dial tone originates in another PBX and extension numbers on that switch can be dialled.

To get an outside line, an access code must be dialled. If this access code appears in this list, it is ignored and the toll restriction plan examines the digits following the PBX access code. It has five entries (1-5) with a maximum of four digits per entry.

Action	***Display***
1. Press **AUTO RDL** and dial **62**	PBX1:
2. Press **LINE1** or **LINE2** to select the entry (e.g. PBX2)	PBX2:
3. Enter new PBX access code(maximum four digits, e.g. 9)	PBX1:9
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

MMC 40 C.O. PBX LINE

MMC 63 AUTHORIZATION CODE

Description:

Used to list all allowable authorisation codes. An authorisation code must be four digits long. There are 50 codes allowed in this table. Duplications or number conflicts are not permitted.

Each authorisation code has an associated dialling class of service. When the code is entered, the dialling class of service is changed to that of the authorisation code.

Action	***Display***
1. Press **AUTO RDL** and dial **63**	AU01: COS:
2. Enter two digits(01~50), or press **LINE1** or **LINE2** to select the entry	
3. Enter 4-digit code and dialling class (e.g. 0312 end 1) There are five dialling classes **1 : A CLASS** **2 : B CLASS** **3 : C CLASS** **4 : D CLASS**	AU01:0312 COS:1
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

MMC 30 STATION TOLL CLASS

MMC 64 OVERRIDE TABLE

Description:

Used to enter up to five exceptions to toll restriction. These exceptions can be accessed by any class in both the day and night modes. These entries are useful in allowing access to emergency numbers.

Caution should be taken with the entries in this table because they will not be blocked for outgoing calls.

Action	***Display***
1. Press **AUTO RDL** and dial **64**	URG1:
2. Press **LINE1** or **LINE2** to select the urgent code number that you want (e.g. 911)	URG2:
3. Enter the number to allow (e.g. 911)	URG1:911
4. Press **AUTO RDL** to store and exit	

DEFAULT DATA

NONE

RELATED MMC

NONE

MMC 65 ASSIGN WILD CHARACTER

Description:
Provides flexibility to toll restriction when a specific numbering plan is desired. There are only three entry tables, but more than one digit can be assigned per table if needed.

Action	***Display***
1. Press **AUTO RDL** and dial **65**	X:111111111111
2. Press **LINE1** or **LINE2** to select the wild character(X,Y or Z, e.g. Y))	Y:111111111111
3. Enter the digit '1' under the desired digit. Twelve (12) Digits must be entered (If there re less than 12 digits, data will not be changed)	X:00000000000
4. Press **AUTO RDL** to save and exit	

DEFAULT DATA

1234567890*#
X : 111111111111
Y : 111111111111
Z : 111111111111

RELATED MMC

MMC 60 TOLL DENY TABLE
MMC 61 TOLL ALLOW TABLE

MMC 66 SYSTEM SPD DIAL TOLL RESTRICTION

Description:

Enables you to define whether the system allows or denies long distance numbers in system speed dialling to override toll restriction.

BYPASS TOLL Any station can use system speed dial numbers without restriction, regardless their classes.

FOLLOW TOLL The system checks all the system speed dialings according to the station class and deny/allow table.

Action	***Dispaly***
1. Press **AUTO RDL** and dial **66**	BYPASS TOLL
2. Press **MUTE/DND** or **MSG** to select data OR Dial **1 for BYPASS TOLL** or **2 for FOLLOW TOLL**	FOLLOW TOLL
3. Press **AUTO RDL** to save and exit	

DEFAULT DATA

BYPASS TOLL

RELATED MMC

MMC 30 STATION TOLL CLASS
MMC 60 TOLL DENY TABLE
MMC 61 TOLL ALLOW TABLE
MMC 67 ASSIGN SYSTEM SPEED DIAL

MMC 67 ASSIGN SYSTEM SPEED DIAL

Description:
Used to store up to 80 system speed dial numbers. The system speed dial number is composed of two digits (20-99) and a maximum of 30 digits per telephone number can be stored at each speed dial number. Eighty (80) system speed dial numbers are commonly used at every station and the system toll restriction is set using MMC 66. A speed dial number comprises an access code and the number to be dialled. The access code can be any trunk group, individual trunk, station group, and individual station. If you dial a valid trunk, trunk group, station or station group access number, it will automatically insert the separator (:).

Action	***Display***
1. Press **AUTO RDL** and dial **67**	SYS SPD TABLE:
2. Using **LINE1 or LINE2** to select the entry OR Dial the entry number (20~99, e.g. 20)	20:
3. Enter the speed dial number (up to 30 digits)	20:7019P0546460
4. Enter trunk access code(e.g. 9) followed by the number to be dialed(e.g. 1234567)	17:9:1234567
5. Press **LINE1** or **LINE2** to enter another speed dial number and return to step 3	
6. Press **AUTO RDL** to save and exit	

DEFAULT DATA

NONE

RELATED MMC

NONE

MMC 70 DIAL NUMBERING PLAN

Description:
Provides the access codes and dialling plan needed for operation of features and programs. The system comes with a wide range of acceptable numbering plans set as default and the option to customise the dialling plan. There is also a confirm message provided because of the chance of duplicating an access/ feature code.

Action	***Display***
1. Press **AUTO RDL** and dial **70**	STN09:201:
2. press **MUTE/DND** or **MSG**, select the desired numbering plan group(STATION, STATION GRP, TRUNK, TRUNK, GRP or FEATURE)	
3. Search the desired numbering plan entry by pressing **LINE1** or **LINE2**	
4. Enter digits via the dial keypad (Max 3 digits)	STN09:201:401
5. Press **LINE1** or **LINE2** to enter change and continue to make changes OR Press **MUTE/DND** or **MSG** to enter change and continue to select numbering plan groups in step 2	STN10:202
If confirm message appears indicating duplication of access code, dial **0 for no change** or **1 for change**	SGR01:500:
6. Press **AUTO RDL** to save and exit	

DEFAULT DATA

ACC	: 47	: ACCOUNT CODE
ALM	: 58	: ALARM
AMD	: 68	: ANSWER MODE
ATH	: 65	: AUTHORIZATION CODE
BRG	: 40	: BARGE-IN
CBK	: 44	: CALL BACK
CMP	: 45	: CAMP-ON
CNF	: 46	: CONFERENCE
COS	: 59	: CLASS OF SERVICE
CPS	: 54	: CHANGE PASSCODE
DND	: 64	: DO NOT DISTURB
DOR	: 13	: DOOR
DPC	: 10	: DIRECT PICKUP
EXC	: 12	: EXECUTIVE / SECRETARY
FAT	: 14	: FORCED AUTO ANSWER
FLS	: 49	: FLASH
FWA	: 61	: CALL FORWARD ALL
FWB	: 62	: CALL FORWARD BUSY
FWC	: 60	: CALL FORWARD CANCEL
FWN	: 63	: CALL FORWARD NO ANSWER
GPC	: 66	: GROUP PICK UP
GPS	: *	: SELF GROUP PICK UP
HED	: 69	: HEADSET
HLD	: 11	: HOLD
IOG	: 53	: IN / OUT GROUP
LNR	: 19	: LAST NUMBER REDIAL
MPG	: 56	: MEET ME PAGE
MSA	: 43	: MESSAGE ANSWER
MSC	: 42	: MESSAGE CLEAR
MSL	: 41	: MESSAGE LEFT
OPR	: 0	: OPERATOR
PAG	: 55	: PAGE
REC	: 18	: DISA VOICE RECORDING
SDI	: 15	: SPEED DIAL INSERTION
SNR	: 17	: SAVED NUMBER REDIAL
SPD	: 16	: SPEED
SGR	: 500-519	: STATION GROUP
STN	: 2XX	: STATION NUMBER
TRK	: 7XX	: TRUNK NUMBER
TGR	: 9, 80~89	: TRUNK GROUP
UPC	: 67	: UNIVERSAL NIGHT ANSWER
VAC	: 48	: VACANT MESSAGE

RELATED MMC

ALL PROGRAM AND FEATURES

MMC 71 SYSTEM KEY PROGRAMMING

Description:
Allows for the customising of programmable keys on a system-wide basis.

Action	***Display***
1. Press **AUTO RDL** and dial **71**	TYPE: NX24
2. Press **LINE1** or **LINE2** to select the type of the keyset:	TYPE: NX12
3. Press the desired key OR Press **RDL** or **CONF** to select desired key. (e.g. 13)	13:NONE
4. Enter the key programming via keypad. Trunk number, Trunk Group number, Station number, Station Group number, or feature number can be programmed keys If you want to program a feature key, you must press '*' key Before entering the feature key ID (e.g. NIT : *26) Programmable key assignments are listed below (Default Data) If you want to change another key, return to step 3	13:*26
5. Press **AUTO RDL** to save and exit.	

DEFAULT DATA

NX-24E/NX-24B					
19: 209	20:210	21: 211	22: 212	23: 213	24: 214
13: 203	14: 204	15: 205	16: 206	17: 207	18: 208
07: 705	08: 706	09: 707	10: 208	11: 201	12: 202
01: 701	02: 702	03: 703	04: 704	05: FLS	06: TRN

NX-6B					
01: 701	02: 702	03: 703	04: 704	05: FLS	06: TRN

SKP-816						
09: 201	17: 209		01: 701	02: 702	03: 703	04: 704
10: 202	18: 210		05: 705	06: 706	07: 707	08: 708
11: 203	19: 211					
12: 204	20: 212					
13: 205	21: 213					
14: 206	22: 214					
15: 207	23: 215					
16: 208	24: 216					

NX-AOM	
01: NONE	13: NONE
02: NONE	14: NONE
03: NONE	15: NONE
04: NONE	16: NONE
05: NONE	17: NONE
06: NONE	18: NONE
07: NONE	19: NONE
08: NONE	20: NONE
09: NONE	21: NONE
10: NONE	22: NONE
11: NONE	23: NONE
12: NONE	24: NONE

MMC 71

Programmable Key Assignment

*00 :	**ACC**	Account code
*01 :	**ALM**	Set Alarm
*02 :	**AMD**	Answer Mode
*03 :	**ARD**	Auto Redial
*04 :	**BRG**	Barge-In
*05 :	**CBK**	Callback
*06 :	**CMP**	Camp-on
*07 :	**CNF**	Conference
*08 :	**DND**	Do Not Disturb
*09 :	**DOR**	Door
*10 :	**DPC**	Direct Pickup
*11 :	**EXC**	Boss/Secretary
*12 :	**FAT**	Forced Auto Answer
*13 :	**FLS**	Flash
*14 :	**FWA**	Call Forward All
*15 :	**FWB**	Call Forward Busy
*16 :	**FWE**	External Call Forward
*17 :	**FWN**	Call Forward No answer
*18 :	**GPC**	Group Pickup
*19 :	**HED**	Headset mode
*20 :	**IOG**	Group In/Out
*21 :	**LNR**	Last Number Redial
*22 :	**LSN**	Group Listening
*23 :	**MPG**	Meet Me Page
*24 :	**MSG**	Message
*25 :	**MUT**	Mute
*26 :	**NIT**	Night mode
*27 :	**OPR**	Operator group
*28 :	**PAG**	Page
*29 :	**PSE**	Pause Dialing
*30 :	**SNR**	Saved Number Redial
*31 :	**SPD**	Speed Dialing
*32 :	**TMR**	Timer
*33 :	**TRN**	Transfer
*34 :	**UPC**	UNA Pickup
*35 :	**VAC**	Vacant Message

NOTE : : The SPD, VAC, PAG, DOR, EXC, DPC and GPC keys can be assigned with extenders. Refer to MMC 16 KEY EXTENDER.

RELATED MMC

MMC 16 KEY EXTENDER
MMC 72 STATION KEY PROGRAMMING

MMC 72 STATION KEY PROGRAMMING

Description:
Allows for the customising of programmable keys on specific electronic keysets. This program also provides a tool for duplicating keysets (so that each has the same key format structure). A limitation is that copied and target sets must be the same type of keyset.

Action	***Display***
1. Press **AUTO RDL** and dial **72**	201 CPY FROM:
2. If you want to copy from another station key assignment, enter the station number(e.g. 202)	201 CPY FROM: 202
Press **LINE1/LINE2** to select the station	201 01:701
3. Press the desired key OR Press **RDL or CONF** to select desired key	201 13:NONE
4. Press dial pad key number to make selection. If you want to change another key, return to step 3	201 13:*10702
5. Press **AUTO RDL** to save and exit	

DEFAULT DATA

Same as MMC 71

RELATED MMC

MMC 16 KEY EXTENDER
MMC 72 STATION KEY PROGRAMMING

MMC 73 KEY TEST

Description:
Allows you to check whether each key works properly.

Action	***Display***
1. Press **AUTO RDL** and dial **73** All LEDs light and station rings Display sets show the full matrix pattern for 16 characters	¡á¡á¡á¡á¡á¡á¡á¡á¡á¡á¡á¡á¡á¡á
2. Press each function button and dial pad key to test its operation (e.g. 2)	DIGIT2::
3. Lift the handset and end testing	

DEFAULT DATA

NONE

RELATED MMC

NONE

MMC 80 I/O PARAMETER

Description:
Provides a mean of setting parameters for the serial I/O ports (COM1 and COM 2) to work with SMDR and Remote MMC. COM1 and COM2 may be found on the SMDR/R-MMC card. COM1 is the SMDR port and COM2 is R-MMC port on the card. COM1 is used as SMDR or TRAFFIC port and COM2 is used for remote programming.

PARAMETER	OPTIONS
TYPE OF SERVICE	SMDR, REMOTE, TRAFFIC
REMOTE STN	REMOTE only
BAUD RATE	300, 600, 1200, 2400, 4800, 9600 BPS
CHARACTER LENGTH	7 BIT, 8 BIT
PARITY	NO PARITY, EVEN PARITY, ODD PARITY
STOP BIT	1 BIT

Action ***Display***

1. Press **AUTO RDL** and dial **80** — COM1:9600 8 NONE
2. Press **LINE1,LINE2** to select the serial port (COM1, COM2)
3. Press **RDL** or **CONF** to select the parameter you want — COM1:4800 8 NONE
4. Press **MUTE/DND** or **MSG** to select the data — COM1:4800 7 ODD
5. Press **AUTO RDL** to save and exit

DEFAULT DATA

COM1 : 9600 8 NONE
COM2 : 9600 8 NONE
COM1 : XON OFF : ON
COM2 : XON OFF : ON
SMDR : COM1
TRAFFIC : COM1
REMOTE : COM2 STN : NONE

NOTE : 'XON OFF' means whether the system checks the CTS pin of the serial port. 'REMOTE STN' means the port displaying the Remote MMC procedure. When remote programming is in progress, it is not possible to access this port.

RELATED MMC

NONE

MMC 81 SMDR OPTION

Description:

Allows the system administrator to select the information to be printed on the SMDR report. The following options may be selected.

OPTIONS	DESCRIPTIONS
PAGE HEADER	Determines whether or not a page header will print at the top of each page. This feature is normally turned off if SMDR is sent to a call accounting machine.
LINE PER PAGE	Selects the length of each page to determine when to print the SMDR header. The number of lines is in the range 10-99.
INCOMING CALL	Determines whether incoming calls will print on SMDR.
AUTHORIZE CODE	Determines whether the table number of authorisation codes will print on SMDR.
LESS START TIME	Determines whether valid calls will include the minimum call time in total call duration.
ALARM	Determines whether stations receiving an alarm reminder call will print on SMDR.
COMPANY NAME	Allows the system administrator to enter a 16-character name which will appear on the SMDR header.

Action ***DISPLAY***

1. Press **AUTO RDL** and dial **81**

PAGE HEAD:YES

2. Press **LINE1** or **LINE2** to select the parameter you want (e.g. LINE PER PAGE)

LINE PER PAGE:66

3. Press **MUTE/DND** or **MSG** to select data
   OR
   Using KEYPAD, dial
   0 for NO
   1 for YES
   For LINE PER PAGE, enter the line number(10-99)
   For COMPANY NAME, refer to MMC 14 (STATION NAME)

4. Press **AUTO RDL** to save and exit

DEFAULT DATA

PAGE HEADER : YES
LINE PER PAGE : 66
INCOMING CALL : NO
AUTHORIZE CODE : YES
LESS START TIME : NO
ALARM : NO
COMPANY NAME : NONE

RELATED MMC

MMC 80 I/O PARAMETER

MMC 83 CALL TRAFFIC REPORT

Description:
Used to print a traffic report. Four types of printing are available and each type has two options.

NO.	TYPE	DESCRIPTION
0	NO	No print
1	NOW	Printed on demand
2	DAILY	Printed at the end of day automatically (PM 12:00)
3	WEEKLY	Printed at the end of week automatically (PM 12:00 on Saturday)

NO.	OPTIONS	DESCRIPTION
0	CLEAR	A report is printed and all totals are reset to 0
1	SAVE	A report is printed and all totals are saved

Action ***Display***

1. Press **AUTO RDL** and dial **83** — PRINT : NO

2. Press **MUTE/DND** or **MSG** to select type you want — PRINT : WEEKLY
   OR
   Using KEYPAD, dial
   0 for NO
   1 for NOW
   2 for DAILY
   or **3 for WEEKLY** (e.g. 3)

3. Press **LINE1** or **LINE2** and dial — DATA: SAVE
   0 for CLEAR,
   or **1 for SAVE** (e.g. 1)

4. Press **AUTO RDL** to save and exit

DEFAULT DATA : PRINT : NO
DATA : SAVE

RELATED MMC : MMC 80 I/O PARAMETER

MMC 90 CUSTOMER USE MMC

Description:
Allows the customer to have access to certain MMCs. For example, it is advised that the customer have access to MMC 11, Call Forward, for call forwarding but it is not advised that the customer have access to MMC 60, Toll Deny for toll restriction.

Action ***DISPLAY***

1. Press **AUTO RDL** and dial **90**. | 00:STN LOCK : YES

2. Press **LINE1** or **LINE2** to select the MMC you want. | 00:STN LOCK : NO
   OR
   Using KEYPAD, enter the desired MMC number.

3. Press **MUTE/DND** or **MSG** to make selection. | 01:STN CODE: YES
   (NO = Customer cannot access the MMC)

4. Press **AUTO RDL** to save and exit.

DEFAULT DATA

00:STN LOCK :YES	20:PGM MODE :NO
01:STN CODE :YES	21:PGM CODE :YES
10:ANS MODE :YES	22:CUS MISC :YES
11:CALL FWD :YES	23:PAGE ZONE :NO
12:STN MISC :YES	24:BARGE IN :NO
13:RING FREQ :YES	25:HOT WARM :YES
14:STN NAME :YES	26:ALM CLK :YES
15:DATE FORM :YES	27:VAC MSG :YES
16:KEY EXTEN :YES	28:CALL DISC :NO
17:STN SPD :YES	30:STN COS :NO
	31:TRK USE :NO
	32:INTERCOM :NO
	33:DOOR RING :NO

34:PICK GRP :NO
35:STN GRP :NO
36:BOSS SECR :YES
37:SET AOM :NO
38:SLT TYPE :NO
39:DATA LINE :NO
40:PBX LINE :NO
41:TRK DIAL :NO
42:TRK MISC :NO
43:TRK RING :NO
44:TRK NAME :NO
45:TRK GRP :NO
46:DISA LINE :NO
47:SET MPD :NO
50:SYS TIME :NO
51:TONE CADE :NO
52:SYS CNTR :NO
53:TRK TIME :NO
54:MAKE RATE :NO
55:DATE TIME :YES
56:NITE TIME :YES
57:CALL COST :NO

60:TOLL DENY :NO
61:TOLL ALOW :NO
62:PBX CODE :NO
63:AUTH CODE :NO
64:URGENT CD :NO
65:WILD CHAR :NO
66:SPD TOLL :NO
67:SYS SPD :YES
70:NUM PLAN :NO
71:SYS KEY :NO
72:STN KEY :NO
73:KEY TEST :NO
80:IO PARA :NO
81:SMDR OPT :NO
83:TRFC RPT :YES

RELATED MMC

NONE

MMC 91 SYSTEM VERSION

Description:
Provides a display of the current software version of the KSU and the keyset, and the date when product was made. This is a READ-ONLY MMC.

Action	***Display***
1. Press **AUTO RDL** and dial **91.**	KSU:V1.0 EKTS:01
2. Press **LINE1** or **LINE2** to select the display you want.	MADE:1996.01.01
3. Press **AUTO RDL** to and exit.	

DEFAULT DATA

SOFTWARE VERSION AND PRODUCT BUILD DATE

RELATED MMC

NONE

MMC 92 PORT STATUS

Description:
Displays the status of a port. There are 16 status types: IDLE, BUSY, CALLBACK, DOOR RING, TRK RING, STN RING, GRP RING, RCL RING, PROGRAM, ON T HOLD, ON S HOLD, ON E HOLD, IS PAGED, IS SEIZED, WRAP UP, OFF HOOK.

Action	***Display***
1. Press **AUTO RDL** and dial **92**.	[702] IDLE
2. Press **LINE1** or **LINE2** to see the status of the port.	[702] BUSY
If you want to clear the port's status, press **HOLD**	[702] IDLE
3. Press **AUTO RDL** to save and exit.	

DEFAULT DATA

IDLE

RELATED MMC

NONE

MMC 93 SELECTION LANGUAGE

Description:

Used to select the language that is displayed in the LCD. The languages available are listed below with their entry numbers.

ENTRY NUMBER	LANGUAGE
1	ENGLISH
2	SPANISH
3	PORTUGUESE

NOTE : English is displayed in LCD, when you are in MMC mode.

Action	***DISPLAY***
1. Press **AUTO RDL** and dial **93**.	ENGLISH
2. Press **MUTE/DND** or **MSG** to select the language. OR Using KEYPAD, dial **1 for ENGLISH** **2 for SPANISH** or **3 for PORTUGUESE.**	SPANISH
3. Press **AUTO RDL** to save and exit.	

DEFAULT DATA

ENGLISH

RELATED MMC

NONE

MMC 94 HALT PROCESS

Description:
Used only in the event that all data processing needs to be stopped.
A 4-digit technician's passcode is required to access this MMC. This MMC doesn't interfere with the call in progress, but when making a new call you will hear a busy tone.

Action	***Display***
1. Press **AUTO RDL** and dial **94.**	PASSCODE:
2. Enter technician's passcode	PASSCODE:****
3. Press **MUTE/DND** or **MSG** to select data. OR Using KEYPAD, dial **0 for PROCESSING** or **1 for HALT** (e.g. 0)	PROCESSING
4. Press **AUTO RDL** to save and exit.	

DEFAULT DATA

PROCESSING

RELATED MMC

NONE

MMC 95 SYSTEM RESTART

Description:

Provides two methods of restarting the system.

OPTIONS	DESCRIPTION
RESET SYSTEM	It will restart the system only.
CLEAR MEMORY	It restart the system and clear all memory. If clear all memory is selected, only the default data will return.

WARNING

Extreme care should be taken when using this MMC. If the system is restarted, all voice/data connections are dropped. If memory is cleared, all customer data is deleted and the system returns to default status.

Action	***DISPLAY***
1. Press **AUTO RDL** and dial **95**.	PASSCODE:
2. Enter the technician's passcode	RESET SYSTEM?
3. Press **LINE1** or **LINE2** to select the option. (e.g. CLEAR MEMORY)	CLEAR MEMORY?
4. Dial 0 for NO or 1 for YES If you selected CLEAR MEMORY you are asked to confirm your choice: Dial **0 for NO** or **1 for YES**	ARE YOU SURE?

DEFAULT DATA

NONE

RELATED MMC

NONE

APPENDIX

Appendix A
Remote Programming

Remote programming capability has been incorporated into the NX-828H via the communication (serial) R-MMC port of the optional SMDR/R-MMC card mounted on the base unit. This port is fixed as a programming port only. The remote programming capability of the NX-828H can be used to add, delete or modify a customer database. While remote programming gives added flexibility to the NX-828H, it is not possible to upload to, or download from, a disk or tape. All NX-828H MMCs may be accessed via remote programming.

1. Site Requirements
1.1 Customer Site Requirements

Before using remote programming:

- Install the optional NX-SMDR/R-MMC card in the base unit.
- Use MMC 80 to set the baud rate of the R-MMC port of the optional NX-SMDR/R-MMC card to match the customer site's modem. Baud rate speed selections are 300, 600, 1200, 2400, 4800 and 9600. (8 Data bit, No parity, 1 stop bit is default.)
- Use MMC 80 Remote Station option: When remote programming is used, it must reference an installed NX24E keyset at the customer site. This assigned keyset will be disabled for the duration of the remote programming session. When remote programming is not in use, this assigned keyset will function as a normal keyset. No default data has been set and a keyset port selection should be made that will offer the minimal inconvenience at the job site.

  NOTE : There are no physical connections to be made between keyset and modem or keyset and communications port. The assigned keyset is used as a software reference point only.

A customer-provided modem and cable must be connected to the R-MMC port.

- Use a voice grade dial-up line on which the modem can be called.

1.2 Remote Site Requirements

- A personal computer (PC) with communications software that can emulate VT 102 terminal.

  NOTE : Since communication software can vary, no assurance can be made that every communications software package available will work.

- An internal or external modem able to match baud rate speed with the modem at the customer site.

¡Ù A voice grade dial-up line to call the customer modem.

1.3 Begin Programming

Dial the customer modem number and establish a communications link with the customer site. Once communications have been established, press the TAB key on the PC keyboard and you will receive the NX-828H system header display (shown below).

```
                WELCOME TO NX SERIES REMOTE PROGRAM
              ----------------------------------------

                CUSTOMER    :
                DATE        :  Sat,01 , Jan
                TIME        :  00:02
              ----------------------------------------
                TRANSFER    :  TAB
                SPEAKER     :  RETURN
                UP/DOWN     :  UP/DOWN
                REDIAL/FLASH:  LEFT/RIGHT
                HOLD        :  BACKSPACE

        PROGRAM CODE:
```

If you receive a "SORRY!DESTINATION PORT IS BUSY" display, the keyset assigned as the remote station in MMC 80 is currently busy and no remote programming can be done at this tim e. When the NX-828H system header is displayed, you can enter MMC 20, type the necessary passcode to open programming and begin the remote programming session.

1.4 Progrmming Protocol

The NX-828H will only recognise keystrokes on the PC keyboard that have been assigned as an NX-keyset equivalent. These keystrokes are fixed and are not programmable. Use the PC equivalent in place of the NX24E key as called for in MMC programming procedures. These keystrokes are described below. Dial pad numbers may be entered using the standard number keys of the PC keyboard or the number pad on the right-hand side of the PC keyboard (if equipped).

CAUTION : Do NOT use MMC 73 or 95 (Clear Memory option) while in remote programming. Defaulting the system will clear all necessary data needed for remote programming. Someone at the customer site will be needed to assign the necessary data for remote programming to work.

2. On-site Programming Via PC Terminal

On-site programming via a PC terminal has been incorporated into the NX-828H via the communication (serial) R-MMC port on the optional SMDR/R-MMC card mounted in the base unit. This port is fixed as a programming port only. The on-site programming capability of the NX-828H can be used to add, delete or modify a customer database. While on-site programming gives added flexibility to the NX-828H, it is not possible to upload to or download from a disk or tape. ALL NX-828H MMCs may be accessed via on-site programming.

2.1 On-site Requirements

Before on-site programming can be used:

¡Ù Install the optional SMDR/R-MMC card in the base unit.

¡Ù Use a customer-provided PC terminal with communications software that can emulate a VT 103 type terminal.

NOTE : Since communications software can vary, no assurance can be made that every communications software package available will work.

¡Ù Use MMC 80 to set the baud rate, Data bit, Parity bit, and Stop bit of the R-MMC port of the optional SMDR/R-MMC card to match the customer's PC terminal. Baud rate speed selections are 300, 600, 1200, 2400, 4800 and 9600. 8 bit / 7 bit data, No parity / Even parity / Odd parity, and 1 stop / 2 stop bit are selectable.

¡Ù Use MMC 80, Remote Station option: When on-site programming is used, it must reference an installed NX24 keyset at the customer site. This assigned keyset will be disabled for the duration of the on-site programming session. When on-site programming is not in use, this assigned keyset will function as a normal keyset. No default data has been set and a keyset port selection should be made that will offer the minimal inconvenience at the job site.

NOTE : There are no physical connections to be made between the assigned keyset and the communications port. The assigned keyset is used as a software reference point only. If the assigned keyset is a display keyset, it will echo the programming keystrokes from the PC terminal.

¡Ù A customer-provided cable must be connected between the PC terminal and the R-MMC port.

2.2 Begin Programming

Once communications have been established, press the TAB key on the PC keyboard and you will receive the NX-828H header display (shown below). If you receive a "SORRY DESTINATION PORT IS BUSY" display, the keyset assigned in MMC 80 is currently busy and no on-site

programming can be done at this time. When the NX-828H header is displayed, you can enter MMC 20, type the necessary passcode to open programming and begin the on-site programming session.

NOTE : CUSTOMER in the header will display the name assigned in MMC 81.

2.3 Programming Protocol

The NX-828H will only recognise keystrokes on the PC keyboard that have been assigned as an NX24 keyset equivalent. These keystrokes are fixed and are not programmable. Use the PC equivalent in place of the NX24 key as called for in MMC programming procedures. These keystrokes are described below. Dial pad numbers may be entered using the standard number keys of the PC keyboard or the number pad on the right-hand side of the PC keyboard (if equipped).

Appendix B
Database Download

1. Introduction To Database Download Programming

A database download programming capability has been incorporated into the **NX-828** via the communication (serial) **SMDR** port of the optional **SMDR/R-MMC** card mounted in the base unit. This is a software utility designed to allow a certified **NX-828** technician the ability to perform a database download on-site.

1.1 Customer Site Requirements

Certain conditions must be satisfied before installing the software package on a personal computer:

1. Install the optional **NX-SMDR/R-MMC** card in the base unit.
2. Use a 286 or higher IBM-PC or 100% IBM-compatible computer with the following

   ¡Ü **MS-DOS** version 5.0 or higher
   ¡Ü **MS-WINDOWS** version 3.1 or higher
   ¡Ü 3 ¨ù" or 5 ¨ö" high-density floppy drive
   ¡Ü **VGA** monitor.

3. Rs-232C cable

2. Installing Database Downloading

2.1 Getting Started

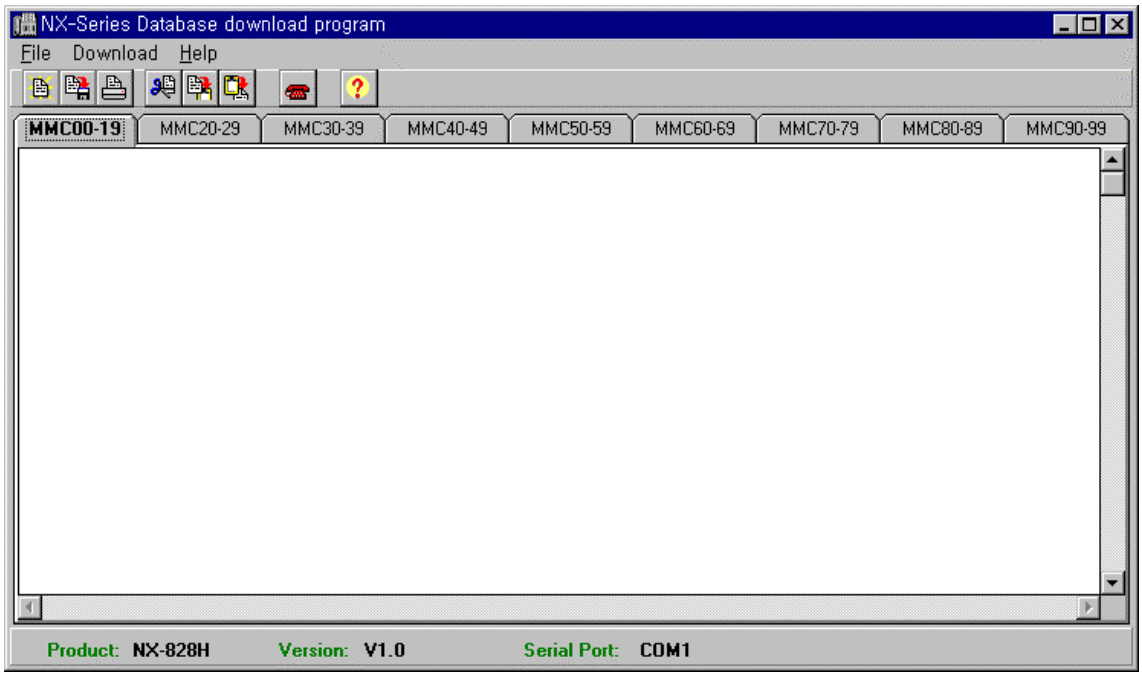
1. Create a directory to store the **DATABASE DOWNLOAD** program.
2. Copy the file to the new directory. The file is compressed and will have a name similar to **NX71229.exe** where **71229** is the date the file was generated.
3. Type **"NX71229"** to uncompress the file or Double-click file name on the file name in the Windows file manager.
4. Double-click on the icon that was created by the install program in the Windows file manager - **"NX_DOWN.EXE"**.

3. Setup of Database Downloading Program

3.1 Starting NX Download Program

1. Connect the cable required (**RS-232C**)
2. Turn on the **PC**.
3. Enter the **DATABASE DOWNLOAD** directory.
4. Double-click on the icon that was created by the install program in the Windows -**"NX_DOWN"**
5. You will see Windows shown below.

Figure 1.1 Main Window



3. 2 Setup Of Database Downloading Program

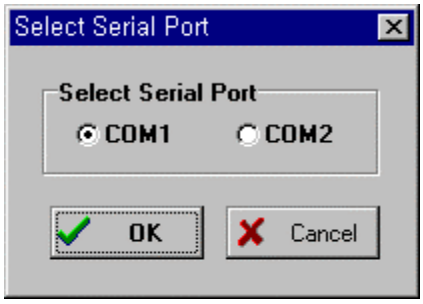
Setup is one of the most important parts of the **DOWNLOAD PROGRAM**. Many problems can result simply from an incorrect connection. The **DATABASE DOWNLOADING** program communicates with the **NX-828** via the COM port in your computer and a port on the **NX-SMDR/ R-MMC** card.
Select the required option and a check mark appears in the check box.

1. Choose Download / Version¡ ¦
2. Select the item in the Product check box
3. Select the item in the Version check box.
4. Select the item in the Country check box(optional)
5. Select OK button.

Figure 1.2 Version & Product Dialog Box

6. Choose Download / Serial Port¡¦
7. Check **COM** port in the Select serial port check box
8. Select OK button.

Figure 1.2 Port dialog box



4. Using database downloading program

4.1 Downloading

1. Choose **DOWNLOAD** / Download to File¡¦.
2. Input file name that will contain the **MMC** data.
3. Select Download button.
4. **"DOWNLOADING**... Press ESC key to cancel" will be displayed on the screen. It will take about 15 minutes to finish database downloading.

NOTE:
If the download fails, recheck the setup as described above and repeat the process.
If the Program stops during downloading, please wait for 5-10 sec, until the program restarts.

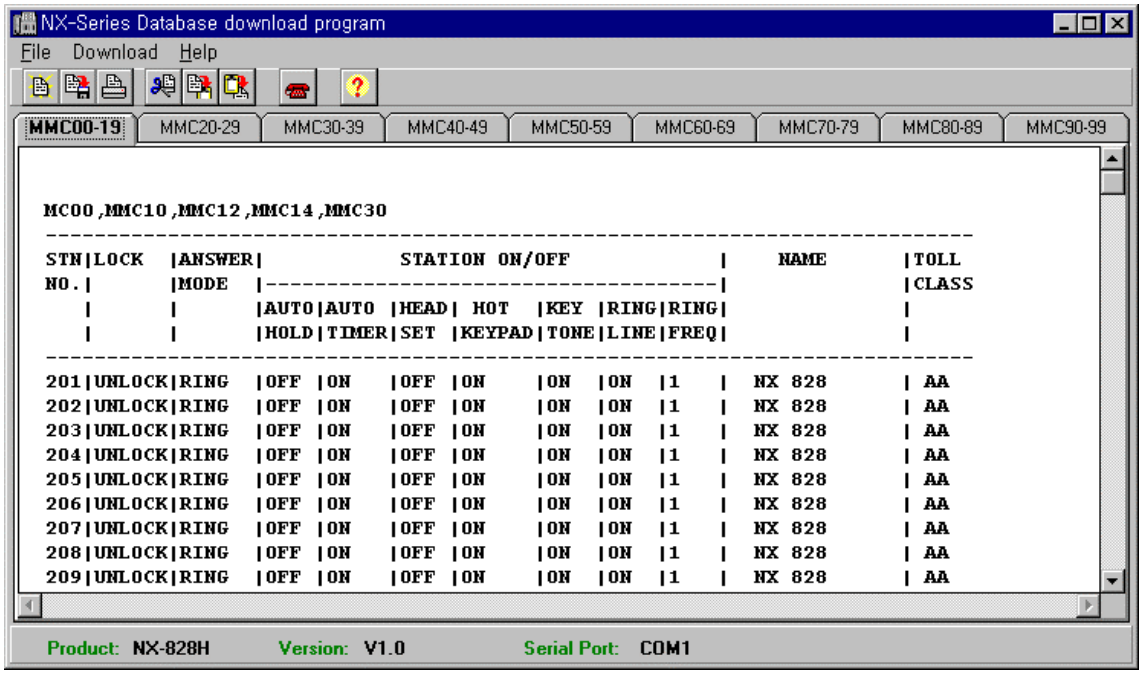
Figure 1.4 Input File name dialog box

4.2 Open file

You can now open the downloaded database file.

1. **Click MMC** page tab that you want to see.
   or
2. You can use another editor e.g.) the built-in DOS editor, Notebook, or another Windows editor.

Figure 1.6 MMC page tab



4.3 Save file

This option saves the downloaded file with another name with the save file option.

4.4 Print file

This option prints the database file that you downloaded

4.5 Help

This option shows the program version

Appendix C

DISA Voice Announcement

1. Automatic Answer for DISA

The system automatically answers an incoming DISA (Direct Inward System Access) call and sends a message, e.g. "This is XXX company. Extension number, please". This facilitates handling of your DISA calls and tells the calling party the status of the called extension by recorded voice message (phrase 2 or 3).

The message is approximately five seconds long (15 seconds in the case of guide information). You can record any message you want.

1. Phrase Configuration

PHRASE	CONTENTS	TIME
1	Guide information	15 sec
2	Busy state	5sec
3	Invalid input	5sec
4	Operator	5sec

NOTE:

1. If the called extension is busy, voice message (phrase 2 and 4) is sent to the calling party.
2. If the digits dialled by the calling party is an invalid number, voice message is sent to the calling party.
3. If you use this function, you should set 'VOICE MESSAGE' to 'ON' in MMC 42.

3. How to Record & Monitor Message

3.1 Recording for Initialisation

1. Dial 18 to display 'RECORD:PLAY ?' in LCD.

2. Press 0, and record phrase 1.

3. After recording phrase 1, play phrase 1 automatically to check it.

4. Display 'RECORDING' in LCD for recording phrase 2.

5. Record phrase 2, and play phrase 2 automatically.

6. Record phrases 3-4 in the same way.

3.2 Recording

1. Dial 18 to display 'RECORD:PLAY ?' in LCD.
2. Select phrase number (1-4) you want to record, and display 'RECORDING' in LCD.
3. Start to record through handset or speaker phone.
4. After recording, you can automatically hear the recorded message.

NOTE: When you first switch on, you should record from phrase 1 to phrase 4 in order.

3.3 Monitoring

1. Dial 18 to display 'RECORD:PLAY ?' in LCD.
2. Select phrase number (5-8) you want to monitor, and display 'PLAYING' in LCD.

You can hear the selected message.

NOTE:

1. In order to change a recorded message, record a new message following procedure (1), so the message will be updated.
2. If you carry out monitoring procedure when no message is recorded, you might hear error tone.
3. You cannot record a message while a message is being played back.
4. If you stop recording prematurely, you can neither record a new message nor monitor a recorded message until the predetermined record time elapses.
5. The above procedures specify 18 to be dialled for recording. It is possible that this number might have been changed

Appendix D

1. External Forward

If you want to use FWE(External Call Forward) function, you must do the following steps.

1.1 Make a "FWE" key in programmable key using MMC 71 or MMC 72
1.2 Make a key extender for "FWE" key.
- extender number should be 00 ~ 99(speed dial list no.)

1.3 Store speed dial number to the speed list assigned in "FWE" extender.
- If you make a "FWE00" key, then you must store the speed number for speed list "00".

1.4 Press "FWE" key, then External Call Forward is setted.

Note) External Call Forward function works only for incoming trunf call.
This means that External Call Forward is C.O to C.O call.
And External Call Forward does not work for group call.
You must assign station number in MMC 43.

Note) Each trunk line must be in for "TRK FWRD" in MMC 42.

Note) If External Call Forward is working, then C.O to C.O call is disconnected after C.O to C.O disconnect time(MMC 50).

BACK-UP DATA SHEETS

NX - 828 SYSTEM

DATABASE FORMS

CUSTOMER NAME : _____

ADDRESS : _____

_____

_____

_____

_____

_____

TELEPHONE NUMBER : _____

DATABASE CONTAINS _____ SHEETS

SYSTEM CONFIGURATION

SYSTEM	EXPANSION B'D

DATA FOR STATION

STATION NO.	LOCK (00)	ANSWER MODE (10)	STATION ON / OFF (12)						NAME (14)	TOLL CLASS (30)
			AUTO HOLD	AUTO TIMER	HEADSET USE	HOT KEYPAD	KEY TONE	RING FREQ.		

COPY AS NEEDED

SHEET _____ OF _____

MMC 11 CALL FORWARD

STATION NO.	DESTINATION			NO ANSWER TIME
	FORWARD ALL	FORWARD BUSY	FORWARD NO ANSWER	

MMC 17 STATION SPEED DIAL

STATION NO.	ENTRY NO.	SPEED DIAL NO.

MMC 21 CHANGE PASSCODE

PASSCODE	

MMC 22 CUSTOMER ON/OFF

STATION NO.	BGM	DND	DOOR	HUNT	MIKE	PAGE USE	PAGE RECEIVE	SMDR

COPY AS NEEDED

SHEET _____ OF _____

MMC 23	PAGE ZONE											
ZONE	ENTRY											

MMC 24	BARGE-IN
OPTION :	
STATION NO.	BARGE-IN CLASS

MMC 25	HOT / WARM LINE	
STATION NO.	DESTINATION	WARM LINE DELAY TIME

MMC 26	ALARM REMINDER		
STATION NO.	ALARM NO.	ALARM TIME	DAY/DALY

MMC 27	VACANT MESSAGE
MESSAGE NO.	MESSAGE

COPY AS NEEDED

MMC 31			TRUNK USE
STATION NO.	TRUNK NO.	DIAL	ANSWER

MMC 32		INTERCOM USE
STATION NO.	DESTINATION STATION	USE

MMC 33		ASSIGN DOOR RING
DOOR NO.	DAY	NIGHT

MMC 34		PICKUP GROUP
GROUP NO.	MEMBER ID	STATION NO.

PICKUP GROUP NO.				

THE MAXIMUM NUMBER OF PICKUP GROUP IS 10.

COPY AS NEEDED

MMC 35 STATION GROUP

STATION GROUP NO. :								
RING	OVEFLOW TIME		TRSF. TIME		OVERFLOW PORT		TYPE	
NUMBER								

THE MAXIMUM NUMBER OF STATION GROUP IS 20.

MMC 36 BOSS / SECRETARY

SECRETARY	BOSS 1	BOSS 2

MMC 37 ADD-ON MODULE

AOM	MASTER	AOM	MASTER	AOM	MASTER

MMC 38 SLT DIALING TYPE

STATION NO.	TYPE	STATION NO.	TYPE

MMC 39 DATA LINE

STATION NO.	VOICE / DATA	STATION NO.	VOICE / DATA

COPY AS NEEDED

MMC 40 C.O PBX LINE

TRUNK NO.	CO/PBX	TRUNK NO.	CO/PBX

DATA FOR TRUNK LINES

TRUNK NO.	DIAL TYPE (41)	TRUNK ON / OFF (22)					ASSIGN RING (43)		NAME (44)
		1A2EMUL	FORWARD	PAGE RING	TOLL FREE	VOICE MSG	DAY	NIGHT	

MMC 45 TRUNK GROUP

MODE	:							
GROUP NO.	:							
MEMBER	:							

THE MAXIMUM NUMBER OF TRUNK GROUP IS 11.

MMC 46 ASSIGN DISA LINE

TRUNK NO.	DISA OPTION	VOICE MSG (42)

MMC 50			SYSTEM TIMERS		
TIMER	RANGE		DEFAULT		NEW
ALM R INT	1~250	sec	025S	sec	
ALM R DUR	1~250	sec	010S	sec	
ARDL INT	1~250	sec	045S	sec	
ARDL REAL	1~250	sec	045S	sec	
CBACK NOA	1~250	sec	030S	sec	
CO CO DIS	1~250	min	010MI	min	
DISA FDG	1~250	sec	025S	sec	
DISA IDG	1~250	sec	025S	sec	
DISA RING	1~250	sec	030S	sec	
DOOR RELS	100~2500	ms	1500MS	ms	
DOR R OFF	1~250	sec	030S	sec	
FIRST DGT	1~250	sec	025S	sec	
HOOK OFF	100~2500	ms	0200MS	ms	
INTER DGT	1~250	sec	025S	sec	
MMC OUT	10~250	sec	030S	sec	
OFF R INT	1~250	sec	015S	sec	
PAGE MAX	1~250	sec	020S	sec	
RCAL DISC	1~250	ms	002MI	ms	
RCAL RING	0~250	sec	015S	sec	
RCAL WAIT	0~250	sec	015S	sec	
RCAL HOLD	0~250	sec	045S	sec	
RCAL TRSF	0~250	sec	045S	sec	
SLT F MIN	10~2500	ms	0100MS	ms	
SLT F MAX	10~2500	ms	0400MS	ms	
SMDR PULAS	1~250	sec	030S	sec	
SMDR DTMF	0~250	sec	015S	sec	

MMC 51	TONE / RING CADENCE			
TONE/RING	ON	OFF	ON	OFF

COPY AS NEEDED

SHEET _____ OF _____

MMC 52	SYSTEM WIDE COUNTER
OPTION	COUNTER

MMC 53			TRUNK WIDE TIMER		
TIMER	RANGE		DEFAULT		NEW
CLEARING	1~25	sec	00	sec	
CO SUPV	100~2500	ms	0000	ms	
F DGT DLY	100~2500	ms	1000	ms	
FLASH PBX	100~2500	ms	0600	ms	
MFS ON TM	100~2500	ms	0100	ms	
MF OFF TM	100~2500	ms	0100	ms	
NEW CALL	100~9900	ms	2000	ms	
NO RING	1~250	sec	05	sec	
PAUSE TM	1~250	sec	003	sec	
RNG DETCT	100~2500	ms	0200	ms	

MMC 54		MAKE / BREAK RATIO	
MAKE :		BREAK :	

MMC 56		ASSIGN AUTO NIGHT TIME
TABLE TYPE :		
SUB-TABLE NO.	DAY	NIGHT

MMC 57	CALL COST
UNIT COST :	

MMC 60 TOLL DENY TABLE / APPLY

ENTRY	APPLY				ENTRY	APPLY			
	B	C	D	E		B	C	D	E

MMC 61 TOLL ALLOW TABLE / APPLY

ENTRY	APPLY				ENTRY	APPLY			
	B	C	D	E		B	C	D	E

MMC 62 PBX ACCESS CODE

PBX NO.	CODE	PBX	CODE

MMC 63 AUTHORIXATION CODE

NO.	CODE	CLASS	NO.	CODE	CLASS

COPY AS NEEDED

SHEET _____ OF _____

MMC 64 OVERRIDE TABLE

NO.	CODE	NO.	CODE	NO.	CODE

MMC 65 WILD CHARACTER

X :		Y :		Z :	

MMC 67 ASSIGN SYSTEM SPEED DIAL

NO.	SPEED DIAL NO.	NO.	SPEED DIAL NO.

MMC 70 DIAL NUMBERING PLAN

ENTRY	ACCESS CODE	ENTRY	ACCESS CODE	ENTRY	ACCESS CODE

MMC 71 / 72 KEY PROGRAMMING

NX-24E/NX-24B					
19:	20:	21:	22:	23:	24:
13:	14:	15:	16:	17:	18:
07:	08:	09:	10:	11:	12:
01:	02:	03:	04:	05:	06:

NX-6B					
01:	02:	03:	04:	05:	06:

SKP-816						
09:	17:		01:	02:	03:	04:
10:	18:		05:	06:	07:	08:
11:	19:					
12:	20:					
13:	21:					
14:	22:					
15:	23:					
16:	24:					

NX-AOM	
01:	13:
02:	14:
03:	15:
04:	16:
05:	17:
06:	18:
07:	19:
08:	20:
09:	21:
10:	22:
11:	23:
12:	24:

MMC 80 IO PARAMETER

COM1	COM2	XON OFF		SMDR	REMOTE		TRAFFIC
		COM1	COM2		PORT	STN	

MMC 81 SMDR OPTION

PAGE HEADER	LINE PER PAGE	INCOMING CALL	AUTHORXE CODE	LESS START TIME	ALARM	COMPANYNAME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