SAMSUNG

NX-308

PROGRAMMING & INSTALLATION MANUAL

SAMSUNG TELECOMS

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Publication Information

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Introduction

This manual provides (i) a general description of, (ii) procedures to install or connect features of, and (iii) instructions for programming, the Samsung electronics key/hybrid system NX-308.

Samsung Telecoms recognises there are as many installation practiced as there are telephone systems. The procedures in the installation section refer to the preferred method of connecting to a main distribution frame **(MDF)** provided by your installer.

Combining the enclosed instructions with proven installation practices will keep the NX-308 telephone system working for many years to come.

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GENERAL
DESCRIPTION

System Overview

System Operation

NX-308 system is a stored-program-controlled electronic key/hybrid telephone system ready to use as soon as it is turned on. A powerful 8031 microprocessor operating at 11.059 MHz digitally controls all speech paths and system functions. The operating program with default memory is stored in non-volatile ROM, 27512. Customer data is stored in RAM, 62256, and protected by a Ni-Cd battery for up to thirty days' continuous loss of system power. When AC power is restored, the Ni-Cd battery is recharged.

There is a maximum capacity of three (3) telephone lines and eight (8) stations of which six (6) stations can be easily selected as keysets and single line telephones.

Comprising only a key service unit (KSU), electronic keysets and conventional single line telephones, NX-308 offers small business users flexibility and control of telephone communications.

System Configuration

NX-308 system comprises a KSU, proprietary electronic keysets, conventional single line telephones, proprietary door phones, and conventional additional feature equipment. The plastic-cased KSU provides all the powerful features itself, making for easy, convenient installation and maintenance.

The KSU is equipped to operate three (3) telephone lines and eight (8) stations. Stations from #1 to #2 are assigned for electronic keysets; stations from #3 to #8 are assigned to be used with either single line telephones or keysets.

NX - 308 is a fully non-blocking system.

Circuit Type	Location Number
Electronic Keyset	Station #1 to #8
Single Line Telephone	Station #3 to #8
C.O./PBX Line (loop start)	Trunk #1 to #3

System Hardware

Key Service Unit (KSU)

The KSU is a single-cabinet, wall-mounted, plastic-cased unit measuring 420mm (H) x 300mm (W) x 84mm (D), and weighing 4.5 kg. It contains the following assemblies:

- **Power Supply** - provides all the regulated DC voltages necessary for system operating from 220V AC power. Also contains a charge/discharge circuit for 24V external battery back-up connections and ring generator for conventional single line telephones.

- **Base Board** - the main printed circuit board that contains CPU memory, common control, and switching circuitry. Provides interfaces for telephone lines 1 through 3, stations 1 through 8, and these additional features:

  Music on hold & background music source
  External paging
  Power fail transfers for lines 1 through 2
  One door phone with lock release contact
  Also contains memory back-up battery and real-time clock.

Stations 1-2 for keysets, and stations 3-8 for keysets or single line telephones, are switch-selected.

Door Phone/Room Monitor

This is an optional wall-mounted unit containing a call button, microphone and speaker. It connects to the KSU via two pair twisted wiring and does not take up a C.O. line or station position. Only one is allowed per system.

The door phone provided by Samsung Electronics is commonly used for all Samsung key/hybrid telephone systems. Other types cannot operate with these systems.

A door lock release unit may be connected to operate together with the door phone. To install the unit, refer to the *Installation* section of this manual.

Telephones

Two types of telephone sets can be connected to the NX-308 system: proprietary electronic keysets and conventional single line telephone sets.

The NX-308 24 Button Display keyset has the following standard features plus a large, easy to read, one-line, 16-character liquid crystal display.

Standard Features

- Full speakerphone capability.

- Keyset comes as a desk model with reversible base wedge and handset clip for wall mounting at no extra cost.

- Handset and base cord connectors are designed with strain relief channels for longer cord life and more static-free connections.

- 46 buttons configured as follows:

  12 dial buttons (from 0 to #)

  3 C.O. line buttons with red and green LED indications

  8 DSS/BLF (1-8) buttons that also function as eight personal speed dial buttons

  8 speed dial buttons (9-16)

  15 feature buttons:
  Door Phone - DOOR
  Call Pick-up - PICKUP
  Group Listening - GRP.LISTEN
  Internal Page - INT.PAGE
  Attendant - ATTENDANT
  Alarm/Speed dial - ALM/SD
  Message - MSG
  Conference - CONF
  External Page - PAGE
  Speaker - SPK
  Last number redial - RD
  Mute/Do Not Disturb - MUTE/DND
  Hold - HOLD
  Auto-Redial
  Call-Back.

- Two +/- push button volume selectors on front of keyset.

- Convenient pull-out tray under keyset for directory information.
- All Samsung handsets are fully hearing aid compatible.

Conventional Telephones

Any industry-approved single line telephone using one pair (two wire) tip and ring circuitry may be connected to a single line station port in the system. The ringer equivalency of any such phone must not exceed 1 or damage to the system may result.

Specifications

System Capacity

3 C.O./PBX Lines (Loop Start)
8 Stations:
        - up to eight keysets
        - up to six single line telephones
3 Internal Speech Paths
1 Audio Channel for System Tones
1 Audio Channel for Music (Internal Melody or External Source)
1 Door Phone with Lock Release Contact
Automatic Power Failure Transfer Circuits, 2 Telephone Lines
1 External Page

Power Specifications

AC Input:	220 VAC at 50/60 Hz
Voltage Range	180 - 260 VRMS
Power Consumption:	40 Watts maximum
Max Current Draw:	1.0 AMP
Ring Generator:	80 VRMS 20 Hz
Battery Back-up Supply:	24 VDC batteries rating not less than 6 AH but not more than 40 AH

Environmental Limits

Operating Temperatures:	0° - 45^oC (18° - 25^oC recommended)
Operating Humidity:	10 - 90% (without condensation)

Cable Requirements

Electronic Set:	2 pair twisted, 400m 24AWG maximum
Single Line Telephone:	1 pair twisted, 400m 24AWG maximum
Door Phone:	2 pair twisted, 100m 24AWG maximum

Physical Dimensions & Weights

Key Service Unit:	400 mm H x 300 mm W x 82 mm D, 4.5 kg
Keyset:	230 mm H x 195 mm W x 82 mm D, 1.0 kg
Door Phone:	130 mm H x 98 mm W x 28 mm D, 0.2 kg
External Music Source Input:	Impedance 600 ohms, 350 mV
External Amplifier Output:	Impedance 600 ohms, 1.24 VRMS

Audible and Visual Indications

LED Indications

L E D	*Status*	*Line Status*
C.O. line red (green/red)	OFF	Idle
	Flashing green every 0.5s	On hold your station
	Flashing red every 0.5s	On hold other station
	Flashing green every 0.1s	Incoming call
	Steady red	In use other station
	Steady green	In use your station
Intercom LED (red)	OFF	Idle
	Flashing every 0.5s	Station is on hold
	Flashing every 0.1s	Station calling
	Steady ON	Busy

Progress Tones

Tone	*Status*
Dial tone	Continuous
Busy tone	0.5 sec On, 0.5 sec OFF
Ring back tone	1 sec ON, 2 sec OFF
Transfer tone (conference tone/ confirmation)	0.2 sec ON, 0.2 sec OFF
Not used tone	0.5 sec ON, 2.5 sec OFF - When the seized trunk line is not real
Confirm tone	2 sec ON, once - When a call reservation is made
Burst tone	0.2 sec ON, 0.2 sec OFF, three times, **keyset only** (keyset ring) - In Diagnostic, a button is pressed

Ringing Signals

C.O. line ring	1 sec ON, 2 sec OFF
Station ring	0.4 sec ON, 0.2 sec OFF, 0.4 sec ON, 2 sec OFF
Door phone ring	0.2 sec ON, 0.2 sec OFF
Alarm ring	0.5 sec ON, once, **keyset only** - A station rings when busy

INSTALLATION

Installation Requirements

Site Planning

- Select a KSU location that has enough space for easy installation, is well ventilated and has adequate lighting.

- Select a KSU location to minimise station cable lengths. Maximum cable length is 400 metres using AWG 24 cable for telephones.

- Equipment should not be exposed to direct sunlight, corrosive fumes, dust, constant vibration or strong magnetic fields such as motors, copying machines, etc.

- A direct commercial AC power outlet is required. **Do not use an extension cord**.

- 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 within a temperature range of 0° - 45^oC and a humidity range of 10% - 90% (without condensation).

- Do not install equipment within a 2-mile radius of a broadcasting antenna.

Electrical Specifications

Input:	Commercial AC POWER source: 220V AC 50/60 Hz Single Phase
Output for driving:	28 V max 0.4 A DC 22 V min 0.4 A DC
Current draw:	Maximum 1 AMP
Power dissipation:	Maximum 40 Watts
Fuse:	Main power fuse 1 AMP, 250 V rating, slow acting Battery fuse 3 AMP, 250 V rating, slow acting

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WARNING

For continued protection against risk of fire, replace only with same type and rating of fuse

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PSTN BOARD

MEMORY BOARD

POWER BOARD
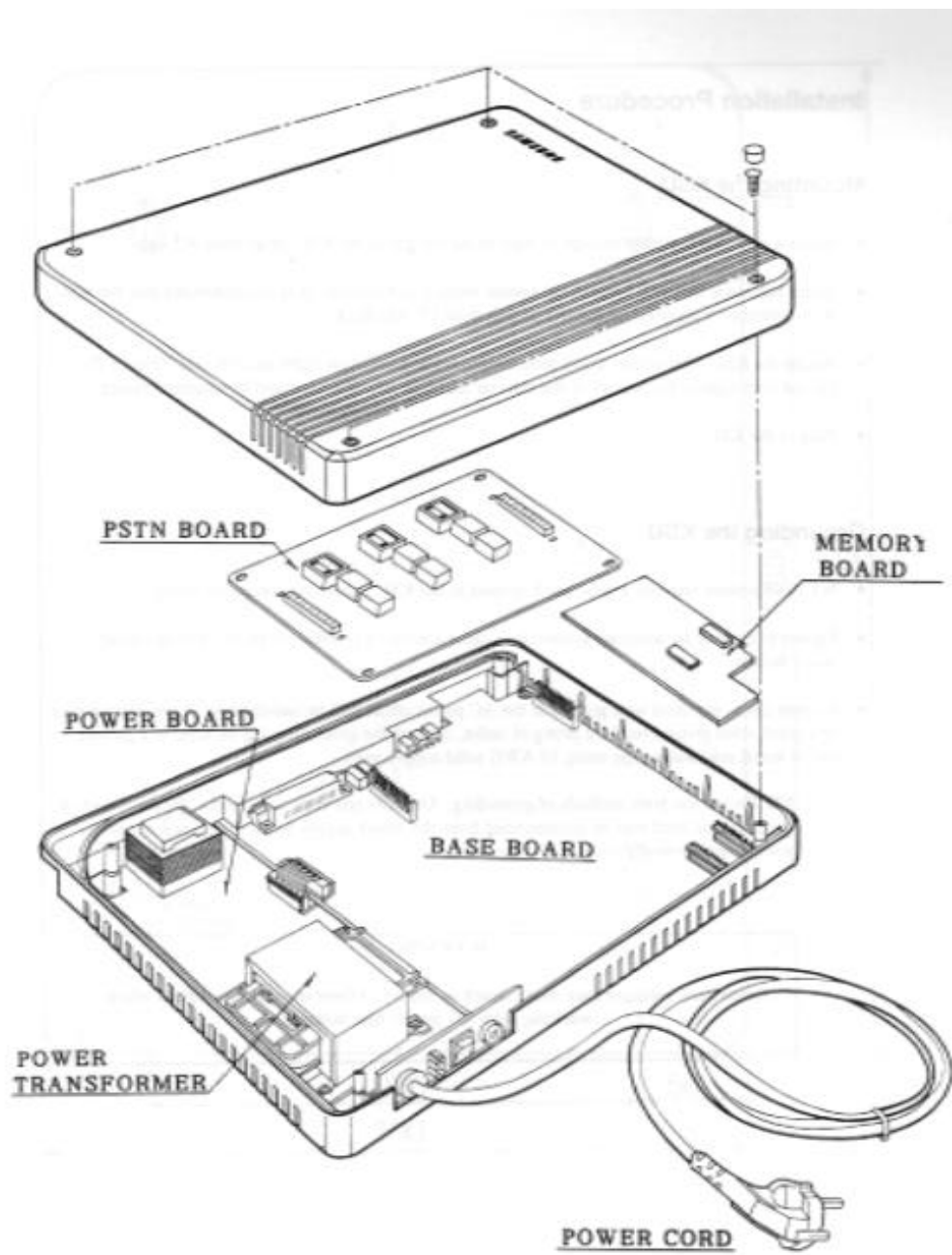
BASE BOARD

POWER TRANSFORMER

POWER CORD

Figure 1 - KSU Layout

Installation Procedure

Mounting the KSU

- Select a wall that is strong enough to support the weight of the KSU (maximum 4.5 kg).

- Select hardware that will support the system when it is mounted. It is recommended that the KSU be mounted on a plywood backboard no less than 1.5 mm thick.

- Secure the KSU with screws using mounting holes in flanges on right and left sides (Figure 2). Do not over-tighten the screws or the slots on lefthand side of KSU could be squeezed closed.

- Plug in the KSU.

Grounding the KSU

- NX - 308 system requires a solid earth ground to the KSU frame (maximum 50 ohms).

- Failure to provide an adequate ground may cause confusing trouble symptoms or even circuit board failure.

- In most cases, the third wire ground at the AC power outlet will be satisfactory. If you are not sure of a good, solid ground on third prong of outlet, connect the grounding lug on KSU to a ground rod or metal cold water pipe using 10 AWG solid copper wire.

    NB: Do not use both methods of grounding. Use only one path to ground. The third wire of the electrical cord may be disconnected from the power supply board then taped and stored, if you connect ground through the other path.

WARNING

Hazardous voltages may cause death or injury. Observe extreme caution when working with AC power line voltage.
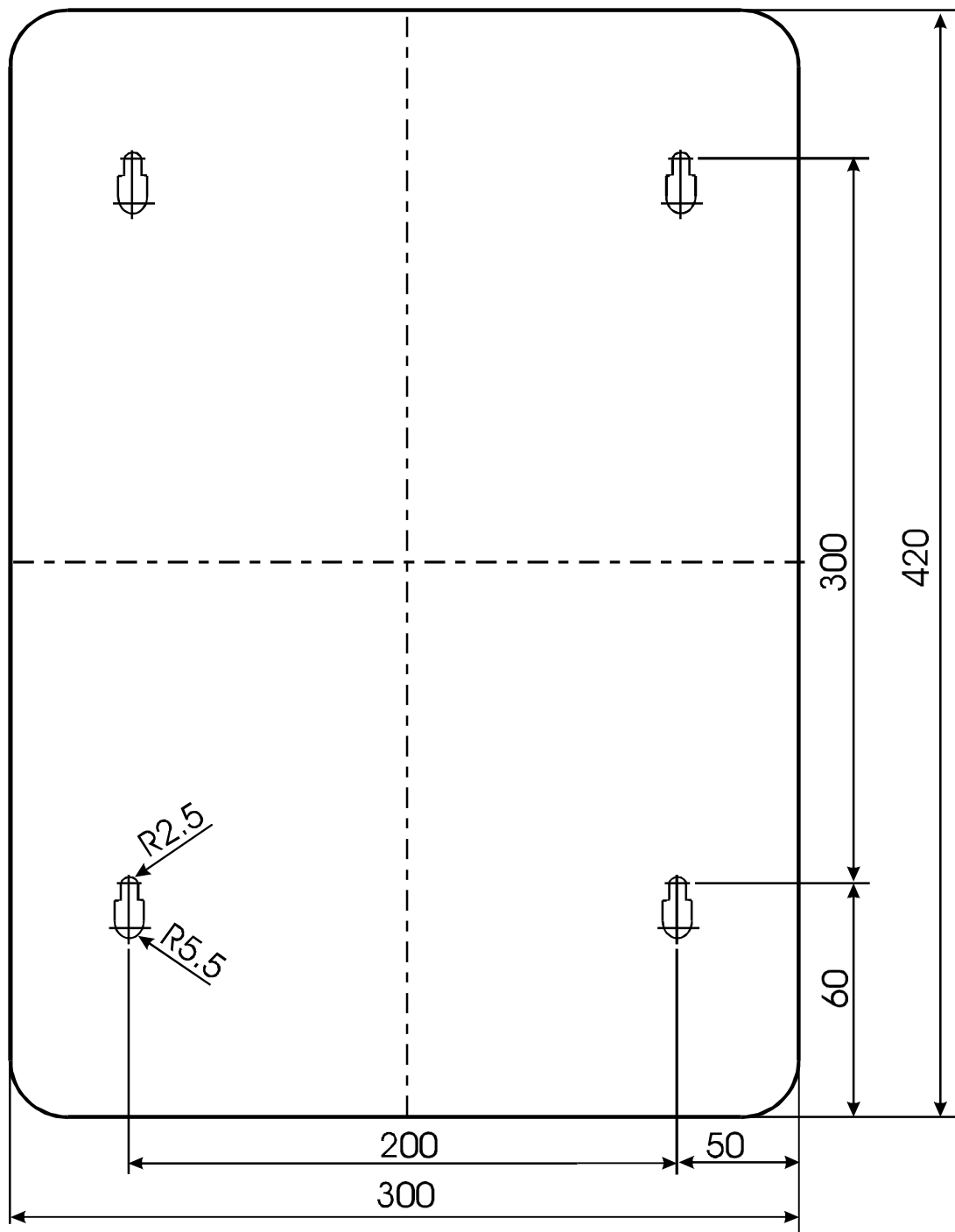

Figure 2 - KSU Dimensions (mm)

Connection Table

The NX-308 system is equipped with a standard Amphenol connector, and its connections are shown in the following table. All the necessary Station connections may be accomplished through this connector.

The PSTN lines are connected to a customer-supplied LJU via the line cords supplied with the system.

Amphenol Connector Pin No.		Colour		LJU Pins		Connections			
26	1	WH	BL	—		Reserved			
27	2	WH	OR			Reserved			
28	3	WH	GR	—		Reserved			
29	4	WH	BR			Reserved			
30	5	WH	SL	—		Ext. Music Source	Tip,	Ring	(No polarity)
31	6	RD	BL			Ext. Page	Data -	Data +	(No polarity)
32	7	RD	OR	4	3	Station 1	Tip,	Ring	(No polarity)
33	8	RD	GR	5	2	(Keyphone only)	Data -	Data +	(Polarity)
34	9	RD	BR	4	3	Station 2	Tip,	Ring	(No polarity)
35	10	RD	SL	5	2	(Keyphone only)	Data -	Data +	(Polarity)
36	11	BK	BL	4	3	Station 3	Tip,	Ring	(No polarity)
37	12	BK	OR	5	2		[Data -	Data +]	(Polarity)
38	13	BK	GR	4	3	Station 4	Tip,	Ring	(No polarity)
39	14	BK	BR	5	2		[Data -	Data +]	(Polarity)
40	15	BK	SL	4	3	Station 5	Tip,	Ring	(No polarity)
41	16	YL	BL	5	2		[Data -	Data +]	(Polarity)
42	17	YL	OR	4	3	Station 6	Tip,	Ring	(No polarity)
43	18	YL	GR	5	2		[Data -	Data +]	(Polarity)
44	19	YL	BR	4	3	Station 7	Tip,	Ring	(No polarity)
45	20	YL	SL	5	2		[Data -	Data +]	(Polarity)
46	21	WH/BL	BL	4	3	Station 8	Tip,	Ring	(No polarity)
47	22	WH/BL	OR	5	2		[Data -	Data +]	(Polarity)
48	23	WH/BL	GR	L1	L2	Door phone	Tip,	Ring	(No polarity)
49	24	WH/BL	BR	P-	P+		GND,	Power	(Polarity - Caution)
50	25	WH/BL	SL	—		Door lock	L1,	L2	(No polarity)

Note: Stations 3 to 8 can be configured as keysets or single line telephones (SLTs).
When connecting SLTs to the system the Data pairs are not required (shown in brackets in the table),
However the Tip and Ring pair need to be connected to LJU Pins 2 and 5.

Figure 3 - KSU Connection Table

Connecting Keysets

Four wires (two pair) twisted cable with a double-sided modular plug and a terminal block are recommended for a keyset connection to the KSU. One end of the terminal block is connected to the MDF via a 50-pin cable, and the other end of the terminal block is connected to a keyset via a double-sided modular plug line (two pair).

Cabling terminal block

LJU	Pin 1	reserved
	Pin 2	Data +
	Pin 3	Voice (Ring)
	Pin 4	Voice (Tip)
	Pin 5	Data -
	Pin 6	reserved

The voice pair has no polarity. However, take care when connecting the data pair because of its polarity. Make sure that the cable run length **does not exceed 400 metres** using 24 AWG wire.

All station cabling must be twisted pair.

Refer to the Amphenol connection table in Figure 3.

Connecting to hybrid station port

The system is equipped with six hybrid station ports which can accommodate keysets or single line telephones. Each port should be selected for use as a keyset or single line telephone. Any of these ports may be used for a keyset station and its connection method is the same as above.

Before cabling, the related DIP switches should be set as follows:

The selection of each hybrid station requires you to move four levers at one DIP switch.

3rd Station	S1	DIP
4th Station	S2	DIP
5th Station	S3	DIP
6th Station	S4	DIP
7th Station	S5	DIP
8th Station	S6	DIP

Each DIP switch comprises four levers which should be set to "K" positions for keyset assignment. These are marked on the board.

Connecting Single Line Telephones

A single or two-pair twisted cable with a double-sided modular plug and a terminal block are recommended for connecting a single line telephone to the KSU. One end of the terminal block is connected to the MDF via a 50-pin cable and the other end is connected to the single line telephone via the twisted modular cable.
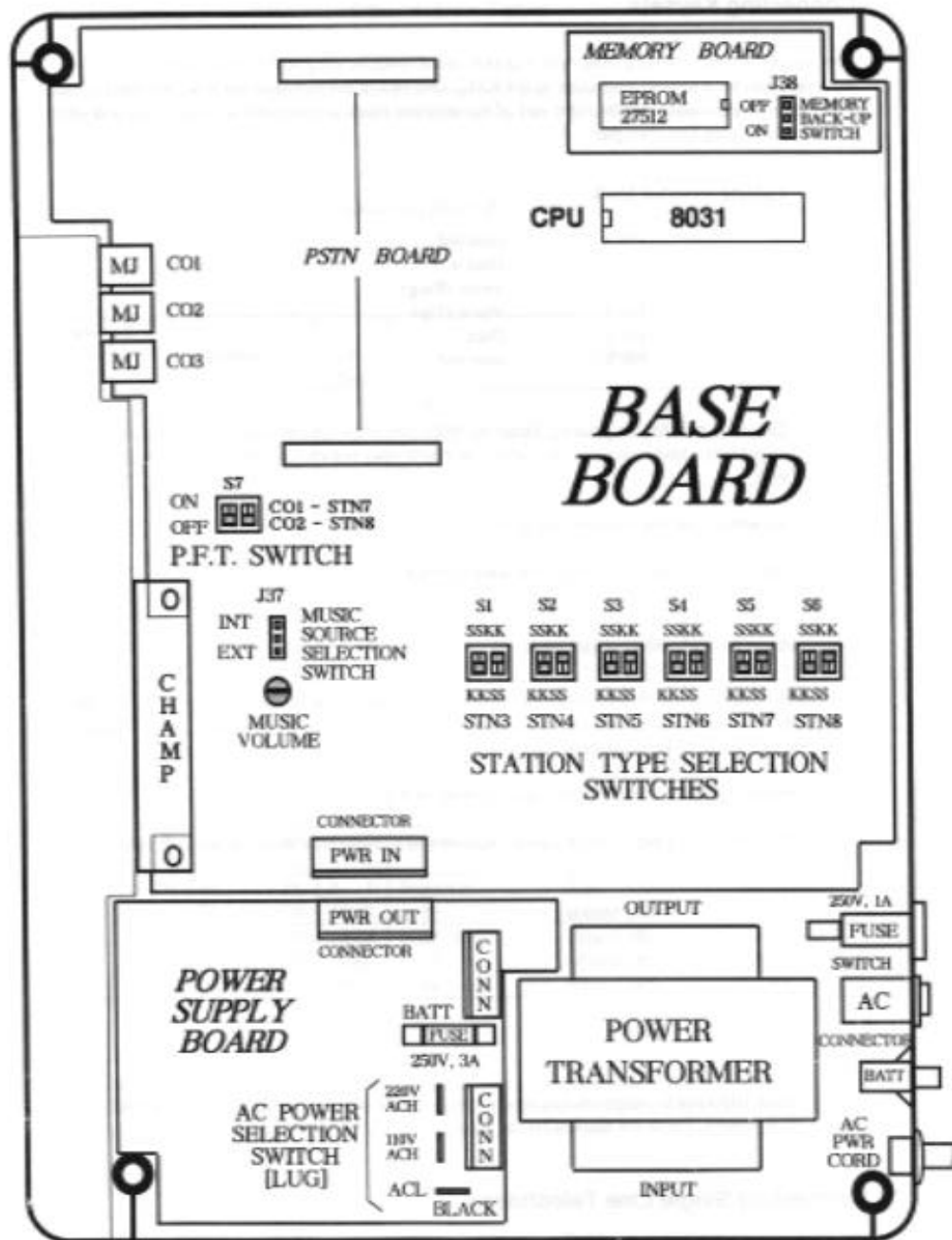
Figure 4 - Base Board Switch Locations

Cabling terminal block

LJU	Pin 1	reserved
	Pin 2	Tip or Ring
	Pin 3	

18

Pin 4
Pin 5   Ring or Tip
Pin 6   reserved

Tip and Ring has no polarity.

Make sure that the length of any cable runs **does not exceed 400 metres** using 24 AWG wire.

Connecting to hybrid station port

The system is equipped with six hybrid station ports which can accommodate keysets or single line telephones. Each ports should be selected for use as a keyset or single line telephone. Any of these ports may be used for a single line telephone station and its connection method is the same as above. Before cabling, the related DIP switches should be set as follows:

The selection of each hybrid station requires you to move four levers at one DIP switch.

3rd Station   S1   DIP
4th Station   S2   DIP
5th Station   S3   DIP
6th Station   S4   DIP
7th Station   S5   DIP
8th Station   S6   DIP

Each DIP switch comprises four levers which should be set to "S" positions for single line telephone assignment. These are marked on the board.

The switch location is shown in Figure 4.

Internal Music Source

NX-308 system is equipped with a melody chip containing six melodies which run continuously:

"La Reine Deo Saba"
"For Elise"
"Santa Lucia"
"Maiden Pray"
"Music Box Dancer"
"Moonlight on the Colorado"

The system has two music sources which may be selected by the related shunt pin, J37, on the base board (Figure 4). Near shunt pin J37 are two identifying marks INT and EXT:

INT position   -   Selection for Internal Music Source
EXT position   -   Selection for External Music Source

Volume levels are adjusted by the variable resistor, RV1, near the shunt pin.

Note: When the customer does not want internal or external music provided, disconnect the external music source and select external music by moving the shunt pin.

External Music Source Connections

NX - 308 system is equipped with an internal melody chip to provide music on hold and background music through the keysets. However, an external music source such as a radio or recorder can be connected to the system.

The system has two music sources which may be selected by the related shunt pin, J37, on the base board (Figure 4).

Near shunt pin J37 are two identifying marks INT and EXT:

INT position	-	Selection for Internal Music Source
EXT position	-	Selection for External Music Source.

Volume levels are adjusted by the variable resistor, RV1, near the shunt pin.

Use one-pair twisted cable, 24 AWG. The external music source can be connected through MDF.

IMPORTANT

When Music On Hold is used it may be necessary for a Performing Rights License to be held. Consult your supplier.

External System Paging Connections

Use one-pair twisted cable, 24 AWG. The external amplifier is connected through the MDF. Refer to the Amphenol connection table in Figure 3.

Ring and Tip terminal for external system paging has no polarity. The output impedance is 600 ohms. If the amplifier input impedance is less than 600 ohms, the output level is reduced.

The output level of the external page circuit is fixed. Volume adjustments must be made at the customer's amplifier.

This external speaker and amplifier may be installed at the system for use by all users. External individual paging is different from this speaker; external individual paging is set up on a keyset basis and can be installed at each keyset.

Connecting Door Phone and Lock Control

NX - 308 system users can communicate with an optional door phone when it is installed.

- Prepare a three-pair twisted cable for the door phone and lock release.

- Connect the voice pair and power pair to the door phone unit. Take care when connecting the power pair because of its polarity.

Connect the third pair to the customer-provided electronic door lock unit for control of the door lock release mechanism. Refer to the Amphenol connection table in Figure 3.

Note: Door lock release control is to be used for low-voltage relay control only. Do not connect to commercial AC power.

Relay maximum rating : 1 AMP, 24 VDC

When the door phone is required by the user, you should install the unit provided by Securicor Telecoms. Any other unit will not work with the system.

The lock release mechanism controls door opening only and does not lock the door. The maximum rating of the control signal connected to the system should be less than the specifications described above.

Connecting PSTN Lines

NX 308 system operates with loop start C.O. lines which have no polarity. Three loop start C.O. or PBX lines can be connected to the system.

To modular
Jack of KSU
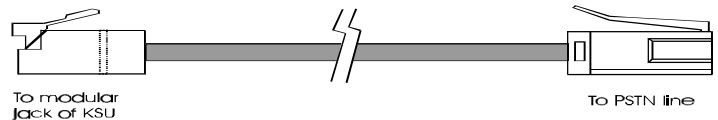
To PSTN line

Telephone company lines should be terminated on an LJU located near the KSU.

Connect PSTN lines to CO1, CO2, and CO3 by connecting the modular plug supplied to the system PSTN modular jack. The other end of the cable should be connected to the LJU.

Cabling PSTN line cord

RJ11 Connector			**BT Connector**
Pin 1	Yellow	TIP	Pin 2
Pin 2	Green		Pin 3
Pin 3	Red		Pin 4
Pin 4	Black	RING	Pin 5

Note that the cable for trunk lines (C.O. or PBX lines) should be isolated from the cables for the stations, preventing signal interference and surge inducement.

Power Failure Transfer

NX-308 system transfers two C.O. lines to the related single line telephones automatically during AC power failure.

The first trunk line and the second trunk line are transferred to the 7th station and 8th station respectively only when the stations are assigned to single line telephones.

Trunk 1	to	Station 7
Trunk 2	to	Station 8

For power failure transfer, you should assign DIP switch S7 on the base board correctly. The DIP switch includes four levers and each telephone line requires two lever adjustments. Set to the ON position to enable this feature (Figure 4).

If a facsimile station is installed at the system, assigning the FAX station to one of these ports is useful because you can receive fax messages regardless of power failure.

AC Power Connection

The system operates with 220 VAC and is equipped with two fuses:

AC Fuse	-	1 AMP, 250 VAC. slow acting
Battery Fuse	-	3 AMP, 250 VAC, slow acting

If failure occurs, replace only with same type and rating of fuse.

Connecting System Back-up Battery

NX - 308 system will continue full operation during AC power failure (or "brown-outs") when a 24V battery supply is connected.

To supply 24 volts, use two 12V batteries or four 6V batteries connected in series. Any battery used must have a rating of not more than 40 AH and not less than 6 AH.

The required connector with red and black leads is supplied with the KSU:

Red lead	=	Plus (+)
Black lead	=	Minus (-)

Power supply circuitry will monitor and recharge batteries as required. A 10 AH battery will keep the KSU and six keysets fully operational for approximately six hours.

WARNING

Take extreme caution when connecting live batteries to avoid personal injury or damage to the system.

Memory Protection

NX - 308 system is equipped with a memory back-up battery that prevents loss of the customer database, stored in RAM, during a power failure. The 3.6 V DC Ni-Cd battery is connected through switch J38 in the top righthand corner of the base board (Figure 4).

This memory back-up is turned off at the factory before shipping to preserve battery life.

Immediately after installation of the KSU, switch J38 to ON. Allow 48 hours of continuous operation to fully charge Ni-Cd battery.

Installing Surge Protection Equipment

The system is equipped with adequate surge protection circuitry at telephone line interfaces and power supply input interfaces.

However, for additional surge protection it is recommended that surge protection equipment is installed.

Before Power On

Before switching the power on, ensure that:

- The KSU is reassembled correctly.

- All cables are correctly connected and that twisted pair cables are used.

- The system is grounded adequately.

- AC power is settled in a valid range.

- AC power selection switch is correctly set according to the installation site or AC outlet.

- All selection switches are correctly set; in particular, memory back-up switch J38 is set to ON.

- AC power switch is OFF.

Plug the power cord into the AC power outlet and switch the system AC power switch to ON.

Ensure that the system works correctly. Otherwise, contact your installer.

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SYSTEM
PROGRAMMING

Levels of Programming

This section provides system programming instructions. Programming can be done at any electronic station port equipped with a display keyset.

There are three levels of programming: Technician, User (Customer) and Station.

All system programming can be accessed by entering a technician's password at any display station. (Only an authorised person can program the features which apply to all stations in the system.)

User programming is intended for customer's use and allows limited access to system programmes via a user-level password. The attendant keyset will use this level of access to enable specific features.

Station programming can be done at any station without a password because these features apply to that station only.

This section describes technician- and user-level programming. Station programming is described in the *NX-308 Keyset User Guide*.

Features operate when the system is turned on because they are factory programmed with default data. You may use the features as factory programmed (default) or change them.

Programming should be done using the following procedures while on-hook.

1. The system must first be set into 'program enable' mode:

    Enter: # → **20** → Password → **0/1** → #

    (where   0 = Programmable Disable

    1 = Programmable Enable)

2. To program each feature:

    Enter # → Program Number → Enter Data → #

Reminder: Set J38 (top righthand corner of base board in Figure 4) to ON before entering customer data. Failure to do so will result in loss of data during a loss of power to the system.

Station Programming

The following features and programs can be accessed by keyset users without a password.

Number	Function
10	Auto answer selection
11	Station call forwarding
17	Ringing line preference

User (Customer) Programming

The following programs can be accessed only by entering a user password.

Number	Function
04	Enable/disable user programming
05	Change user password

45	External call forwarding
55	Date and time
74	Assign headset operation

Technician Programming

The technician-level password allows access to all programming procedures including station and customer programs.

Number	Function
20	Enable/disable technician programming
21	Change technician password
24	Software version display
25	System initialisation
26	Night mode dialling classes
30	Class of service
31	C.O. line access
32	Internal paging
33	Deny codes class of service "B"
34	Allow codes class of service "B"
35	Deny codes class of service "C"
36	Allow codes class of service "C"
37	Allow codes class of service "D"
39	Assign barge-in status (override)
40	Dial 80 group
41	C.O. line incoming/outgoing assignment
42	C.O. line pulse/tone selection
44	C.O. or PBX line selection
45	External call forwarding
46	Private or non-private lines
47	Dial 9 group
49	Forward C.O. lines
50	C.O. flash timing
51	PBX flash timing
52	Hold/camp-on recall time
53	Transfer ring time
54	Alarm time duration
55	Date and time
57	C.O. to C.O. duration timer
59	External call forward timer
60	C.O. line ring mode
61	Night ringing assignment
62	Day ringing assignment
63	Door phone ringing assignment
67	Camp-on tone interval
70	Attendant assignment
71	System speed dial restriction
74	Assign headset operation
**	Toll restriction examples (shown after program number # 37 in this manual)

LCR Programming (Technician)

900	LCR Enable
901	LCR Digit Table
902	LCR Route Table
903	LCR Modify Digit Table

904	LCR Class Of Service
905	Assign PIN Code (Authorisation Code)
906	LCR Inter Digit Time
907	Dial Delay Time
908	Network Code
909	PIN Code
910	Call Cost Code
911	Dial Start Time

Programming Procedures

04   Enable/Disable User Programming

Sets the system into programming enable or disable mode for user-level access. (See the list of programs above.)

1.   Press # key
            PROGRAMMING is displayed.

2.   Dial 04.
            MMC DISABLED or MMC ENABLED is displayed.

3.   Dial four digit password*, then dial:

                        0:      Disable programming
                        1:      Enable programming

4.   Press # key.

(*Default password is 4321.)

Note: Programming mode will automatically time out after a short period of time following the last key sequence.

05   Change User Password

Changes the password for enabling user programming.

1.   Press # key.

2.   Dial 05.
        OLD PASSWORD is displayed.

3.   Enter old password.*
        Display changes to NEW PASSWORD.

4.   Enter new four digit password. (The password cannot include * or #.)

5.   Press # key.

(*Default password is 4321.)

Note: If a user forgets the password, a technician can get into programming using the technician's password.

10   Auto Answer Selection

See *NX-308 Keyset User Guide.*

11   Station Call Forwarding

See *NX-308 Keyset User Guide.*

17   Ringing Line Preference

See *NX-308 Keyset User Guide.*

20   Enable/Disable Technician Programming

Sets the system into programming enable or disable mode for technician-level access. This enables you to access user programs also.

1.   Press # key while on-hook.
        PROGRAMMING is displayed.

2.   Dial 20.
        MMC ENABLED or MMC DISABLED is displayed.

3.   Enter password.
        Default is 1234. If wrong password is entered, display shows ERROR and program mode
        is not entered.

4.   Dial 1 to enter program mode or make another selection as follows:

                0:      System program disable
                1:      System program enable
                4:      12-hour clock
                5:      24-hour clock

5.   Press # key.

Note: The system automatically leaves programming mode if no data is entered within four minutes.

21   Change Technician Password
(Does not require MMC enabled)

The technician's password can be changed as follows:

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 21.
        OLD PASSWORD is displayed.

3.   Enter the current password.
        NEW PASSWORD is displayed.

        If the wrong password is entered, display will show ERROR and program mode is not
        entered.

4.   Enter new password.

5.   Press # key.

(Press HOLD key to clear entry and enter new data.)

Note: A 4-digit password is composed of any of 0-9 on the dial keys and 1-6 on the DSS keys. DSS keys 1-6 represent A, B, C, D, E and F, respectively. Loss of RAM memory will reset the password to default value 1234.

24   Software Version Display
(Does not require MMC enabled)

Provides a display of the current software version of the KSU and keyset.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 24.
        VERSION is displayed.

3.   Enter password.
        Display shows KSU version and KTS version.

4.   Press # key.

25   System Initialisation
(Does not require MMC enabled)

Allows you to initialise the system without turning system power on and off.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 25.
        INITIAL SYS? is displayed.

3.   Enter password.

4.   Enter one of three digits:

                0 = No initialisation
                1 = Initialisation of scratch pad data in RAM
                2 = Initialisation of scratch pad data and battery backed-up data in RAM (takes
                approximately 15 seconds)

5.   Press # key.

26   Night Mode Dialling Classes

Sets all stations to a specific call restriction class for after-hours service (Night Mode Operation).

1.   Press # key.
        PROGRAMMING is displayed.

2. Dial 26.
NIGHT TOLL is displayed and then the current data indicating class of dialling.

3. Enter technician-level password.

4. Enter digit.

> 0 = Same as day mode operation
> 1 = All stations class B
> 2 = All stations class C
> 3 = All stations class D
> 4 = All stations class E

5. Press # key.

(Default: 0)

30 Class Of Service

Assigns an individual dialling class of service to each station.

1. Press # key.
PROGRAMMING is displayed.

2. Dial 30.
Display shows STATION TOLL CALL followed by eight digits, each of which indicates the class of service of each station.*

> 0 = Class A: No Restriction
> 1 = Class B: Follows allow/deny table for class B
> (programs # 33, # 34)
> Deny table has a priority over allow table
> 2 = Class C: Follows another allow/deny table for class C
> (programs # 35, # 36)
> 3 = Class D: Follows allow table for class D
> (program # 37)
> 4 = Class E: Intercom call only

3. Enter all eight digits to set class of service for each station.

4. Press # key.

(*Default: All Class A – 00000000)

31 C.O. Line Access

Designates which stations have access to C.O. lines on a station by station basis.

1. Press # key
PROGRAMMING is displayed.

2. Dial 31.
TRUNK ACCESS is displayed.

3. Press DSS key of station to be programmed.

4.   Display shows extension number followed by three digits indicating allow or deny status for each line.*

5.   Enter 0 or 1 for each line.
      One digit must be entered for each of the three C.O. lines:

              0 = Deny
              1 = Allow

6.   Press # key.

(* Default: 111 for all stations.)

32   Internal Paging

Allows or denies receipt of an internal page for stations.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 32.
      Display shows ENABLE ALL CALLS followed by eight digits indicating allow or deny status for each station.*

3.   Enter 0 or 1 for all eight stations.

              0 = Deny
              1 = Allow

4.   Press # key.

(*Default: 1 (allow) for all stations.)

33   Deny Codes for Class of Service B

Defines what leading digits in a dialling plan are to be restricted. There are 10 line entries (0-9) which define up to 12 digits per entry.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 33.
      Display shows DENY IN CLASS B.

3.   Enter 0 - 9 to select line entry.
      'BD x' is displayed, where x is line entry 0 - 9.

4.   Enter up to 12 digits to be restricted.

5.   Press # key.

(Press HOLD key to clear entry and enter new data.)

34   Allow Codes for Class of Service B

Defines what leading digits in a dialling plan are to be allowed. There are 10 line entries (0-9) which define up to 12 digits per entry.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 34.
        Display shows ALLOW IN CLASS B.

3.   Enter 0 - 9 to select line entry.
        'BA x' is displayed, where x is line entry 0 - 9.

4.   Enter up to 12 digits allowed for dialling.

5.   Press # key.

(Press HOLD key to clear entry and enter new data.)

35   Deny Codes for Class of Service C

Defines what leading digits in a dialling plan are to be restricted. There are 10 line entries (0 - 9) which define up to 12 digits per entry.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 35.
        Display shows DENY IN CLASS C.

3.   Enter 0 to 9 to select line entry.
        'CD x' is displayed, where x is line entry 0 - 9.

4.   Enter up to 12 digits to be toll restricted.

5.   Press # key.

(Press HOLD key to clear entry and enter new data.)

36   Allow Codes for Class of Service C

Defines what leading digits in a dialling plan are to be allowed. There are 10 line entries (0 - 9) which define up to 12 digits per entry.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 36.
        Display shows ALLOW IN CLASS C.

3.   Enter 0 to 9 to select line entry.
        'CA x' is displayed, where x is line entry 0 - 9.

4.   Enter up to 12 digits to be allowed.

5.   Press # key.

(Press HOLD key to clear entry and enter new data.)

37   Allow Codes for Class of Service D

Defines what leading digits in a dialling plan are to be allowed. There are 10 line entries (0 - 9) which define up to 12 digits per entry.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 37.
        Display shows ALLOW IN CLASS D.

3.   Enter 0 to 9 to select line entry.
        'DA x' is displayed, where x is line entry 0 - 9.

4.   Enter up to 12 digits to be allowed.

5.   Press # key.

(Press HOLD key to clear entry and enter new data.)

Toll Restriction Examples

NX-308 programming provides for all eight stations to be assigned an individual class of dialling. There are five classes (see program # 30). Because class A has no restrictions and class E cannot make outside calls, these require no additional programming. However, classes B, C and D must be assigned, in other programs, the digits they are allowed or restricted from dialling.

Classes B and C have a deny list assigned to each. Class D is intended for stations with limited outside calling requirements and which therefore can only dial what is in their allow list. Each of these allow or deny lists has 10 entries (0 - 9) with a maximum of 12 digits in each entry. Toll restriction is configured as follows:

	CLASS B		CLASS C		CLASS D
	DENY LIST	ALLOW LIST	DENY LIST	ALLOW LIST	ALLOW LIST
	Prog # 33	Prog # 34	Prog # 35	Prog # 36	Prog # 37
	0 - 9	0 - 9	0 - 9	0 - 9	0 - 9

Example 1 :   Class of service B phones need to dial 1-800 numbers, 1 plus 7 digits and local calls. They are to be restricted (denied) 0 + calls, 976, and 1 + any area code + 7 digits.

You would program this as follows:

        # 33 Deny Class B   # 34 Allow Class B

        Entry 0=0   Entry 0=1800
        Entry 1=1*0
        Entry 2=1*1

34

Entry 3=976

Example 2 :   Class of service C phones need to dial 1 + A/C + 7 digits, 1-800, and local calls.
They are to be denied 1-900, 976, 1-A/C-976, 0 + calls, and 411 calls.

You would program this as follows:

35 Deny Class C   # 36 Allow Class C

Entry 0=0
Entry 1=1900
Entry 2=976   (No Entries Required)
Entry 3=1***976
Entry 4-411

Example 3 :   Class of service D phones need to dial 911 for emergencies only.
Program # 37, Entry 0 = 911.

Notes:
1.   '*' indicates any digit dialled.
2.   Exceptions to a deny entry are listed in the allow table.
3.   Pressing the HOLD button will enter the letter "E". This means end of dialling - no more
digits are allowed.

39   Assign Barge-in Status (Override)

Allows individual stations the ability to barge-in on (override) an existing conversation. Note that a
level 3 or 2 cannot barge-in on a level 2 or 0 if the station they are talking to is a level 3 or 1.

1.   Press # key.
PROGRAMMING is displayed.

2.   Dial 39.
Display shows ASSIGN BARGE-IN followed by the current data for all eight stations.*

3.   Enter 0, 1, 2 or 3 for all stations.

3:     You can barge-in / nobody can barge in on you
2:     You can barge-in / others can barge in on you
1:     You cannot barge-in / nobody can barge in on you
0:     You cannot barge-in / others can barge in on you
4.   Press # key.

(*Default: 00000000)

40   Dial 80 Group

Allows individual C.O. lines to be added to or removed from the line group that is accessed by dialling
"80".

1.   Press # key.
PROGRAMMING is displayed.

2.   Dial 40.
DIAL 80 GROUP is momentarily displayed followed by three digits representing the status
of the three C.O. lines.*

3.   Enter new data for all three lines.

                    0 = Not in group
                    1 = In group

4.   Press # key.

(*Default: 000)

Note: A line cannot be in more than one group.

41   C.O. Line Incoming/Outgoing Assignment

Assigns the C.O. lines as incoming only, or incoming and outgoing.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 41.
        Display shows INCOMING TRUNK followed by three digits, each of which indicates current
        status of each line.*

3.   Enter 0 or 1.

                    0 = Incoming / Outgoing
                    1 = Incoming only

4.   Press # key.

(*Default: 000)

42   C.O. Line Pulse/Tone Selection

Defines which C.O. lines are to be assigned as Tone or Pulse Dialling.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 42.
        Display shows TRUNK DIAL TYPE followed by three digits, each of which indicates current
        status of each line.*

3.   Enter 0 or 1 for all three C.O. lines.

                    0 = Pulse mode
                    1 = DTMF mode

4.   Press # key.

(*Default: 111)

44   C.O. or PBX Line Selection

Defines which lines are directly connected to telephone company (C.O.) or PBX line.

1.   Press # key.

PROGRAMMING is displayed.

2.   Dial 44.
       Display shows C.O. or PBX TRUNK followed by three digits, each of which indicates
       current status of each line.*

3.   Enter 0 or 1 for all three outside lines.

              0 = PBX line
              1 = C.O. line

4.   Press # key.

(*Default: 111)

45   External Call Forwarding

Designates the C.O. line that can be call forwarded to another outside telephone number.

1.   Press # key.
       PROGRAMMING is displayed.

2.   Dial 45.
       Display shows FORWARD LINE SET.

3.   Enter 0 (deny) or 1 (allow) for each incoming C.O. line to be forwarded.

4.   Press # key

(Default: 000)

Note: See program # 59.

46   Private or Non-Private Lines

Assigns each C.O. line for private or non-private use. Lines set for non-private use work like 1A2
operation. (Maximum of three additional parties may access line already in use.)

1.   Press # key.
       PROGRAMMING is displayed.

2.   Dial 46.
       Display shows PRIVACY or NONE and then PRIVACY: 0 NONE: 1. One second later the
       current data is displayed.*

3.   Enter new data (up to three digits) for each C.O. line.

4.   Press # key.

(* Default: 000)

47   Dial 9 Group

Allows individual C.O. lines to be added to or removed from the line group that is accessed by dialling
9.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 47.
      DIAL 9 GROUP is momentarily displayed followed by three digits representing the status
      of all three C.O. lines.*

3.   Enter new data for all three lines.

            0 = Not in group
            1 = In group

4.   Press # key.

(*Default: 111)

Note: A line cannot be in more than one group.

49   Forward C.O. Lines

Used to set C.O. lines to follow or not to follow station call forwarding.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 49.
      C.O. LINE FORWARD is momentarily displayed followed by three digits representing the
      current status of each C.O. line.*
3.   Enter the new data for all three lines.

                0 = Will not follow station call forward
                1 = Will follow station call forward

4.   Press # key.

(*Default: 000)

50   C.O. Flash Timing

Defines the length of a flash on the C.O. line.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 50.
      C.O. FLASH TIME is displayed, then 'xxxx MSEC' is displayed.*

3.   Enter four digits of flash time in compliance with C.O. requirements.

4.   Press # key.

(* The flash time (xxxx) ranges from 0 ms to 0500 ms (in 100 ms steps). Default is 0100 ms.)

51   PBX Flash Timing

Defines the length of a flash for a line defined as a PBX line.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 51.
      PBX FLASH TIME is displayed, then 'xxxx MSEC' is displayed.*

3.   Enter four digits of new flash time.

4.   Press # key.

(*The PBX line flash time (xxxx) ranges from 0 ms to 5000 ms (in 100 ms steps). If the entered data is over 5000 ms, 5000 ms is entered into memory. Default is 100 ms.)

52   Hold / Camp-on Recall Time

Defines the length of time that a C.O. line is allowed to be on hold or camped-on before it recalls the station.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 52.
      Display shows HOLD RECALL TIME followed by three digits.*

3.   Enter three digits of new recall time.

4.   Press # key.

(* The recall time ranges from 0 s to 200 s. A value of 200 s indicates that the timer setting is indefinite, i.e. timer does not expire. Default is 30 s.)

Note: If the telephone is off-hook during the recall mode, the telephone will ring as soon as the telephone goes on-hook.

53   Transfer Ring Time

Defines the length of time that a transferred call will ring at a station before it recalls the original station.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 53.
      Display shows TRSF RECALL TIME followed by three digits.*

3.   Enter three digits of new transfer recall time.

4.   Press # key.

(* The transfer recall time ranges from 0 s to 200 s. A value of 200 s indicates that the timer setting is indefinite, i.e. timer does not expire. If the entered value is over 200 s, an error message is given. Default is 30 s.)

54   Alarm Time Duration

Defines the duration of the ringing signal when using alarm feature.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 54.
        Display shows ALARM RING TIME and then preset alarm time duration is displayed.*

3.   Enter three digits of new alarm ring time.

4.   Press # key.

(* The alarm time duration ranges from 0 s to 200 s. A value of 200 s indicates that the timer setting is indefinite, i.e. timer does not expire. If the entered value is over 200 s, an error message is given. Default is 10 s.)

55   Date and Time

Allows you to adjust the date and time.

1.   Press # key.
        PROGRAMMING is displayed.

2   Dial 55.
        Display shows YY MM DD W HH MM and then current data is displayed.

3.   Enter new data successively.

                        YY: Last 2 digits of year
                        MM: Month of year (01-12)
                        DD: Day (01-31)
                         W: Weekday
                                1=Monday
                                2=Tuesday
                                3=Wednesday
                                4=Thursday
                                5=Friday
                                6=Saturday
                                7=Sunday
                        HH: Hour (24-hour clock)
                        MM: Minutes (00-60)

4.   Press # key.

Note: If 12-hour clock is desired, program time in 24-hour clock (military time) in this program. Then change to 12-hour clock in program # 20. Failure to do so will result in an incorrect change in day of week display.

57   C.O. to C.O. Duration Timer

Defines the length of time for an external call forward connection. The connection between C.O. lines will automatically be dropped when this timer expires.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 57.

40

Display shows CO/CO CALL TIME and three digits of timer length.*

3.   Enter three digits of time duration.
4.   Press # key.

(* Default: 000 minutes. If set at 000, the system requires a DISCONNECT CLEAR signal from the line provider to clear the lines after a call is terminated. It is recommended that an 800 msec clear signal is provided.)

Note: Recalls to operator will be automatically disconnected if not answered before this timer expires.

59   External Call Forward Timer

When program # 45 has one or more lines set for external call forward, use program # 59 to delay the forwarding feature. This will allow the customer time to answer the line before it is externally forwarded.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 59.
      EXT DLY TIME is displayed momentarily, then the current timer value 'xxx SEC'.*

3.   Enter three digits of new delay time in range 0 to 200 seconds. (A value of 200 s indicates that the timer setting is indefinite, i.e. timer does not expire.)

4.   Press # key.

(*Default: 30 s)

60   C.O. Line Ring Mode

Assigns an incoming ring mode for each C.O. line.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 60.
      Display shows TRUNK RING MODE.

3.   Press desired C.O. line button and current ring mode is displayed.

4.   Enter new data for that line.*

              0 = Individual ring mode
              1 = Conditional ring mode
              2 = Unconditional ring mode
              3 = Distributed ring mode.

5.   Press # key.

6.   Repeat for each line in the system.

Individual ring mode:

An incoming line will ring the first non-busy station in the order defined in program # 61 for night mode and program # 62 for day mode. If all stations are busy, off-hook ringing is sent to the first station programmed for the line ringing group (refer to programs # 61 and # 62).

Conditional ring mode:
An incoming line will ring all stations that are idle for that line ringing group.

Unconditional ring mode:
An incoming line will ring stations as defined in a line ringing group whether they are active or idle.

Distributed ring mode:
Allows multiple stations to share the incoming call load by ringing the first station with a call and then ringing the next station assigned to ring with the next call, etc.
(Default: 2, Unconditional ring mode.)

61   Night Ringing Assignment

Defines which phones ring on a per-line basis when the system is in night mode.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 61.
        Display shows NITE RING ASSIGN.

3.   Press the C.O. line button to be programmed for night ring mode. C.O. line number and
        previously assigned station numbers are displayed.*
4.   Press the DSS key of each station that is to ring in night mode.

5.   Press # key.

(* A C.O. line may have a maximum eight stations assigned to ring. Default: All C.O. lines ring to station 1.)

62   Day Ringing Assignment

Defines which phones ring on a per-line basis when the system is in day ring mode.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 62.
        Display shows DAY RING ASSIGN.

3.   Press the C.O. line key to be programmed for day ring mode. C.O. line numbers and
        previously assigned station numbers are displayed.*

4.   Press the DSS key of each station that is to ring in day mode.

5.   Press # key.

(* A C.O. line may have a maximum of eight stations assigned to ring. Default: All C.O. lines ring to station 1.)

63   Door Phone Ringing Assignment

Defines which stations will ring when the door phone button is pushed.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 63.
      Display shows DOOR RING ASSIGN and current data is displayed.*

3.   Press DSS button of stations to receive door phone ringing. (Maximum of eight stations).

4.   Press # key.

(* Default: Ring stations 12345678)

67   Camp-On Tone Interval

Adjusts the time interval between camp-on reminder tones.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 67.
      CAMP ON TONE is momentarily displayed, then the current timer value.*

3.   Enter new data as two digits.
                  00:      A single ring tone at the beginning of a camp-on
                  10-99:   Duration of time between tones

4.   Press # key.

(* Default: 00)

Note: Setting this value higher than Hold/Camp-on Recall timer (# 52) will cause only a single ring tone.

70   Attendant Assignment

Defines which station is to act as the Operator's station.

1.   Press # key.
      PROGRAMMING is displayed.

2.   Dial 70.
      Display shows the current attendant station number.*

3.   Press the desired DSS key for new attendant.

4.   Press # key.

(*Default Operator station: 1)

Note: Operator places system into night mode by pressing DND key. If a single line phone is assigned attendant function the system cannot be placed into night service.

DND feature is not allowed on the attendant keyset.

71   System Speed Dial Restriction

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

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 71.
        Display shows current status.*

3.   Enter new data.
                0 = Allow speed dialling to override toll restriction
                1 = Deny speed dialling to override toll restriction

4.   Press # key.

(* Default: 0)

74   Assign Headset Operation

Designates which stations are enabled for headset operation. Only keysets can be assigned this function. System will disable hookswitch, and SPK button will act as an answer/release button.

1.   Press # key.
        PROGRAMMING is displayed.

2.   Dial 74.
        Display shows HEADSET CHECK, and then HEADSET: 1 NONE: 0 followed by current data for all eight stations.*

3.   Enter 0 or 1 for all stations.

4.   Press # key.

(* Default: 00000000)

LCR Programming (Technician)

Forced LCR

If LCR is enabled on any line and the user presses the line key rather than dialling '9', the system still forces the user to use LCR.

MMC900   LCR Enable

Used to enable LCR. When LCR is enabled, a valid trunk group access code (9 or 80) must be entered in MMC47 and 40. The NX-308's LCR system provides a means to automatically route calls over specific trunk groups according to the digits dialled.

The method of programming makes no assumptions about office codes, area codes or number of digits dialled. It is therefore suitable for any country in the world with any numbering plan.

When enabled, LCR is invoked by dialling an access code; this code is usually 9. LCR is enabled in this MMC on a trunk by trunk base.

NX-308 provides a "fake" dial tone to the station user as a signal to begin dialling.

The digits are dialled but are not immediately sent to the C.O.; they are stored in a buffer for analysis by LCR Digit Table. System toll restriction checks each digit as it is dialled to determine if the call is allowed for the dialling station.

Action   **Display**

1.   Press CONF key and 900

ENABLE LCR

2.   Press MSG key to select line

LINE1:DISABLED

3.   Input 1 (Enable) or 0 (Disable)

ENABLED

4.   Press CONF key to store and exit

Default data : Disabled

MMC901 LCR Digit Table

The LCR Digit Table contains all numerical digits for the completion of outgoing call placement. This table works in conjunction with LCR Route Table, and LCR Modify Digits Table. There is a maximum of 250 entries with a digit string length of 10 numerical digits. This system will automatically maintain entered digit strings in numerical order.

By default, the system routes dialled digits not entered in LCR Digit Table to route 01 (i.e. 132, Mercury easy access).

Action   **Display**

1.   Press CONF key and 901

LCR DIGIT (000)

2.   Dial LCR entry
         OR
         Press MSG key to select entry
         (LCR entry range: 000 - 250)

LCR DIGIT (001)

3.   Press ALM key to input digits string up to 10 digits

DIGIT:

4.   Press ALM key to input digits length

5.   Enter digits length (00 - 10)

LENGTH:

6.   Press ALM key to input route selection

ROUTE:

7.   Enter route selection (00 - 15)

8.   Press CONF key to store and exit

         (If you want to delete any item, press HOLD key in any state.)

Default data:

LCR digit	Dialled digit	Length	Route

000	1	01	00
001	2	01	00
002	3	01	00
003	4	01	00
004	5	01	00
005	6	01	00
006	7	01	00
007	8	01	00
008	9	01	00
009	0345	04	00
010	01426	05	00
011	01459	05	00
012	0800	04	00
013	0941	04	00

Related items : MMC 902 LCR Route Table

MMC902 LCR Route Table

LCR Route Table is responsible for selecting a specific trunk group in the completion of an outward bound call. This table works in conjunction with LCR Digit Table and LCR Modify Digit Table. After the user dials a valid digit string, the system uses LCR Route Table to select a specific predetermined trunk group. A maximum of 16 routes are available, beginning with the Route Number.

If more than one group is available for call completion, the system will use the first designated trunk group and then start to use succeeding trunk groups. If all trunk groups are busy in a selected route, call queue will become active and allocate trunks as they become available.

Action		**Display**
1.	Press CONF key and 902	LCR:ROUTE (00)
2.	Dial route number OR Press MSG key to select index (0-15)	LCR:ROUTE (01)
3.	Press ALM key to select COS	COS:
4.	Dial LCR COS number (0-7)	COS:0
5.	Dial ALM key to input trunk group	TRK GRP:
6.	Enter trunk group number (9 or 80)	TRK GRP:09
7.	Enter ALM key to select Modify Digits index number	MODI:
8.	Dial Modify Digits index number (00-99)	MODI:00
9.	If you want to continue, go to step 2	
10.	Press CONF key to store and exit	

(If you want to delete any item, press HOLD key in any state.)

Default data:

Route	COS	Trunk Group	Modify Table Index
00	00	09	00
01	00	09	01
02	00	09	02
03	00	09	03

Related items :   MMC904 LCR Class of Service
                  MMC901 LCR Digit Table
                  MMC903 LCR Modify Digit Table

MMC903 LCR Modify Digit Table

This program entry is also referred to as Outdial Rules. The system has the ability to add or delete a digit string or single digit. With these digits inserted, a long distance call will be placed over a local line utilising the common carrier network.

Action		**Display**
1.	Press CONF key and 903.	LCR MODIFY (00)
2.	Enter index number (00 - 00) OR Press MSG key to make selection	LCR MODIFY (01)
3.	Enter number of digits to delete (00 - 10)	NOF DEL:
4.	Press ALM key to input insert digit	INS:
5.	Enter digits to be inserted (up to 10 digits)	INS: 123
6.	Press ALM key to input append digit (up to 10 digits)	APP:
7.	Enter digits to be appended (up to 10 digits)	APP: 345
8.	If you want to continue, press MSG key and go to step 2	
9.	Press CONF key to store and exit	

(If you want to delete any item, press HOLD key in any state.)

Default data :

Index	NOF Del Dgt	Insert	Append	Remarks
00				BT
01		132		MCL Digital

Related items: MMC901 LCR Digit Table

MMC904 LCR Class of Service

Assigns the LCR class of service allowed for a station on a per-station basis. There are eight classes which may be assigned.

Action	**Display**

1.   Press CONF key and 904

LCR CLASS

2.   Press MSG key to select station

21:CLASS 0 :

3.   Dial 0-7 to select class type

21:CLASS 0 :6

4.   Press MSG key to continue

5.   Press CONF key to store and exit
       (If you want to delete any item, press HOLD key in any state.)

Default data : Class 0

MMC905 Assign PIN Code [Authorisation Code]

Assigns PIN codes to individual users. A maximum of four PIN codes are allocated by Mercury in the system so users must be assigned to the PIN used when dialling out on a Mercury network. This MMC is related only to 131 Mercury service.

Action	**Display**

1.   Press CONF key and 905

ASSIGN PIN CODE

2.   Press MSG key to select station

21:PIN CODE:

3.   Enter the pin code serial number (0-3)

21:PIN CODE:1

4.   Press MSG key to continue

5.   Press CONF key to store and exit

       (If you want to delete any item, press HOLD key in any state.)

Default data : 0

Related items : MMC909 PIN Code

MMC906 LCR Inter Digit Time

This timer is used by LCR to determine when a station user has dialled the last digit of a number.

When LCR is enabled, each time a station dials a digit, this timer begins to count. If no other digit is dialled before this timer expires, the call is considered complete and sent out on the route specified in MMC902. The range of this timer is 00-99 seconds. The default is 04 seconds.

Action	**Display**

1.   Press CONF key and 906

INTER DIGIT TIME

2.   Press MSG key

04SEC:

| 3. | Enter new time (e.g. six (06) seconds) | 04SEC:06 |

4. Press CONF key to store and exit.

Default data : 04

MMC907 Dial Delay Time

This timer is used to select the waiting time after secondary network access code 131. This delay time is used only when the call is routed to 131 network.

Action   **Display**

1. Press CONF key and 907   DIAL DELAY TIME

2. Press MSG key   05SEC:

3. Enter new time (e.g. six (06) seconds)   05SEC:06

4. Press CONF key

MMC908 Network Code

Provides secondary network access code when the call is routed to the secondary network. Maximum of 16 entries, each 10 digits maximum in length.

Note: The second entry may be selected as a default secondary network (Mercury 132 Access). If dialled digits are not matched to the entry in LCR Digit Table (MMC 901), and start with 0, the network code in the second entry will be dialled out by the system prior to transmitting dialled digits.

Action   **Display**

1. Press CONF key and 908   NETWORK CODE

2. Press MSG key to make selection (00-15)   00:

3. Enter the desired access via dial keypad (up to 10   00:12345
    digits)

4. Press CONF key to store and exit
    (If you want to delete any item, press HOLD key in any state.)

Default data: 0:121   1:132   2:161

Related items: MMC901 LCR Digit Table
                  MMC902 LCR Route Table
                  MMC903 LCR Modify table

MMC909 PIN Code

Used to assign PIN code used when the call is routed to secondary 131 MCL network.

Action   **Display**

		Display
1.	Press CONF key and 909	PIN CODE:
2.	Press MSG key to make selection	0:
3.	Enter the desired access code via dial keypad (up to 10 digits)	0: 123
4.	Press CONF key to store and exit.	

(If you want to delete any item, press HOLD key in any state.)

Default date :   None

Related items: MMC905 Assign PIN Code
MMC902 LCR Route Table
MMC908 LCR Network Code

MMC910 Call Cost Code

The secondary network system can have the ability to itemise calls on a cost centre basis. If this facility is activated, the call cost centre code needs to be entered immediately following transmission of the authorisation code.

Action   **Display**

1.	Press CONF key and 910	CALL COST CODE
2.	Press MSG key	21:CODE:
3.	Enter call cost code (up to three digits)	21:CODE:123
4.	Press CONF key to store and exit.	

MMC911 Dial Start Time

Used to provide a delay before dialling to C.O. line.

Action   **Display**

1.	Press CONF key and 911 Display shows current timer (default value is 4 sec)	DIAL START TIME
		004SEC
2.	Enter data (000 - 200)	
3.	Press CONF key to store and exit.	

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